

MEASURING OF THE HUMAN RESOURCE EFFECTIVENESS

RADKA MAJEROVÁ

Abstract

The article deals with the quantitative indexes of measuring of human resource effectiveness and their influence on human resource processes. For example: labor productivity, HR ROI, fluctuation rate, manager to employee ratio, rate of recruits leaving in a first year etc. It is insufficient just mark the measures, for raising of human resource effectiveness is needed compare the obtained values with planned and in time series. Some indexes are suitable for benchmarking but just on condition of the standard method of calculation.

Key words: measuring of the human resource effectiveness, labor costs, the average length of the working day, efficient fond of working time per employee, disease rates, managerial posts occupied from internal source.

Classification JEL: M12 – Personnel Management

1. Introduction

The need to measure the effectiveness of human resources is related to the need to identify the key drivers of the human potential and to model the effect of its modification.

Human capital is a key component of the market value in any organization. It is a source of added value, an estimate which is the basis of planning in management. Therefore management needs to focus on planning, recruiting, stabilizing, developing and optimal exploitation of human resources. Measuring of the human resource effectiveness is a means for tracking the achievement of strategic objectives in human resource management and for evaluating of work with human resources. The results of measuring are important for presetting targets, uncovering and exploiting the reserves, comparing suitability of variants for achieving of set target, determining the magnitude and causes of deviations and proposing a way of removing them. It is not possible to manage without the measuring.

Nowadays the measuring of the human resource effectiveness is thought to be like a way to increase performance of employees and efficiency of the organization. The effective human resource system should be the base for implementation of organizational strategy to achieve the targets.

2. Components of measuring

The indicators by which is the effectiveness observed, can be divided into *quantitative* – exactly quantifiable and *qualitative* (skills, motivation, satisfaction, loyalty, creativity, commitment, potential of employees...) that can be measured by surveys, questionnaires, interviews with employees, managers or expert opinion obtained for example on observations or interviews. The numeration of observed indexes must not be numerated on the basis of ungrounded assumption.

Quantitative indicators high reflect the quality of intra-organizational processes. The quality of intra-organizational processes is reflected in the satisfaction respectively the dissatisfaction of workers and their results (performance, the production value – quantity and quality) and then in customer satisfaction and stakeholders relations.

The management may track some of these quantitative indicators of the efficiency according to the needs and quality of information system in accordance with the vision, philosophy, culture, objectives and strategies: labor costs, the average length of the working day,

efficient fond of working time per employee, disease rates, labor productivity, HR ROI, fluctuation rate, manager to employee ratio, rate of recruits leaving in a first year, managerial posts occupied from internal source (Figure 1).

