

IDENTIFICATION OF EFFICIENCY INDICATORS OF INTRODUCTION OF THE QUALITY SYSTEM INTO ORGANIZATIONS ACCORDING TO ISO 9001:2000

M.Sc. Jašarević Sabahudin, Ph.D. Safet Brdarević
University of Zenica, Faculty of Mechanical Engineering,
Fakultetska 1, Zenica, Bosnia and Herzegovina

ABSTRACT

Introduction of the quality system according to demands of Standard ISO 9001:2000 is more and more represented worldwide. Many organizations have introduced that system and there are more of them every day which approach to this introduction.

There is a question: What have the organizations themselves got by introduction of the quality system and by fulfilling demands of this standard.

During work there has been tried to give identification of efficiency indicators of the quality system over which we could measure the efficiencies of standard. Also, there has been tried to make division of indicators.

Key words: indicators, efficiencies of standard, ISO 9001:2000, division of indicators.

1. INTRODUCTION

Due to the increment of offer against demand, fast development and constant changes in last twenty years, meaning of the word of *quality* has extremely increased in business operation of all manufacturing and service organizations. Needs for increment of quality did not occur for the quality itself but for the demands of market, powerful competitive match and fast development. Competitiveness is not only dependent of the quality of products and services but of the quality of entire business operation which, in successful organizations, has been shaped within business strategy. Today, the organization can confirm the quality to the customer over coordination of its business operation with demands of standards of quality management of the series of ISO 9000.

Number of organizations with certificated quality system increases every year. By the end of 2006 according to information of ISO organization this number was almost 900 000 (today it is over one million) in 170 countries worldwide [1], and the fact that the group of ISO standards is a good system for managing the quality is confirmed with another fact which says that there are closely 0.8% of organizations worldwide who stopped keeping ISO standard [2].

Still, there is a question: Does the quality provide successfulness and is the certificate of the system of quality the reason for having the organization successful? The facts show that other organizations which formally have not introduced system of quality in accordance with demands of these standards are also successful. Complete analysis from that area i.e. analysis of the real performance of introduced system of quality in organizations has been done in all parts of the world and from various aspects. In the following presentation we give a short overview of those researches.

2. RESEARCHES OF THE PERFORMANCE OF INTRODUCED QUALITY SYSTEM

The purpose of the most of these researches is a contribution to larger successfulness and competitiveness of organizations on the market as well as to the influence of results on organizations which have not introduced system of quality so that they can approach to that introduction in the best possible way. Namely, measurement of the company performances is the key precondition for successful managing with company and its transformation from the existing condition into the desired

condition. Every single organization must choose and apply most adequate methods and tools to achieve larger performances. The organization management has to carefully follow improvement towards better performances, and establish those phases or processes that can define improvement of performances in the organization. Secondly, it is necessary to define and adequately describe needed phases or goals on the way towards improvement of performances in order that the management could estimate the status of improvement in the organization in the coming period.

Researches that were done worldwide had their specific approaches, i.e. various performances of introduced systems of quality were researched. We bring the overview of several of such researches:

- Research [3] on the sample of 50 certificated and 23 un-certificated organizations from the North of Malaysia shows that certificated firms are more successful in domestic trade, and that firms which do not have certificate are more successful in foreign trade. This all is contradictory to the researches of LRQA where 58% of certificated organizations recognized advantages of the system and decrement of the barriers in international trade.
- Research [4] on the performances of standard of quality which included 288 Spanish organizations where in 65% of organizations there were registered positive internal and foreign performances of the usage of standard. The most expressed performances among foreign performances were the following ones: larger response to the demands of customers, improvement of their satisfaction and availability to new markets;
- Research of financial effects in Danish companies [5] has showed that certificated organizations achieve better performances than the un-certificated organizations and that the best results were achieved two to four years after getting certificated.
- Research in Slovenia [6] has proved that introduced ISO quality system at Slovenian organizations has got the following influences: (marks are from 1 to 7): the efficiency of process performing has been improved (mark 5.82) as well as the quality of products and services (mark 5.65); the productivity (5.60); satisfaction of customers (mark 5.49); getting new customers and loyalty of customers (mark 5.34).
- Analysis of the influence of ISO quality standard as well as of the approach to the Total Quality Management (TQM) [7] in Northern Ireland has showed that the expense for introduction of the ISO standard of quality per employee in smaller organizations is bigger, which dissuades smaller organizations from improvement of ISO quality standard into TQM even though the largest performances have been achieved exactly in organizations which continued introducing the standard with the TQM.
- The influence of ISO quality standard and TQM to the competitive capabilities of English organizations [8] has showed significant link between the elements of TQM and by the improvement of competitive capabilities in 74% of organizations and in 28% of organizations which used the ISO quality standard. The research has showed even more values of indicators of the competitive capabilities in organizations that started introducing standard and that improve it with the TQM;
- Research [9] that was done on a sample of 26 Dutch organizations has showed positive experiences of usage of the ISO standard of quality. The introduction of standard in organizations improved competitive advantage, satisfaction of customers and employees.
- Research [10] has analyzed parallel financial performances of organizations in Spain who were certificated in comparison to those who were not certificated. The results of research significantly point to a difference in profitability of organizations that were certificated in comparison to those that were not certificated. They have proved that introduction of any tools, system or program that are related to the quality is worthwhile for a long period rather than for a short period.
- In [11], the research was done in Saudi Arabian organizations where the costs, advantages and level of satisfaction with introduction of standard of quality were researched. The results of research show that manufacturing organizations were satisfied with introduction of standard, and that the advantages had overcome costs for preserving the standard.
- In Croatia where the research [12] took place it has been tried to establish existence of influence of the certificated system of managing the quality to the business successfulness of certificated organizations. This was measured with the height of an overall income where the great importance of system of managing the quality was recognized in organizations that have high shares of value of export in the overall income.

