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THE RELATIONSHIP BETWEEN COMPETENCY AND PERFORMANCE

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Abstract

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The aim of this paper is to describe the relationship between the competencies of employees and their performance in one particular company. Semi-structured interviews and analysis of internal documents of the company took place between 2010 and 2011 and led to the characterisation of the competency and performance evaluation system. The tools of evaluation used by the company are described. The evaluation of competency and performance of 110 employees made by 22 evaluators is an input to quantitative research. Calculations include data on the evaluation of all employees who met the following conditions: (1) the employment lasted throughout the test period from 2007 to 2009, (2) employee's performance was evaluated regularly in the given period, (3) employees' competencies were assessed in 2007. Null hypothesis, which has not been accepted, says that there is no relationship between competency and employee's performance. The results of the research suggest that when the competency rate of one employee is a unit higher than the competency rate of another employee, it can be assumed that his performance rate is 7 to 12.5% higher.
Recommendations for improving of the evaluation system of the company, which can be used in any company where employees' performance and competencies are evaluated, are formulated in the discussion.
This study contributes to the management literature by enriched sources of information about the relationship between employee's competency and employee's performance.
From the practical point of view, the result supports investing of time and money in staff development, aimed at enhancing their competencies in order to achieve higher performance of individuals, hence the whole company.

Keywords: balance score card (BSC), competency model (CM), compensation, evaluation of employees, individual development plan (IDP), knowledge, performance management system (PMS)

INTRODUCTION

Various methods are used for the purpose of increasing the performance of the company. Some of these methods rank among the area of human resources management.

This article focuses on these methods, particularly on the evaluation of employee competency and performance. The intention of this paper is to quantify the relationship between employee competency and performance and to analyse the evaluation system of a particular company, where outputs of employee evaluation are inputs for calculations. If the employee competency rate has an impact on employee performance, it makes sense to invest time and financial resources of the company to increase the competencies of employees.

One of the first **models of competencies** is called Cambell's model, which was followed by models of many others such as McClellands, Burgoyne and Stuart or Boyatzis (Bucur, 2013). The concept of competency is usually applied to define the whole of individual abilities, skills, behaviours and knowledge, oriented to effective performance in a particular working environment. By Armstrong (2002) abilities describe the dimensions of behaviour needed by companies to achieve a high performance.

It is emphasised that the performance of an individual as well as the company performance and success depend on individual competencies (Savanevičienė *et al*., 2008). The impact of a particular industry or company on job demanding competencies is well-known also among students who prepare themselves for their future working life (Duda and Kotrba, 2006).

In the scientific literature **the competency** is divided into hard and soft competency. Hard one, professional competency, is determined by organisational performance. Soft competency is defined by personal features of an employee, his or her behaviour, necessary for a good job performance, and can be either professional, social or conceptual.

Business case studies have demonstrated many benefits associated with the competency usage such as reduced training costs, reduced staff turnover or increased employee productivity, hence performance (Homer, 2001 in Robinson *et al*., 2007). "There are several reasons why the competency approach has the potential to surpass the other approaches. Firstly, it is focused on behaviour, secondly it focuses on the behaviour of managers, on the things they really do instead of those they should do or they say they do, thirdly it follows the Pareto principle (i.e. the 80/20 rule) and then it concentrates on the essential activities that lead to the success of the organisation, finally it is connected not only with the efficiency of individuals, but with the efficiency of the whole department or the entire organisation" (Kubeš *et al*., 2004 in Lišková and Tomšík, 2013). On the other hand, there is also a criticism of competency approach because it tends to be present or past focused (Iles, 2001 in Robinson *et al*., 2007). Savanevičienė *et al*. (2008) describe in their paper methods which help to develop strategic competency, competency for the future. It is essential to be oriented not only towards present day requirements for individual competency, but also foresee what competency would determine the future success – strategic competency. Martinelli (2014) describes few steps which should be taken to bring a new model, leadership competencies, competencies which will be useful in the future, among board members such as a visionary and future focus, entrepreneurial spirit, risk taking, system thinking, ability to communicate effectively at all levels, imagining new forms of partnership and alliances and a deep appreciation of the strength of diversity which promotes creativity, innovation and organisational learning. He also mentioned a number of factors that prevent the board from playing a visionary leadership role.

The performance of employees is focused on the corporate strategic objectives which are cascaded to individual employees. The most famous is the Balance Score Card (BSC) (Kaplan and Norton, 2000) that distinguishes four perspectives: financial, customer, internal processes and the perspective of learning and growth. The prospect of learning and growth focuses on the infrastructure necessary to sustain long-term growth and improvement. It includes basic resources: people, systems and procedures. It is based on the abilities of employees, their loyalty and satisfaction, training and skills. Marginson *et al*. (2013) recommend including non-financial performance measures in the evaluation as it can generate a positive psychological experience hence psychological empowerment and indirectly increase performance. It is included in BSC. The impact of the performance measurement system depends upon the ways in which measures are utilised. If done poorly, it cannot only be ineffective, but harmful and even destructive (Perera *et al*., 1997 in Micheli and Mari, 2013).