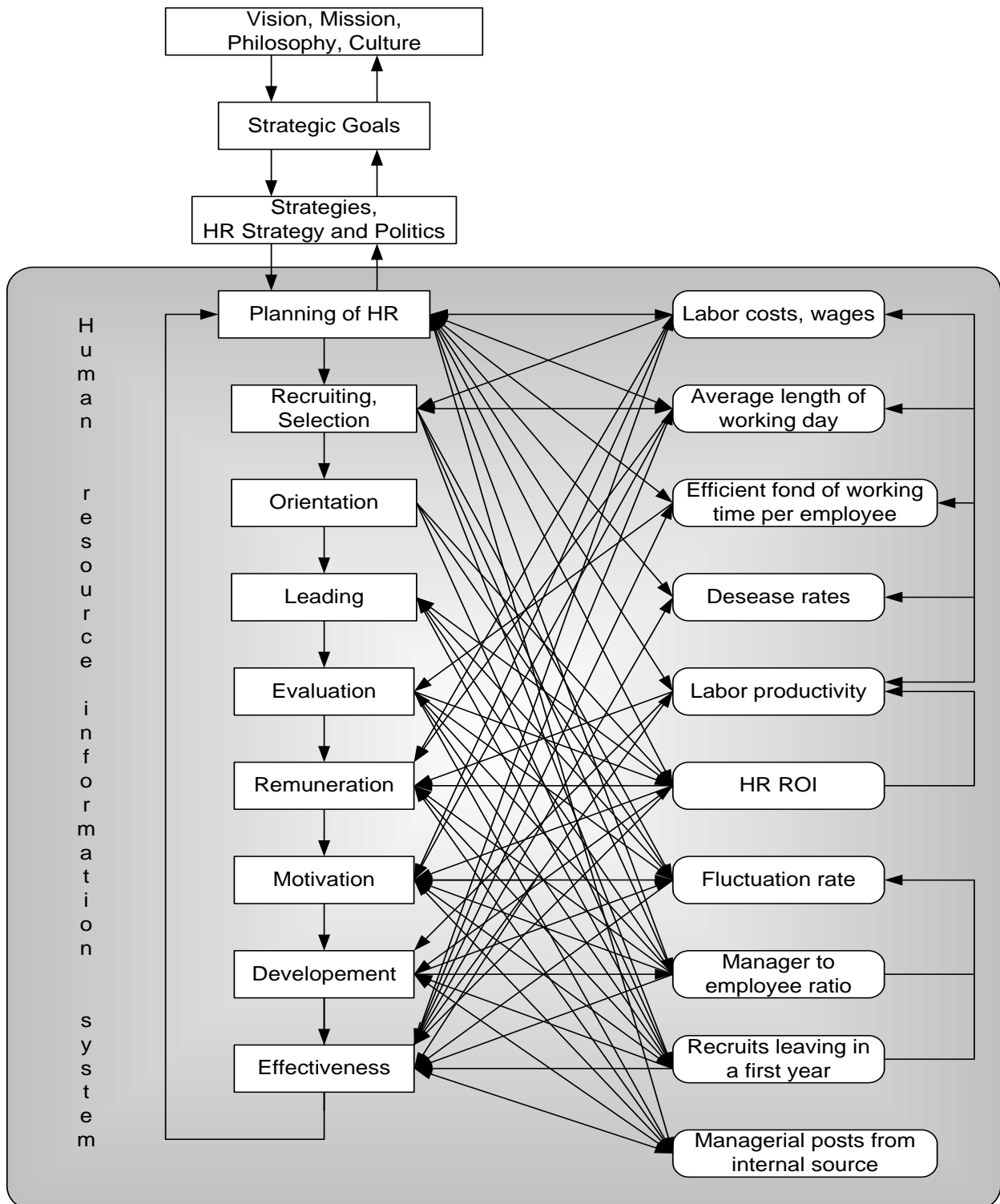


Figure 1: Influence of quantitative indexes with HR processes

Source: own

2.1. Labour costs and wages

Labour costs are suitable index for utilization in finance planning, human-resource planning, budgeting and benchmarking between divisions and competition.

Wages are the most visible tool of remuneration and a strong tool of motivation. Salary is a means of various entertainments. In spite of unevenly distribution of financial compensation between employees at the same post, it is needed to find out the reason. Unfair remuneration system demotivates the staff. The remuneration should be proportional to the performance or the level of responsibility. The salary of an employee should not be lower as the wage of his/her colleague by the same performance. Satisfaction respectively dissatisfaction with the wage is influenced by [Wagnerová, 2007, p. 19]:

- Comparison of the wages between employees in terms of expended effort and attained results.
- Comprehension of the financial compensation as expression of own contribution for the organization.
- Perception of the financial compensation as a status of the working position.

Low wages are reason for dissatisfaction with possibility of opening higher fluctuation. On the other hand wage-raising is motivating only for a short term. Employees will accept higher wages as a standard of the profession and more important will become other motivating (long-lasting) factors like fringe benefits, working conditions, effective communication, favourable working climate, creative leading, personal self fulfilment, involvement in decision-making processes, material incentives etc.

2.2. Extensive and intensive utilization indexes of the human resources

Extensive utilization of the human resources consists in comparison of useable and exploited working time by these indexes [Kravčáková, 2008]:

- **The average length of the working day** depending on working mode, losses in a working day (idle time) and overtime.
- **Efficient fond of working time per employee** depending on number of calendar days, number of holidays and unplanned day loss (absences).

Intensive utilization of the human resources is evaluated by **labour productivity** [Synek, 1984, p. 85]:

$$v = \frac{Q}{T},$$

where v is labour productivity,

Q is quantity of production in physical unit (e.g. l, kg, m...),
or monetary unit (e.g. EUR...),
or work unit (standard hours),

T is worked time (e.g. number of hours, days, months, terms, a year),

or

$$v = \frac{Q}{n},$$

where n is average evidence number of employees (of some category, e.g. workers).

The numerator is often calculated just as surplus value [Kravčáková, 2008].