3. EFFICIENCY INDICATORS OF THE INTRODUCED SYSTEM OF QUALITY

As it can be noticed from the researches mentioned above as well as from those that are not included here, the researched performances of introduced quality management system QMS cannot be separated

from measurement of the successfulness of organization itself, as well as from the goals of business operations of organizations that are mostly expressed over the following: maximizing the profit, sale, market share, surviving and achieving the satisfied level of profit. These are the goals that come from economic theory. These goals will certainly be primary for the most significant groups of those who are interested in successful business operation of the company where we can include the following:

- company owners or investors who are the basic group of interest,
- employees in the company and the syndicate (bigger salaries, power, respect and similar),
- customers and suppliers (who participate in the processes of realization and who expect qualitative product)
- the state and social community (interested in successful business operation and paying taxes and contributions)
- potential investors (who are above all interested in future development of company).

3.1. Traditional approach of measuring the successfulness over hard indicators of successfulness

The analysis of financial results such as in [3,5,6,7,11,12] has been often used for the evaluation of successfulness of organizations as well as the performances of system of quality themselves. This includes indicators of successfulness of organizations which are mostly interesting for the foreign groups of interest. These indicators can be calculated or got with a usage of traditional approaches of measuring the successfulness from public information about business operation of company. Very often we call these indicators as hard indicators because with them we measure results that were already achieved, i.e. they were directed to the past and as such do not foresee future events. In other words, they do not offer sufficiently qualitative information for improvement of performances of the company in future period.

The following has been used for this measuring:

- indicators of business efficiency which refer to the economic management with working means and work. The most significant indicators to express business efficiency are the following ones: overall economy, business efficiency and growth of costs;
- indicators of productivity, where productivity represents achievement of as larger production as possible in the unit of working hours. It can be expressed through next indicators: incomes from business operation per employee, overall income per employee, additional value per employee and pure profit or deficit per employee;
- indicators of profit which show a share of profit in incomes, and which can be expressed over total profit of the income from business operation, total profit of overall incomes, pure profit of income from business operation, pure profit of overall income;
- profitability ratios which are expressed over profitability of means (eng. ROA) and profitability of the funds (eng. ROE).

In modern period many various models recognize overall successfulness of the company using more complex, financial and non-financial indicators arranged in certain number of perspectives of recognizing the successfulness of company. Namely, while recognizing financial results, managers do not see key factors for success. Therefore, they cannot timely and properly undertake measures. With the increment of competitiveness the company is forced to seek for information about its key factors for success. Only on the base of knowing its own advantages and weaknesses the company can properly use or eliminate every one of them. Therefore, there are new ways of following and evaluation of business operation of the company as well as of the indicators of quality system which are the amendment to traditional approach and management of organization. Thus, they help to supplement or eliminate shortage of traditional model.

3.2. Soft indicators of successfulness of the company – efficiencies of the system of quality

The key changes in surrounding and business operation of company which occurred in last several decades caused the change of basic assumption on which it is possible to provide competitive position of the company. Modern computer age has changed basic assumption of successful business operation of company and set new demands in terms of measuring the performances and management. In modern conditions the competitive success of the company depends above all of its capability to engage and effectively use its intangible property. It also depends of capability to adjust fast to constant changeable conditions in surrounding and before other to recognize and satisfy constantly changeable needs and demands of customers. As a result of the company need to manage and use more adequate systems for measuring of the company performances that would better respond to

modern conditions of business and modern demands of successful business operation of company there are various systems which can be marked as modern systems for measuring of the company performances. Characteristics of all modern systems for measuring of the company performances is their aspiration to be universal and complete and to try to approach to the company as to one very complicated system which functions in complex and changeable surrounding. Through its business operation this complicated system should satisfy entire spectrum of various goals and interests.