Studies in the performance measurement have often focused on tools and procedures that could improve efficiency and the effectiveness of organisation (Franco-Santos *et al*., 1998 in Micheli and Mari, 2013). During the evaluation of the performance, new targets are specified and the job description is updated. During the evaluation of competencies the evaluated employee is given specific information about the required competencies and the level which they reached. It is agreed how to develop the particular competency and which level should be reached. This forms the basis for creation of an individual development plan (hereinafter IDP). Some issues of IDP refer to skills or behaviour, some to knowledge. Jenny (2008) draws attention to knowledge and the knowledge management (KM): "Firm with a KM capacity will use resources more efficiently and so will be more innovative and perform better". Wang and Wang (2012) alert that explicit knowledge sharing has more significant effects on innovation speed and financial performance while tacit knowledge sharing has to do more with innovation quality and operational performance. Explicit knowledge is highly codifiable, tends to be unambiguous, indisputable and observable (Turner and Makhija, 2006). Letmathe *et al*. (2012) with the help of two experimental studies show that explicit knowledge transfer is superior to other forms of knowledge transfer. Knowledge sharing is linked also with the organisation structure, the more flattened the organisation is, the higher is the speed of sharing. The tacit knowledge cannot be directly articulated. It must be inferred from actions. It is a product of learning from experience that affects performance in real-world settings (Forsythe *et al*., 1998 in Armstrong and Mahmud, 2008). The tacit knowledge can be a source of competitive advantage since it is unique, non-substitutable, imperfectly imitable and mobile (Chang and Chuang, 2011).

Evaluation is a tool to help generate a sense of belonging, satisfaction and the knowledge that the abilities of the staff are used sufficiently, it influences motivation (Patll *et al*., 2014).

Urban (2013) sees the evaluation as a tool of motivation, leading and development of employees. He distinguishes evaluation (1) in terms of time (continuous, regular), (2) according to the subject of evaluation (evaluation of work results, working behaviour and assessment of abilities and development potential of individual persons, (3) through used tools (e.g. on the basis of agreed goals or agreed norms and standards) and according to (4) evaluator (e.g. self-assessment, assessment by superior, customers, fellow workers). Assessment interview is the most common form of formal evaluation. It is an opportunity to evaluate the job performance of both interested parties (Jar and Templar, 2006) and its central themes should be results, development and relations (Plamínek, 2009). Multi-Source Feedback (MSF), i.e. the evaluation from more sources (superior, subordinate, supplier, customer, self-assessment) is another tool of evaluation. It provides classified and concentrated information, but in Hroník's opinion (2006) it cannot replace personal assessment. On the contrary, Coates (1996) arguments for the evaluation through MSF by saying that many managers are not able to provide an adequate evaluation and the evaluation by one superior is problematic by its very nature. Nilsen and Campbell (1993) found that the difference between self-evaluation and evaluation by other evaluators is constant and that the evaluation by an experienced observer is more valid and accurate than self-assessment. Tichá (2005) encourages "Teach people to make objective self-assessment. As people are able to see themselves in the real light, their ability to regulate their learning and continuously improve their work is increasing."

MSF, self-assessment or assessment by a superior can refer both to the evaluation of performance and competencies. The performance and competency evaluation system and the relationship between competencies and performance are the subjects of this research.

MATERIALS AND METHODS

The aim of this paper is to describe the relationship between the employee competency and performance in a particular company. If there is a dependence of performance on competencies, it makes sense to invest finances and the time of employees in increasing their competencies to increase subsequently their job performance contributing to the performance of the whole company.

To achieve this goal, a qualitative as well quantitative method was used. The qualitative method of semi-structured interviews and the analysis of internal documents of the company led to the evaluation system characterisation and to the description of the tool used to evaluate competencies and performance in the particular company. Outputs of the evaluation of competencies and performance are used in the quantitative research to find out the relationship between employee competencies and performance in the given company.

The research took place in a large company (in the EU terminology). The company has more than 1000 employees and operates in the field of healthcare production. It is an international company and the data were taken from subsidiary companies, whose head offices are in the Czech Republic.

Qualitative Research – Employee Evaluation System

The interviews were held with employees responsible for HR in a subsidiary company during the years 2010 and 2011. Three of the superiors of the evaluated employees, the Human Resources Director, the Training and Development Manager and the Personnel and Payroll Manager were interviewed in tasks concerning the employee evaluation system. Questions about setting of goals for the company, teams and individuals via BSC and their evaluation and measurement and the way how the competency of individuals is evaluated were asked. The internal documents of the selected company were used to describe the performance and competency evaluation system. Twenty-two semi-structured interviews were held with managers. The results of interviews completed the picture of the evaluation system and the evaluation of employee competencies. The outcome is the characteristics of the evaluation system in a particular company which puts into context the data entering the quantitative research, which monitors the relationship between the competencies and performance of employees.

Quantitative Research – the Relationship Between Employee Competencies and Performance

The relationship between performance as a dependent variable and competencies as an independent variable is expressed by the regression equation

$$Y_{i(t+L)} \sim \beta_0 + \beta_1 x_{it} + e_i$$

The data obtained from the Performance Management System (PMS), processing and storing employee performance evaluations of the selected company, are input data for calculation. The coefficient of performance evaluation of each employee ranges from 0 to 2. Its value is calculated based on the evaluation of several monitored goals formulated as key performance indicators (KPIs). The key indicators include at least one key indicator related to the performance of the entire company, one key indicator related to the performance of a **department and not more than** 5 key indicators evaluating individual performance. One of them is a personal evaluation

of employee by direct superior. The others are measurable or evaluable. Each KPI has an objective (100% fulfilment of the objective corresponds to coefficient 1) and weight. The KPI weight expresses the importance of given KPI. Numerically, the sum of all KPI weights is 1. The lowest limit of the coefficient is 0 and means "disastrous performance". Extraordinary, unique performance is evaluated by the coefficient 2. The coefficient 1 expresses the fulfilment of expected performance.