Growth of labour productivity is a condition for growth of an organization and living standard of employees. The growth of wages must be supported by higher growth of labour

productivity for healthy evolution of an organization. The time series of growths of labour productivity per year is a source for budgeting of wages, investment and revenues.

Values of utilization of the human resources are compared with planned values and in time-series. By the analysis of labour productivity per year is required to appreciate reasons of various dynamics in various terms and find out, if there is superiority of intensive or extensive exploitation of human resources. Raising of the average length of the shift-work means more overtimes, raising the number of worked days per employee should mean less absences or work during holidays. Overtime-work is not desirable because of cost increase.

It is important to observe reasons of absences (hours of holidays, visits of a doctor, sickness absences, family caregiving, family reasons, occupational accident etc.). Increasing **sickness rate** may signalize unsuitable working conditions (temporary or constant) which may cause occupational diseases. Occupational diseases may have not only negative consequence in law for organization. The image of the organization should be destroyed and costs for recruiting will rise. Management ought to assure periodic preventive visits of a doctor for employees, ergonomic equipment of workplaces, to supervise of observance of hygiene and occupational safety. It is needed to provide for all preventive care against on-the-job accidents. It is suitable to form motivating working environment and ensure psychological consulting.

Labour productivity does not measure specific contribution of work as only one factor. It reflects confusion of many influences – capacity utilization, organizational-structure suitability, knowledge management, innovations, capital investments, informatization, and culture in the organization, qualification structure, motivation and communication. Customer-orientation has strong influence on the value of labour productivity in service businesses. The labour productivity reflects at the same time implication of practised policy work of human resource management.

Index of labour productivity is the most suitable for manufacturing corporations and service-businesses. Determination of worked time in the denominator is a problem by creative brain-working employees, high-qualified specialists and upper management because the most productive part of their work is in any time of a day, even beyond working time. It is better to measure of effectiveness of these employees by human resource return on investment index.

2.3. Development and education costs

Measuring of human resources management is carried out in order to be able to take steps to improve the effectiveness of the work. It is not sufficient to monitor just **the number of activities** (courses, trainings, seminars, etc.); much more important is the long-term effect of the attended education in the praxis, the exploitation of obtained knowledge to improve the work.

An effective approach to planning and decision-making on educational activities represents the concept of **human resource return on investment (HR ROI)**. This concept supposes that spending on human resource development should not be considered simply as costs, but rather as investment. HR ROI is defined in the following standard equation [Asano – Kazuki, 2002, p. 1]:

$$\text{HR ROI} = \frac{\text{Results (actual performance or expectations)}}{\text{Salary + HR development investment}}$$

The denominator of the HR ROI is essentially the total amount of compensation for a targeted individual high-performance employee. This total compensation includes salary, a benefits package and investment in human resource development. Since the benefits package is distributed among all employees evenly, it should be removed and HR ROI can be calculated using only salary and investment in human resource development as the denominator. It is

necessary to align the human resource training and development programs to be factored in investment category and determine their proper range. On-the-job trainings such as strategically shifting personnel or engaging in tasks with an educational significance do not need to be included in the denominator, because it is difficult to convert them into costs.

There are two types of results in the numerator: results as a consequence (realized performance) and result as an expectation (future prospect). The company anticipates results from employees and invests according to the degree of this expectation. In fact, employees with strong potential tend to have already been successful in yielding dramatic results.

To quantify numerator content, it is best to convert expectation results of each employee into points or to rank them just like evaluation results. For example, each level of expected results is ranked at one of five levels, A to E, and given a point rating as shown in Table 1. These values should be set on the bases of in-depth calculations at the individual company.

Table 1: The calculation of return on investment in human resources (HR ROI) according to a point evaluation of expected performance of employees

Expected results (ranking)	A	B	C	D	E
Expected results (points)	200	190	180	170	160
Salary (points)	1500	1500	1500	1500	1500
HR development investment (points)	500	400	300	200	100
<i>HR ROI</i>	<i>10 %</i>	<i>10 %</i>	<i>10 %</i>	<i>10 %</i>	<i>10 %</i>

Source: Asano – Kazuki, 2002, p. 8

In applying HR ROI concept, the HR team should not calculate the HR ROI for each employee based on the expected results, compensation and outcomes. By Nomura Research Institute [Asano – Kazuki, 2002, p. 8] it is used the reverse procedure of calculation of human resource development investment to be expended on each employee from the fixed values comprising expected results, compensation and HR ROI. In other word, investment in the development of each employee is carried out in order to keep the HR ROI at a fixed rate (10 % in Table 1). Using this fixed HR ROI method will eliminate surpluses and shortfalls in human resource development investments. This will be reviewed for every term (e.g. every year).