The following indicators can be included as the modern ones and so-called soft indicators for successfulness of the company:

- evaluation and certification of the system of quality on the base of internal and external audits performed by people from the system and by people from authorized certification houses and these audits include some significant factors to be evaluated;
- self-evaluated models which are mostly recommended and applied on occasion when organizations wish to participate in some of models of business successfulness such as the model of European Federation for Quality Management (EFQM), Business Excellence Model (BEM) or Baldrige American National Award for The Quality (Malcolm Baldrige Framework). Every of these models has its own criteria and ways of evaluation.
- Balanced Scorecard which transforms vision and strategy of companies into complete pallet of indicators for successfulness and which adds non-financial indicators to the traditional financial ones and enables an overview over the business operation of company from the various points of view: financial ones from the point of view of business with parties and from the point of view of internal business processes as well as of learning and growth.

4. CONCLUSION

Recognizing many internal and external positive performances of the system of managing the quality to the organization and business activities of organization which were confirmed by many researches in the world the organizations can use many indicators for measuring the successfulness of organizations and introduced system of quality as well as to supplement existing models and to develop their own ones. The QMS as a business model has got better performance under the following conditions: the QMS should be introduced in all parts of organization, so-called total quality management TQM has to be established. This means that all business decisions have to be in relation to the vision, values, mission, strategy of organization, investment, business indicators have to be made from the QMS and they have to be supported with information and with their analysis (four phases of PDCA circle have to be used). This is also the basic philosophy of the standard of quality system and process in organization.

5. REFERENCES

- [1] ISO (2007): The ISO Survey – 2006, ISO, Geneva, ISBN 978-92-67-10460-7
- [2] Likar, I (2000): Kakovost vodenja i vodenje kakovosti? Finance, priloga Kakovost, no 31:9
- [3] Mohamad, O.; Ramayah, T; Cheng, Y.H; Razak, R.C. (2006): Dos ISO 9001 Certification Matter in Company Performance, Advances and Global Business Research, Vol. 3, No. 1., ISSN 1549-9332, pp 148-151
- [4] Casadesus, M.; Gimenez, G. (2000): The benefits of the implementation of the ISO 9000 standards- Empirical research in 288 Spanish Companies, The TQM Magazine, Vol. 12, No. 6, pp. 432-440
- [5] Häversö, T. (2000): The Financial effects of ISO 9000 registration fot Danish companies, Managerial Auditing Journal, Vol. 15, Issue 1-2, pp. 47-52, ISSN 0268-6902
- [6] Pivka, M.; Uršič, D. (1999): ISO 9000 i konkurenčnost podjetij-slovenske izkušnje. V najboljši pristupi za uspeh: Zborni kreferatov, 87-88, Ljubljana, Slovensko združenje za kakovost
- [7] Mcadam, R; Mckoewn M. (1999): Life after ISO 9000: An Analysiss of Impact of ISO 9000 and Total Quality Management on Small Business in Northern Ireland, Total Quality Management, Vol. 10, N. 2, pp 229-241
- [8] Prabhu, V.; Appebly, A.; Yarrow, D; Mitchell, E. (2000): The Impact of ISO 9000 and TQM on best Practice/Performance, The TQM Magazine, Vol. 12, No. 2, pp. 84-91
- [9] De Vries, H; De Jong, A. (2002): Dutch study gets up close and personal to ISO 9000 in use, ISO Management System, Vol. 2, No. 3., pp. 35-38
- [10] Heras, I.; Casadesus, M.; Dick, G.P.M. (2002): ISO 9000 Certification and the bottom line; a comparative study of the profitability of Basque region companies, Managerial Auditing Journal, Vol. 17, No. 1-2, pp. 72-78
- [11] Magd, H.; Kadasah, N.; Curry, A. (2003) ISO 9000 Implementation: A Study of Manufacturing Company in Saudi Arabia, Managerial Auditing Journal, Vol. 18, No. 4, pp 313-322
- [12] Drljača, M. (2007): Kvaliteta sustava upravljanja i poslovna uspješnost u Hrvatskoj, Zbornik radova sa 8-te Hrvatske konferencije o kvaliteti, Kvaliteta kao društvena stvarnost, Brijuni 2007, ISSN 1334-7853, HDK