Each competency of an individual is assessed by comparing the current state of competency of the employee with the requirement arising from his/her job description. The evaluation uses integer values from 1 to 5. The value 1 means unsatisfactory, 3 means satisfactory and 5 means exceeding. The value 2 can be verbally expressed as almost satisfactory and the value 4 as slightly exceeding. The values of all evaluations of individual competencies are first averaged. As arithmetic means of evaluations ranging between 1 and 5 they enter the calculations monitoring the relationship between competencies and performance.

The score of evaluation of the competency level and the level of performance for three years was analysed and tested. The data of all employees who fulfilled the following conditions were used.

One condition to choose the particular employee for testing was that she or he has a contract with the company for the whole tested period, i.e. three years. The second condition was that her or his performance was evaluated yearly during the three year period. The third condition was that his or her competency had to be evaluated in the year 2007, which is the base year for the evaluation of testing. The result of the evaluation of 110 employees was used for testing.

Data are classified by gender, both of evaluated employees and evaluators. The frequency of phenomena is expressed and conclusions are formulated on the identified specifics of evaluation by man and woman in the given company, on the tested data sample.

The relationship between the evaluations of competency in 2007 is tested with the results of the evaluation of performance in the consecutive years 2007, 2008 and 2009.

The statistical program "R" (R Core Team, 2014) was used for calculations.

The program calculates the characteristics of the level designed on the basis of significant values such as median $\tilde{x}$, the level designed as a function of all values – arithmetic mean $\bar{x}$. Residual standard error on 108 degrees of freedom; Multiple R-squared; Adjusted R-squared; T value, Estimate Std. Error; F-statistic; p-value.

Program outputs are further processed.

Regression equations have been developed. Statistical significance is determined on the basis of estimated regression coefficient b_{xy}. Then the T value, p-value, Chi-squared test statistics are tested. Null hypothesis is rejected or accepted on the basis of statistical significance.

The null hypothesis H_0: The employee performance is independent of his/her competency.

The alternative hypothesis

H_1: The employee performance is dependent on his/her competency.

The relationship between competencies and performance is quantified and commented.

RESULTS

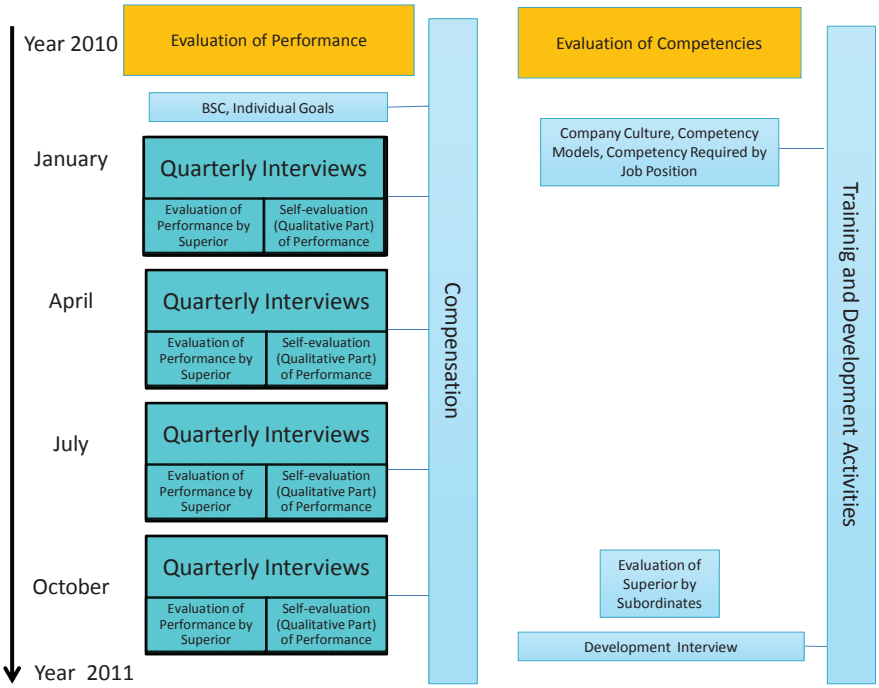
Results of Qualitative Research

Characteristic of the Evaluation System

The evaluation system is based on the strategy of the particular company and is cascaded into the goals and objectives for departments and also into individual employee goals. This part of the evaluation system is linked to the financial evaluations of employees. It is called a performance evaluation of employees. Another part of the evaluation system, which corresponds to the culture of the company and deals with a model of competencies is associated with development activities of individuals and teams and is known as evaluation of competency. The objectives of the evaluation are: (1) review the job description (hereinafter referred to as PPM) (responsibility, authority, competency), (2) review competency model, (3) evaluate the last IDP and determine the IDP for the next year, (4) evaluation of manager, (5) individual discussion about BSC, (6) evaluate the performance of employees in the previous quarter and set up the remuneration for the following quarter. For the position of director determine the annual salary (the size of the variable component).