Introducing this kind of concept requires the establishment of investment level points for each human resource development program. By disproportional expensive programs (e.g. a long-term study overseas) is possible to convert the costs into a unit of years or to set a value different from the actual costs. How to treat the HR ROI and what value to assign to it will be specific indicators for company adopting an HR ROI scheme. It is pointless to compare the values of several different companies. However, the content of the human resource development programs, the points set for the programs, the compensation and distribution of the expected point outcome make a clear picture of a company's attitudes towards human resource development.

The fixed HR ROI rule aims at encouraging more high-performance employees to improve their skills and knowledge through a training and self-enhancement program. To reinforce this aim, in is not desirable to leave an option to turn development costs into salaries.

2.4. Manager to Employee Ratio

This index interprets if there is not too many (few) employees to one manager in the organization and if there exist any equality between requests on individual managers in leading,

coordinating employees and work. The number of leaded employees depends on the type of organization (branch, department and section), organizational structure (vertical, divisional, matrix...), occupation, coordination and flow of work, even on experiences, knowledge and maturity of both manager and employees.

If manager has to lead too big working group, he (she) easy becomes hard-pressured and problems may arise with coordination of work (more-time doing the same work by more employees, other work made by nobody, stand times because time disproportion of flow of work), insufficient control (e.g. working-safety infringement, worsening of quality of work), mistakes in communication (little time for consultation obscurities and conflicts), personnel motivation of manager and followers (personnel approach missing to set motivating factors and means and to form pleasant working atmosphere), and problems with objective and fair evaluation..., soon.

Leading of a working-group with few members is not efficient. Or a working-group should be work-overloaded due to too much work to too few people. Management should refill the number of employees (design and occupy new full-time or part-time jobs) and solve this situation else the working group will strongly concentrate on task with disadvantage of interpersonal relationship, making stress, conflicts, motivation lost, dissatisfaction possibly flowing in leaving the organization and fluctuation increase.

2.5. Fluctuation rate

Fluctuation rate is a number of left employees from organization to average number of state employees in organization in determined term (a month, a term, a year):

$$\text{Fluctuation rate} = \frac{\text{number of left employees}}{\text{average number of employees}} \cdot 100$$

An organization with a low (natural) rate of fluctuation is a stabile employer. Natural fluctuation rate should rise from termination of fee term employment, retirement, termination of a functional position (managerial post), internal mobility, death, etc. High fluctuation rate indicates employee dissatisfaction or frustration. This state is a serious threat for an organization and strong impulse for finding out what departments employees leave and their reasons. The suitable methods to identify the reasons of desirable fluctuation are leaving interview with personnel specialist or filling of questionnaire.

An employee should leave the organization from various reasons:

- Dissatisfaction with the (financial) evaluation.
- Low motivation.
- Relationship in the workplace,.
- The length of the working time, the working schedule.
- Scope of employment.
- Dissatisfaction with working conditions.
- Information and communication flows in the workplace and all organization.
- Competence and responsibility.
- Possibility of making career.
- Insufficient self-realization.
- Salary speculation during conjuncture (changing employers due to obtaining higher commencing salary at the similar post).
- Family reasons (employment certainty, migration – partner following...).

Fluctuation rate is influenced by all human resource processes, by management (ability to obtain loyalty, proper planning, organizing, control, a way of recruiting and leading of employees), by the organization (sector, structure, culture, equipment, technologies, information system) and microeconomic and macroeconomic factors (location, demography, mobility, competition, employment rate, economic cycle etc.). Management should be interested in acquirement of confidence, motivation and loyalty of employees.

2.6. Other quantitative indexes

If it is marked high **rate of recruits leaving in a first year** management should make shortcomings by:

- Creating the jobs (insufficient setting of workloads, demanding criteria and requirements on an employee at the job vacancy, stereotype work, unsuitable location of workplace for example with strong disturbing factors, insufficient equipment etc.).
- Recruiting process (incomplete information about the job – the workload, competence, responsibility etc. causing high and unrealizable expectation, choice of inefficient methods of recruiting and selecting, unfair selection of a recruiter).
- Orientation (insufficient prepared orienting process, unfriendly access of a boss resp. trainee).

