

**COMMENT**Worldwide Congress on
Materials and Manufacturing
Engineering and Technology16th - 19th May 2005
Gliwice-Wiśla, PolandCOMMITTEE OF MATERIALS SCIENCE OF THE POLISH ACADEMY OF SCIENCES, KATOWICE, POLAND
INSTITUTE OF ENGINEERING MATERIALS AND BIOMATERIALS OF THE SILESIA UNIVERSITY
OF TECHNOLOGY, GLIWICE, POLAND
ASSOCIATION OF THE ALUMNI OF THE SILESIA UNIVERSITY OF TECHNOLOGY, MATERIALS
ENGINEERING CIRCLE, GLIWICE, POLAND**13th INTERNATIONAL SCIENTIFIC CONFERENCE
ON ACHIEVEMENTS IN MECHANICAL AND MATERIALS ENGINEERING**

The usage of the balanced scorecard to the estimation of the enterprise's effectiveness

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Abstract: In this paper it will be introduced in brief some problems relating to estimation of enterprise's effectiveness and its production processes. It will be also presented one of new approach to estimation of effectiveness which is the Balanced Scorecard. In own research it will be presented the results of estimation of effectiveness of selected technological processes from the point of view of quality costs. It will be also introduced the usage of the Balanced Scorecard in one of Polish enterprise of metallurgic industry to measurement of overall enterprise's effectiveness.

Keywords: Social sciences, Quality management, Quality Assessment

1. INTRODUCTION

At present management becomes more and more difficult art, because it changes the world of organization and its structure, it changes enterprise's environment but these changes become more and more innovatory, expensive, quick and difficult to predict. Organization has to act totally, embrace many related factors and use efficient techniques of future management [1]. The key problem of present organization management becomes the integration of quality and productiveness at growing differentiation of market requirements, shorter life cycle products, higher and higher pressure of competition, and also increasing of social requirements in the range of natural environment protection [2].

Quality management is realized through management of organization's processes and refers to two problems: structure and working of processes, which convert products or information, and quality product or information converted in processes. So speaking about quality management we should remember that we can also speak about efficiency and effectiveness of processes, because it determines the base of improvement of quality management system. In quality management system based, according to ISO 9000: 2000 standard, on the process approach, results measurement is the source of information for the quality management system and its improvement [3].

It should underline, that necessity of meeting the requirements of growing competition will demand simultaneous realization of postulate of effectiveness and flexibility, and analysis and estimation of processes effectiveness with usage of all sources of information determine the base to their improvements and undertake decisions improving their working [1].

2. ENTERPRISE'S EFFECTIVENESS

Changing and growing requirements and needs of customers demand from the organization the new form of management, and especially the new approach to effectiveness estimation of its activities. Effectiveness measurement is essential element of process approach to quality management resulting from ISO 9001: 2000 standard and continuous improvement [4-6].

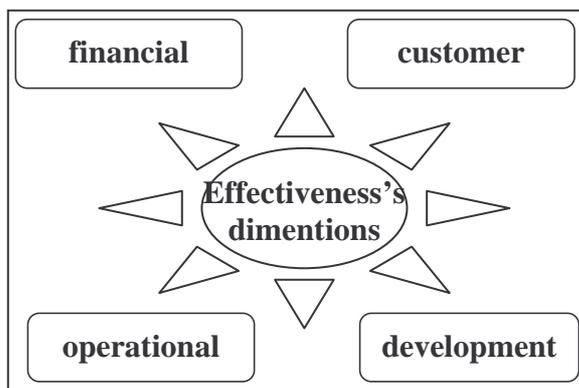
Continuous improvement of efficiency of quality management system of given organization is understood as a process concentrated on the continuous enlarging of effectiveness and/or efficiency of organization in realization of its policy, strategy, aims [7,8].

To this time estimation of organization's effectiveness was first of all the estimation of financial effectiveness in the past periods. In present conditions using only financial measures to estimation of effectiveness is inadequate. So it is necessary the parallel estimation of factors influencing directly and indirectly on the financial results of the firms and deciding about realization of the strategy [9].

Effectiveness is relation between achieved results and used supplies [5]. So understood effectiveness can be referred to analysis and estimation of production processes, where the measure of their quality estimation of effectiveness are among others quality costs. The main problem is producing high quality products at optimum costs and simultaneously meeting requirements and expectations of customer. From this, also in production engineering it always has to be taken into account costs and quality of product [2].