As illustrated in the practice of this particular company, the evaluation system is used within one year, starting with quarterly evaluation of subordinates in (January) see Fig. 1. Further evaluations are carried out quarterly in April, July and October. The regular quarterly evaluation provides continuous information on the level of fulfilment of the agreed objectives, hence performance. It is also an opportunity for managers to motivate subordinates. The evaluation of performance is immediately reflected in the variable part of salary.

An evaluation of superiors by their subordinates is held in the first half of October. Superiors obtain anonymous results of this evaluation before the quarterly interview. Results of evaluation of superiors are primarily used for reflection and self-development and possible correction actions. At the end of the year development interviews are held. It is the assessment of knowledge, skills and abilities. Evaluation of competencies is the basic document used and is based on the job description.



1: *The Evaluation System. One year cycle*
Source: authors' work

The job description includes responsibility, competencies, knowledge and skills needed to perform particular tasks of the job. The aim of evaluation is to improve the skills of employees. The output of the development interview is an IDP for the next year. IDP also contains development activities focused on individual employees and also the activities which are common for all members of the particular team. Before the development interviews, which are usually held during October and November, there is a course called "Evaluation and Motivation of Employees". The course is designed for new and existing superiors to train them in motivation and evaluation. The aim of the course is to familiarise evaluators with the principles of assessment, evaluation systems of the company and their use in practice. This is also the way how to unify the evaluation system. There is also a description of each part of the system for employee evaluation. The evaluation system consists of self-assessment, quarterly performance evaluation and annual development interviews.

Quarterly Interviews – Performance Evaluation

The performance evaluation is held between the employee and her or his direct superior. The evaluation of performance is done quarterly, after the end of the quarter. Individual goals are discussed. The goals are set up on the basis of corporate strategy which is viewed from four perspectives in the BSC. Every employee from the foreman upwards has established performance criteria through the BSC. Some of the criteria depend on the discretion of the superior and subordinate. Their agreement is also entered in the Performance Management System (PMS). PSM is a database which enables the management to have an overview of the performance evaluation of all employees. PMS contains employee's main objectives. How and what will be evaluated is agreed on a previous performance interview. The agreement also includes the measurement and the methodology for evaluation. The criteria are based on the specifics of a particular profession and the work status of employees in the organisational structure, in addition, on their level of responsibility, the nature of the organisation's objectives for the period and the structure of corporate values. The evaluation method is based on the comparison of the identified targets with the actual performance. Before the evaluation interview is held, the subordinate delivers available "hard data" to her/his superior for evaluation. This is the self-evaluation which is done with all possible measurable indicators, which are called KPIs. The results of the performance evaluation are directly linked to remuneration. An employee's salary consists of fixed and variable parts. The variable part of the salary accounts for 20% to 50% of salary depending on a job position and is evaluated according to the performance of KPIs.

KPIs are divided into the following categories:

A) financial element (e.g. net profit, profit before tax) – set by the Board of Directors;
B) measurable, value-added support (e.g. turnover, costs) – set by direct superior;

C) immeasurable, individual (e.g. projects, quarterly activities and direct quarterly assessment) – set by direct superior.

In order to have an appropriate number of KPIs, there is one indicator for the whole company, one for department goals and maximally 5 indicators for assessing personal performance. All indicators are objectively measurable or evaluable except the personal indicator which assesses the way how the other indicators are fulfilled. Each KPI has a target that corresponds to the coefficient 1. The evaluation of the criteria can vary from 0 to 2. "Disastrous performance" corresponds to the coefficient 0 and extraordinary performance corresponds to the coefficient 2. Weight is also given for each KPI due to its importance.

Development Interview – Competency Evaluation

Development interviews are done between subordinate and his/her superior once a year. The competency of each employee is discussed and compared with defined requirements for each job position. To simplify the versatility of job positions and for pragmatic use the "Job Families" are defined, which are the groups of jobs that have a uniform profile of the required qualifications.

Job Families are divided according to two criteria:

1) By a strategic position in the firm:

"A – Innovative System Solutions, Corporate Strategy", which include management and marketing;

"B – Basic Processes", which include sales, call centres and e-commerce, manufacturing;

"C – Services", which include finance, controlling, human resources, information systems and technology, logistics, and customer servicing, foreign and general administration.

2) According to the degree of complexity of position:

"1 – High and Middle Management";
"2 – Lower Management Executives";
"3 – High Qualified Specialists";
"4 – Specialists".

By these selection criteria, job position groups A1 to C4 were formed.

Each of the job positions clearly belongs to one of the Job Families, which define the required three levels of competency: strategic, group and professional.

Five strategic competencies have been determined in each Job Family.

The strategic competencies of the high and middle management include striving for profit, leadership skills, ability to cope with conflict, persuasiveness/assertiveness, willingness to make changes.

The strategic competencies of lower management executives include commitment/initiative, leadership skills, ability to cope with conflict, effort for quality, persuasiveness/assertiveness.

The strategic competencies of specialists include commitment/initiative, focus on customer, ability to work in a team, persuasiveness/assertiveness, handling information/knowledge.

The strategic competencies of professional staff include commitment/initiative, effort for quality, ability to work in a team, reliability, focus on customer.