Recruits leaving should be caused also by unfriendly relations at the workplace, problems with culture identification and harmonization of personnel with organizational targets, more attractive proposition from competitors.

High rate of recruits leaving in a first year means economic loss in costs for repeated recruiting, selection and orientation, loss from lower productivity of recruit-jobs (inefficiency) for a long time and dissatisfaction of stabilized employees because they must work hardly to substitute a work of ineffective (unoccupied) jobs and hold more responsibility.

To prevent high rate of recruits leaving in a first year is needy efficient communication and solving problems and making entrance, orienting, evaluating and leaving interviews.

Index of **internal mobility** is suitable in big organizations. Internal mobility is marked for particular divisions and departments to find out the capacity and possibility of staffing free jobs from internal source, to prepare and train employees for career and to build project teams.

Number of **managerial posts occupied from internal source** is a motivating means. The possibility of a career growth influences ambitions, increases performance and loyalty of employees, all that stabilizes the organization. The new manager occupied from internal source has got these advantages: knowledge of intra- and inter-organizational environment, the vision, the mission, the objectives, the culture, the processes, the business partners and competitive advantages, the managers and employees and short time of orientation in spite of progressive profiling. Shortening time of orientation process means economies saving. On the other hand a manager occupied from external sources should bring independent new ideas and more point-blank to changes.

3. Conclusion

Measuring and evaluating the effectiveness of human potential is helping to identify sources of value in the organization. It helps to analyze the relationship between the human resource processes and results and effectiveness of the all organization. Generally recommended it is necessary to measure those activities, the measure of which will be beneficial for decision-making regarding the improvement and enhancement work.

Indexes should be easy calculated or computer processed. Measures should be made simply and on the base of reliable objective information supported by evidence in the

information system, the results of the surveys, questionnaires, surveys, observations and interviews. It is insufficient just mark the measures, for raising of human resource effectiveness is needed compare the obtained values with planned and in time series. Some indexes are suitable for benchmarking but just on condition of the standard method of calculation.

Management must not forget that measuring of human resource effectiveness should be a means for achieving the objectives but not the objective of itself.

Acknowledgement

This paper is supported by the grant VEGA No 1/4647/07 Dynamical Model of Motivation of Human Potential.

Referneces:

- [1] ARMSTRONG, M.: *Řízení lidských zdrojů. Nejnovější trendy a postupy*. 10. vydání. Praha. Grada Publishing. 2007. ISBN 978-80-247-1407-3
- [2] BLAŠKOVÁ, M.: *Riadenie a rozvoj ľudského potenciálu*. Žilina. EDIS. 2003. ISBN 80-8070-034-6
- [3] STRENITZEROVÁ, M.: *Návrh zavedenia systému personálneho controllingu v Slovenskej pošte, a.s.* In: Pošta, Telekomunikácie a Elektronický obchod. Elektronický časopis Katedry spojov. Žilina. FPEDaS, Žilinská univerzita. I/2007. ISSN 1336-8281
<http://ks.utc.sk/casopis/pdf/IV2007/strenitzerova.pdf>
- [4] ASANO, M. – KAZUKI, O.: *Human Resource Development Systems Focusing on HR ROI*. Nomure Research Institute. In NRI Papers No. 51, July 1, 2002
<http://www.nri.co.jp/english/opinion/papers/2002/pdf/np200251.pdf>
- [5] KRAVČÁKOVÁ, G.: *Produktivita práce*. Prešov. Prešovská univerzita v Prešove, Fakulta manažmentu. http://www.unipo.sk/files/docs/fm_studium/svk/produktivita.doc.
- [6] WAGNEROVÁ, I.: *Hodnocení a řízení výkonnosti*. Praha. Grada Publishing. 2008. 128 s. ISBN 978-80-247-2361-7
- [7] SYNEK, M.: *Výpočty v ekonomice a řízení průmyslového podniku*. Praha. STNL/ALFA. 1984. 253 s.

Address of author:

Ing. Radka Majerová
Department of Managerial Theories
Faculty of Management Science and Informatics
University of Žilina
Univerzitná 8215/1
010 02 Žilina
Slovak Republic
e-mail: Radka.Majerova@fri.uniza.sk