Quality costs show to all organizational cells the size of outlays carried on assurance the high quality of products, which shows the process's effectiveness. Because of it quality costs are one of criterions of estimation of processes' efficiency, because the aim of carrying on the quality cost account is delivering to managing personnel information about effectiveness of quality system from the point of view of economic results. It gives the base to analysis of the results and makes possible the indication of real places in process, where it is possible to

lower the costs [4].



The term effectiveness is also connected to the enterprise's strategy and aims resulting from this strategy. Effectiveness in the firm can be defined as an ability to realization of the firm's strategy and achieving planned aims. Except for the total look at effectiveness, it can point on dimensions of effectiveness taken into account in using The Balanced Scorecard, it is: financial, market, operational, development (figure 1) [9].

Figure 1. Dimensions of effectiveness.

3. THE BALANCED SCORECARD

Nowadays, producer, which produces the products not being the source of advantage for customer, does not have the right of existence. Essence of organization's working is meaning its products to customer [1]. Changing and growing requirements and needs of customers will demand from organization the new form of management, the new approach especially to

estimation of activities' effectiveness, monitoring of realized strategy and also its translating to aims and tasks for each divisions and cells in the enterprise [9].

The Balanced Scorecard is the tool, which permits on presenting the different areas of working of organization in the shape, which gives exact information on the theme of observated object [9]. In this aim The Balanced Scorecard uses coherent system of financial and outside financial ratios to present estimation of state of organization. By using of this card it is possible the presentation of organization's strategy as a set of aims necessary to realization of firm's mission. The Balanced Scorecard is simply the set of measures (ratios) selected from four areas: financial, customer, internal processes, development and learning and their relations [10].

The Balanced Scorecard is a system of measurement which serves to management the firm's strategy in long period of time.

The Balanced Scorecard can be used to:

- construction of firm's strategy and initiation its realization
- monitoring of realization, strategy and solid process of its verification
- translating the firm's strategy to aims of each divisions, cells, teams and individual workers
- analysis of cause – effect relationships appearing among each processes which are realized in organization
- prognose the future basing on real measurements referring to the past
- motivation which favoures realization selected strategy and complex effectiveness expressed by the financial and outside financial measures, short- and longterm.

Creators of The Balanced Scorecard – Kaplan and Norton – observed, that used by organizations traditional systems of measurement of effectiveness are based on financial measures what is in present time inadequate, because they do not present the complex effectiveness of organization. Good level of financial measures does not guarantee the firm's successes, because obtaining for exemple high rentability or other ratios does not explain the real reasons of obtained state, it can be for exemple temporary improving situation on a market [9].

The Balanced Scorecard, is a base of firm management system, in this quality management, which is directed on realization of the strategy and through this on growing its effectiveness [10].

The Balanced Scorecard is a set of measures serves to connection the vision and strategy, expressed in form of real aims and serves to measurement of progress in realization of the strategy. Ratios are integrated in related perspectives (categories), which have both financial and outside financial character, qualifying the results of activities and stimulating enterprise's development [11].

In card effectiveness of activity is examined in 4 perspectives [1, 11]:

- financial perspective – measures the present financial success of a firm,
- customer perspective – shows the sources of this success, which are market position and customer satisfaction,
- perspective of internal operational processes – it is measured the processes' effectiveness,
- perspective of development – shows the abilities to changes and further development of a firm.

Eech perspective contains the general principles, measures and aims, and each firm qualifies and chooses individually aims and measures.

4. OWN RESEARCH

In frames of own research it has been done the effectiveness estimation of selected technological processes in one of Polish steel works. The object of activity of this steel work is production the products rolled hot, long and flat for building and products for mining. Steel work has a certificate of quality management system according to ISO 9001: 2000 standard valid to 2005.

The measure of estimation of processes' effectiveness through the quality costs is a value of ratio – E (W, t), which was counted from the equation (1):

$$E(W, t) = \frac{W(t)}{N(t)} \quad (1)$$

where:

W(t) – achieved results – sales income

N(t) – carried outlays – quality costs.

The results of counted effectiveness's ratio have been presented on figure 2.