The direct superior can select 3–5 competencies which are appropriate to the requirements of a particular job. The remaining competencies belong to group competencies. The total number of all competencies has to be less than 15.

A form for evaluation of competencies is part of the job description.

For example, the form for the plant HR Manager contains the following strategic competencies: striving for profit, focus on the goal and result, prioritisation and analytical thinking, system approach, focus on customer, team leading and motivation. Group competencies include: focus on result, effort for quality, information management, process organisation and management, focus on innovation, self-management integrity, team communication. Professional competencies are divided into specific competencies such as project management, presentation skills and knowledge of competition, and specialised competencies according to the branch of education and the knowledge of foreign languages.

Each of the competency is evaluated on the scale from 1 to 5.

1 = her/his competency does not meet requirements,
2 = her/his competency partially meets requirements,
3 = her/his competency corresponds to the needs of job position,
4 = her/his competency exceeds the needs of job position,
5 = her/his competency highly exceeds the needs of job.

The evaluation of competency leads to identification of strengths and weaknesses of an employee. To eliminate the weaknesses of an employee, an individual development plan is set up, which also describes the target level of competency and the way how to reach it, for instance coaching, mentoring or courses. The Catalogue of Education and Development Activities can help identify the way for improvement of a particular competency. A new Catalogue of Education and Development Activities is prepared by the Education and Development Department every year. Each activity has its own price and description of the goal which should be reached by passing the course. The superior has to calculate the cost of the course and to find out how much money her/his subordinate has in her/his individual development budget. The individual development budget depends on the degree of complexity of the position in the job family ranking.

Results of Quantitative Research

The aim of this paper is to describe the relationship between the employee competency and performance in one particular company. The paper presents the results of the evaluation of performance and competencies, which were achieved in the manner described.

The results of the assessment of competencies in 2007 are compared with the results of performance evaluation in the years 2007, 2008 and 2009. The evaluation was performed by 22 evaluators from six divisions. There were 110 employees evaluated and each of them had to be employed for the whole 3-year period, his/her competencies were evaluated at least once in the year 2007 and his/her performance was evaluated 12 times during the years 2007–2009.

Hypothesis

H_0: The employee performance is independent of his/her competency.

H_1: The employee performance is dependent on his/her competency.

Data

Females evaluated the competencies of 37 employees. Males evaluated the competencies of 73 employees. Females evaluated approximately one third and males evaluated approximately two thirds of the employees.

In total, 85 females and 25 males were evaluated. More than three quarters of the evaluated employees were females.

A total of 37 employees, 32 females and 5 males were evaluated by female staff members. A total of 73 employees, 53 females and 20 males were evaluated by male staff members.

Data Input to Calculations, Sorted by Years and Organisational Classification of Evaluators

Evaluators are identified by Latin capitals for codification purposes. Most evaluators are responsible for only one department which is evaluated by them. High level evaluators codified as F and S evaluated two departments. Departments are marked with Greek letters in the table. For example, S & means that evaluator S evaluates department &. Evaluator F is presented twice in the table. He is marked Fχ and Fω when he evaluates department χ and ω, respectively. Tab. II presents a codified view of the number of evaluatees from individual departments, assigned to individual evaluators.

Department & has the lowest average rating of competencies in the year 2007. Evaluator L gave his team the lowest average rating. This team belongs to the most numerous teams, it has 10 evaluated female employees. Evaluator A from department ω gave the highest rating of competencies to his subordinates in the year 2007. Department & has the lowest ratings of both competencies and performance in all the three monitored years. Department & is evaluated by four evaluators and all of them evaluate their subordinates as below average.

Evaluator Z from department ψ gave his team the highest average rating of performance in the years 2008 and 2009. The department of evaluator Z has 10 evaluated female employees.

Evaluation of Competency 2007

Female evaluators evaluate their subordinates, both female and male, as more competent compared with the evaluation made by male evaluators.

Male evaluators used a wider rating scale than female evaluators. On average, the gender opposite to the gender of evaluator seems to be more competent.

Evaluation of Performance 2007–2009

The lowest evaluation 0.27 was given by a male evaluator to a male evaluatee, the highest evaluation 1.96 was obtained by a female evaluatee from a male evaluator. Male evaluators use higher evaluation results for both women and men. They use a wider rating scale than female evaluators. Female evaluators use higher evaluation coefficients only in the case they evaluate women.

The high average evaluation in the year 2008 by all evaluators, irrespective of the gender of evaluatees, probably reflects the component of performance which represents the performance of the whole company. The high performance, the basis of which was laid in the previous years, was followed by lower performance in the year 2009, which may be a sign of starting recession.

The data were processed statistically in the „R – tutorial" program the outputs of which are presented in the following Tab. V and Tab. VI.

Regression equations were developed from outputs of the R tutorial program and the values were tested. Null hypothesis was rejected or accepted. The relationship between

I: *The Gender of evaluators and evaluatees*

	Gender of evaluators		Gender of evaluatees	
	Absolute frequency	**Relative frequency**	**Absolute frequency**	**Relative frequency**
Female	37	0.34	85	0.77
Male	73	0.66	25	0.23
Total	110	1	110	1

Source: authors' work

II: *Number of evaluatees and average rating values, division by evaluators and departments, irrespective of gender*

Evaluator	No of evaluatees	Arithmetic average of evaluation (competencies 2007)	Arithmetic average of evaluation (performance 2007)	Arithmetic average of evaluation (performance 2008)	Arithmetic average of evaluation (performance 2009)
IΓ	3	2.96	1.24	1.55	1.37
Vω	5	3.31	1.26	1.45	1.24
Aω	3	3.51	1.46	1.65	1.45
Bω	2	3.29	1.12	1.61	1.41
Dω	5	3.08	1.44	1.3	1.32
Fχ	5	3.34	1.55	1.76	1.51
Fω	4	3.43	1.3	1.49	1.19
Gω	5	3	1.48	1.58	1.38
Hω	1	3.16	1.33	1.52	1.39
Jγ	3	3.15	1.42	1.45	1.23
Kγ	4	3.06	1.41	1.44	1.26
L&	10	2.84	1.26	1.43	1.09
Mχ	5	3.13	1.36	1.54	1.25
NΠ	8	3.45	1.4	1.58	1.26
O&	1	3.06	1.26	1.39	1.07
Pχ	1	3	1.22	1.5	1.33
QΠ	5	3.34	1.48	1.52	1.26
Rχ	11	3.08	1.29	1.43	1.27
S&	1	3.09	1.25	1.41	1.16
Sω	2	3.12	1.35	1.49	1.27
TΠ	9	3.01	1.3	1.51	1.22
Uχ	2	2.88	1.29	1.4	1.12
W&	5	3.02	1.23	1.4	1.13
Zψ	10	3.27	1.37	1.59	1.83
Total sum of arithmetic averages of arithmetic averages of the results of evaluation	110	3.15	1.34	1.5	1.31

Source: authors' work

III: *Evaluation of competencies in the year 2007, values sorted by gender of evaluator and evaluatee*

	Arithmetic average of the results of evaluation			Maximal results		Minimal results	
Evaluator	Female	Male	All	Female	Male	Female	Male
Evaluatee							
Female	3.29	3.09	3.17	3.8	3.75	2.85	2.43
Male	3.31	3.03	3.09	3.6	3.34	3	2.88
All	3.29	3.08	3.15	3.6	3.34	2.85	2.43

Source: authors' work

the independent and dependent variable was quantified.

Competency 2007 and Performance 2007

Residual standard error: 0.1317 on 108 degrees of freedom

F-statistic: 8.155 on 1 and 108 DF, p-value: 0.005151

The regression equation is:

$$y_i = 0.90109 + 0.14202\, x_i + e_i.$$

Determining the statistical significance on the basis of the estimated regression coefficient bxy

Twice the standard error < the absolute value of the estimated regression coefficient bxy

2 x 0.04973 < 0.14202

0.09946 < 0.14202

Test of T value: T value > 2 => 2.8 > 2 at $\alpha = 0.05$

The null hypothesis of the independence assumption is to be rejected if the p-value of the following Chi-squared test statistics is less than a given significance level α.

p-value: 0.005

IV: *Performance in the years 2007–2009, values sorted by gender of evaluator and evaluatee*

		Arithmetic average of the results of evaluation			Maximal results		Minimal results	
	Evaluator	Female	Male	All	Female	Male	Female	Male
Year of evaluation	Evaluatee							
2007	Female	1.37	1.34	1.35	1.65	1.68	1.00	0.89
	Male	1.34	1.33	1.33	1.53	1.58	1.18	1.20
	All	1.37	1.34	**1.35**	1.65	1.68	1.00	0.89
2008	Female	1.51	1.54	1.53	1.77	1.86	1.13	0.94
	Male	1.37	1.43	1.42	1.68	1.77	1.14	**0.27**
	All	1.49	1.51	**1.5**	1.77	1.86	1.13	0.27
2009	Female	1.26	1.37	1.33	1.59	**1.96**	1.05	1.04
	Male	1.28	1.26	1.26	1.51	1.56	1.09	1.10
	All	1.26	1.34	**1.31**	1.59	1.96	1.05	1.04

Source: authors' work

V: *Calculations*

	Year		
	2007	2008	2009
Intercept	0.901***	0.884***	0.512***
	(0.157)	(0.219)	(0.246)
Competency	0.142**	0.197**	0.235**
	(0.049)	(0.069)	(0.079)
N	110	110	110
R^2	0.0616	0.061	0.081

Note: Standard errors are presented in brackets, **p < 0.01, the coefficient is significant in hundredths, ***p < 0.001, the coefficient is significant in thousandths.
Source: authors' work

VI: *Residuals (Source: authors' work)*

	Year		
	2007	2008	2009
Min	–0.455	–1.205	–0.286
1Q	-0.049	–0.061	–0.137
Median	–0.003	0.014	–0.051
3Q	0.064	0.094	0.086
Max	0.291	0.278	0.602

As the p-value is much less than 0.01, **we reject the null hypothesis** that $\beta = 0$. Hence there is a significant relationship between the variables in the linear regression model of the data set faithful.

Competency 2007 and Performance 2008

Residual standard error: 0.1842 on 108 degrees of freedom.

F-statistic: 8.015 on 1 and 108 DF, p-value: 0.005535.

The regression equation is:

$$y_i = 0.88404 + 0.19688\, x_i + e_i.$$

Determining the statistical significance on the basis of the estimated regression coefficient bxy

Twice the standard error < the absolute value of the estimated regression coefficient bxy

2 x 0.06954 < 0.19688 => 0.13908 < 0.19688 2

The regression represented by regression function is statistically significant.