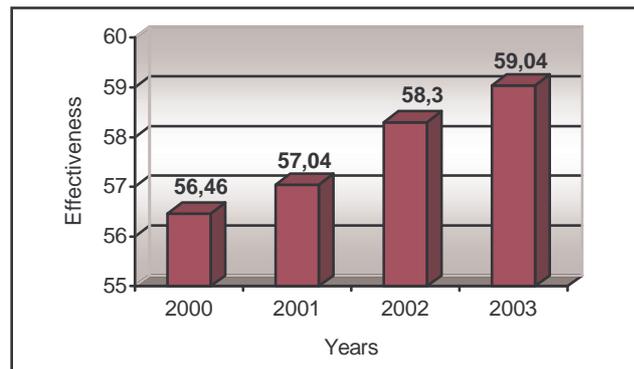


Figure 2. Processes' effectiveness of investigated steel work from the point of view of quality costs

From the researches, result that effectiveness of processes in selected steel work constantly grows.

On the contrary the investigation of the organization's estimation has been worked out by using The Balanced Scorecard. It has been calculated the value's relation of: planned results of process to achieved effects of process and achieved results to used on their achieving supplies, so it has been compared the results of achieved intentional aims to planned values.

It has been calculated each ratios in every perspectives for 2003 year and compared received values to last year or to plan (table 2).

On the base of investigations, result that investigated firm shows the growing effectiveness of activity in every perspectives. The main reasons of growing effectiveness have been: the change of percentage participation of sale on the advantage of products for building, fall of external failure costs, especially the main element of these costs, that is complaint costs, current inquiry investigations of customers opinion and the height of efficiency of production, thanks of elimination of acts not bringing the added values.

Table 1.
The Balanced Scorecard of investigated steel work

PERSPECTIVE	PRINCIPLES	MEASURES	AIMS
FINANCIAL	F1 – growing income F2 – growing rentability F3 – optimazing the quality costs	F1 – sale value ratio F2 – rentability ratio F3 – quality costs ratio	+0,83% to last year +1,5% to plan -0,15% to last year
CUSTOMER	C1 – growing the quality of customer service C2 – growing the quality products C3 – growing competing	C1 – the quality of customer service C2 – the quality products C3 – competing	+6,3 points to last year +11,5 points to last year +7,4 points to last year
INTERNAL OPERATIONAL PROCESSES	P1 – growing efficiency P2 – falling complaint's amount, P3 – growing production,	P1 – efficiency ratio P2 – complaint's amount, P3 – production ratio,	+5,9% to last year -2 complaints +0,28% to last year
DEVELOPMENT	D1 – development of workers' qualifications, D2 – falling of failures,	D1 – training amount, D2 – failure amount – internal audits,	-1 training to last year -3 failures to last year

5. SUMMARY

Measurement of effectiveness is the essential element of the process approach to quality management resulting from ISO 9001: 2000 standard and continuous improvement.

Effectiveness can be referred to the analysis and estimation of production processes, where the measure of qualitative estimation of producton processes' effectiveness are among others quality costs.

Other tool of the effectiveness estimation of all organization is The Balanced Scorecard, by using of which the enterprise can monitor the results in four perspectives and estimate the strategy in the light of obtained successes. Firms, which are able to translate their own strategy on a system of measurement of progresses of strategy realization through the set of results have much greater chance on its realization. These firms can present in more details their aims, can concentrate attention of management on key factors for organization's success and undertake activities and investments, which better serve to realization of the strategic aims [3].

If we create a system, which monitor degree of implementing of strategic principles and assure us, that these principles are not only assignment for management personnel but all workers identify with them, then estimation of the enterprise, will be based not only on financial ratios but also on running out into the future data, qualifying the degree of organization's competing. Only such a look at organization, causes reflection of real situation of firm on a market, permits on proper alocation of financial expencies and management concentration on a few the most important aims. By this can be stated, that the idea of The Balanced Scorecard contributes to obtaining the full information in relation to present and future state of every organization, in which it has remained successfully implemented.

Working according to rules of The Balanced Scorecard permits on the efficient delivering of the firm's strategy to all workers. This card specifies the strategy expressing it in the form of the related set of measured aims. Thanks to "translating" the strategy on the real operational activities, every worker is conscious of the own contribution in the final product -

what can influence motivation on the professional activity of workers. The efficient communication of the firm's strategy often leads to growing of the workers' engagement in the firm's activity.

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