The null hypothesis is rejected on the basis of statistical significance.

T value > 2

2.831 > 2 at $\alpha = 0.05$

The null hypothesis of the independence assumption is to be rejected if the p-value of the following Chi-squared test statistics is less than a given significance level $\alpha = 0.05$

p-value: 0.005

As the p-value is much less than 0.01, we reject the null hypothesis that $\beta = 0$. Hence there is a significant relationship between the variables in the linear regression model of the data set faithful.

Competency 2007 and Performance 2009

Residual standard error: 0.2061 on 108 degrees of freedom

F-statistic: 10.64 on 1 and 108 DF, p-value: 0.001483

The regression equation is:

$$y_i = 0.51278 + 0.25377\, x_i + e_i.$$

Determining the statistical significance on the basis of the estimated regression coefficient bxy

Twice the standard error < the absolute value of the estimated regression coefficient bxy

2 x 0.07781 < 0.25377 => 0.15562 < 0.25377

The regression represented by regression function is statistically significant.

The null hypothesis is rejected on the basis of statistical significance.

T value > 2

3.262 > 2 at $\alpha = 0.05$

The null hypothesis of the independence assumption is to be rejected if the p-value of the following Chi-squared test statistics is less than a given significance level $\alpha = 0.05$.

p-value: 0.001483

As the p-value is much less than 0.05, we reject the null hypothesis that $\beta = 0$. Hence there is a significant relationship between the variables in the linear regression model of the data set faithful.

Evaluation of Calculations From the Data of Three Years and Conclusion

There is a significant relationship between the variables in the linear regression model of the data set faithful. Based on the statistical significance, the null hypothesis can be rejected in all the three tested cases.

The regression equations expressing the relationship between the evaluation of competencies in the year 2007 and the evaluation of performance in the three subsequent years show that the tightness of the relationship between competencies and performance has been increasing in the given group of employees.

If we compare the competencies of 2007 and the performance in the year:

2007: $y_i = 0.14202\, x_i + 0.90109 + e_i$;

2008: $y_i = 0.19688\, x_i + 0.88404 + e_i$;

2009: $y_i = 0.25377\, x_i + 0.51278 + e_i$

it can be deduced from regression coefficients that when the competency rate of one employee is a unit higher than the competency rate of another employee, it can be assumed that his performance rate is 7 to 12.5% higher. The performance rate was 7%, 9.5% and 12.5% higher in the year 2007, 2008 and 2009, respectively.

DISCUSSION AND CONCLUSION

The relationship between knowledge, skills and abilities, hence competency and performance of employees in the particular company was verified by means of the statistical program R-tutorial.

System of Evaluation: Competencies and Competency Models

The combination of knowledge, skills and other personality characteristics that are necessary for the effective performance of the organisation is included in the competency model. The theories on the relationship between the performance and competency of employees (Velechová in Kazdová, 2008) comply with the result of this paper. The Competency Model (CM) defines the behaviour required by the company from its employees; this behaviour will be further encouraged, developed and rewarded. When organisations use competency profiles extensively to address a wide range of human resources management issues, the approach can be called Competency Based Management or Competency Management (Robinson, Sparrow, Clegg and Birdi, 2007). In the particular organisation the competency is linked with education and development, but not with compensation. It cannot be said that the organisation is competency managed. The CMs used in the company differed according to individual positions, this possibility was presented by Horvát and Lukáčová (2006). CM also defines how the measurable performance should be achieved. Štěpánová (2006) adds that, owing to the implemented CM, each employee knows what success or failure looks like.

In a company where the research was conducted, the CM does not include a method to achieve a measurable performance. Other tools are used for this purpose. CM is used only for the evaluation of employee's competency. CM can also be used as a criterion for the selection of employees (Hortáth and Lukáčová, 2006). The competency model should be examined annually (Griffiths, 2005) on possible gender discrimination. In the particular company the competency model is not revised on annual basis.

System of Evaluation: Performance and Goals

Employees' performance mainly depends on their motivation, nevertheless skills, knowledge, and hence competency play an important part (Bedrnová and Nový, 1998). The specific company as well as Covey (Covey, 2005) evaluate performance in terms of achieving specific goals. The goal should be (Janda, 2005) specific, terming, realistic, acceptable and measurable. Non-quantitative indicator is a possible source of misunderstanding.

In the specific company, in accordance with Drucker (1992), the evaluation of employee performance is focused on the main benefits which contribute to the company strategy. The objectives to be achieved are compared with the record of performance and are well defined.

The fact that the practice in the particular company differs from some literature sources is fully in line with the recommendations (Urban, 2013) that each company should follow its own way in terms of used human resource methods. There are possible hazards in copying of methods used to increase productivity, including methods for measurement of performance and competency. Performance information (outcome, output) should be verified and not based only on claims of those whose tasks are evaluated (Drucker, 1992). This

recommendation means in practice that activity results are verified in other ways than just by direct reporting from employees. Interviews with managers have shown that they do not always verify the claims of evaluated subordinates.

BSC represents the most elaborate and best-known approach in terms of performance, which is focused not only on the issue of performance measuring, but also on its position in the corporate performance management system (Wagner, 2009). BSC converts a defined vision and strategy into a comprehensive system of standards and provides guidance for decision making for employees (Pecháčová and Botek, 2011). The BSC approach was used to define the performance goals. Achieving the objectives by individuals should be linked with the variable part of their salary which may be made up of 60% fulfilment of personal goals (KPIs), a 20% interest in the projects and a 20% personal invention. In the particular company the variable part of the remuneration consists of multiple items, one of them is the way how the goals were reached.

On a long-term basis, it is important how the objectives are achieved and how it affects the others (Dědina and Cejthamer, 2005).

System of Evaluation: Tools of Evaluation

The methods of employee evaluation below are used in the company. The categories by Urban (2013) were used as follows:

- According to the subject – evaluation of work results and competency.
- According to the subject in time – continuously, periodically (the system of evaluation contains only periodic evaluation. Interviews with managers revealed that some of them also perform the continuous assessment.).
- By evaluator – self-evaluation of performance, evaluation by direct superiors, anonymous superior evaluation by subordinates as a MSF.
- By used tools – KPIs. Performance objectives are cascaded as defined by means of the BSC methodology, which prevents myopic focus only on financial goals. It includes quantitative indicators and also the qualitative goals, which focus on the way how the quantitative indicators were reached. An important part of this method is the repeated setting of the goals which are mostly more challenging.

The company invested in employee training and development the same amount of money in the period of recession as in 2007. The individual budgets reached at least the same level also in 2010 and 2011. The company lacks efficiency measurement of the true value added by a particular development activity (Kazík, 2011). The evaluation system can be improved. All managers should verify data for the evaluation, submitted by their subordinates, so-called self-assessment of quantitative indicators (KPIs). According to the slogan "Trust, but verify". The contents of the required competencies of all job positions should be updated annually. I also recommend self-assessment of competencies as an input for the development interview.

The aim of the article is to examine the relationship between competency and performance of individuals in a production company. The article tested the results of the evaluation of performance and competencies of 110 employees. The results of the assessment of competencies in 2007 were compared with the results of performance evaluation in the years 2007, 2008 and 2009. The evaluation was performed by 22 evaluators from six divisions. The hypotheses were set up. H_0: The employee performance is independent of his/her competency.

H_1: The employee performance is dependent on his/her competency. The null hypothesis was rejected in three data sets. There is a significant relationship between the variables in the linear regression model of the data set faithful. The relationship between the competency and performance of employees in the particular company was verified. From the theoretical viewpoint, this result can enrich the analysis of the relationship among knowledge, skills, behaviour, hence the competency and performance of an employee. From the practical point of view, I can recommend this company to use the competency model in a wider range, not only for individual development of its employees, but also for other human resources management issues. As in other research, there are also limitations. All the evaluation data were reached in 2010. The results of the evaluation of employees, who have worked with the particular company since at least 2007, were computed. If the data of an employee who left the organisation before 2010 were also computed, the counted relationship between competency and performance would probably differ. It could be caused for example because of a poor performance of the employee who left the company and was not taken into account. On the other hand, the computed result of dependence can be caused by a very good selection process of a new employee or/and appropriate training and development if there is a gap between the required and actual competency. Or if there is a lack of competency for a particular job position, another position which better suits to the employee is found for him or her. The results of evaluation were computed regardless of the position of a particular employee. It was not investigated whether the performance goals were formulated in an appropriate way. A deeper view on the relationship between the core competency and performance of employees on different levels of the organisational hierarchy would be interesting.

SUMMARY

This article deals with the topic of increasing the performance of the company via methods which rank among the area of human resources management. Main focus is on the evaluation of employee performance and competency in a production company. The employee evaluation system and the tools used by the company for the purpose of evaluation are described on the basis of semi-structured interviews and analysis of company materials. The evaluation system is visualised in Fig. 1. Examples of strategic competencies of individual Job Families are given along with an example of competencies required for one HR position. Recommendations to improve the evaluation system are formulated.

The results of evaluation of 110 employees from the years 2007–2009, who met the criteria set by the quantitative research were used for calculations. The evaluation was performed by 22 evaluators from six divisions.

The data processing revealed that:

Male evaluators used the highest evaluation values to evaluate the performance of both women and men, in all the three years. They used a wider rating scale than female evaluators to evaluate both competencies and performance. On average, the gender opposite to the gender of evaluator seems to be more competent.

Female evaluators use higher evaluation coefficients only in the case they evaluate women.

The hypotheses were set up. The null hypothesis H_0: The employee performance is independent of his/her competency was rejected in three data sets. There is a significant relationship between the variables in the linear regression model.

Regression equations were developed to express the relationship between the evaluation of competencies in the year 2007 and the performance in the year:

2007: $y_i = 0.14202\, x_i + 0.90109 + e_i$;

2008: $y_i = 0.19688\, x_i + 0.88404 + e_i$;

2009: $y_i = 0.25377\, x_i + 0.51278 + e_i$.

It can be deduced from regression coefficients that when the competency rate of one employee is a unit higher than the competency rate of another employee, it can be assumed that his performance rate is 7 to 12.5% higher.

From the theoretical viewpoint, this result can enrich the analysis of the relationship between the employee competency and performance. From the practical point of view, it makes sense to invest time and finances in increasing employee competencies, as they will contribute to higher performances. The recommendations formulated in the discussion and addressed to one particular company can also be used by other companies.

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