Šatanová Anna
Prof. Ing. CSc.,
Vysoká škola medzinárodného podnikania ISM Slovakia Prešov,
1 Duchnovičovo námestie Str., Prešov, 080 01 Slovakia
satanova@ismpo.sk

QUALITY MANAGEMENT AND QUALITY CONTROLLING IN SLOVAKIA (BY THE EXAMPLE OF WOOD-PROCESSING INDUSTRY)

Abstract: Quality controlling is a subsystem of the corporate controlling, which is also supporting the quality management aimed to costs minimizing, quality improvement and thereby the customers satisfaction. The first part of the article is giving the currently used theoretical approach to the quality controlling. The second part shows the results of questionnaire survey aimed to find out the degree of understanding and performance of the quality controlling in wood-processing companies in Slovakia. The third part is aimed to the quality control concept design for wood processing industry. The presented solution provides the identification, monitoring and registration of quality-related costs and the related identification of bottle-neck points in the fabrication process. This may result in quality, performance and efficiency improvement of the company internal processes.
Keywords: quality, quality management, process, performance, efficiency, quality-related costs, quality controlling, questionnnaire survey.
JEL Classication: M21

MANAŽÉRSTVO KVALITY A CONTROLLING KVALITY NA SLOVENSKU (NA PRIKLADE DREVOSPRACUJÚCEHO PRIEMYSLU)

Abstrakt: Článok sa zaoberá problematikou uplatňovania controllingu kvality v podnikoch drevospracujúceho priemyslu /DSP/ na Slovensku. Controlling kvality je subsystém podnikového controllingu a tiež podporným nástrojom manažérstva kvality, zameraného na minimalizáciu nákladov, na zlepšovanie kvality a tým aj spokojnosti zákazníka. V prvej časti článku je prezentovaný súčasný stav teoretických prístupov v oblasti controllingu kvality. Druhá časť prezentuje výsledky dotazníkového prieskumu, ktorého cieľom bolo určiť mieru porozumenia a realizácie controllingu kvality v podnikoch DSP na Slovensku. Tretia časť príspevku je zameraná na návrh koncepcie controllingu kvality pre podniky DSP. Prínosom navrhovaného riešenia je identifikácia, sledovanie a evidencia

nákladov na kvalitu a s tým spojené odhaľovanie úzkych miest vo výrobe, čo môže viesť k zlepšeniu kvality, výkonnosti a účinnosti podnikových procesov.
Kľúčové slová: kvalita, manažérstvo kvality, proces, výkonnosť, účinnosť, náklady na kvalitu, controlling kvality, dotazníkový prieskum.

Introduction

Quality requirements for products and services are touching equally of big, medium and small companies. The reason is fact that the quality is the guarantee of customer satisfaction and success of the company and in the oncoming conditions of turbulence development is the quality reliable business tool of the viability of the company, it means - guarantee of its future (Zgodavová, 2002).

The absence of economic analysis in quality management could be understandable in the past. But in current market environment an economic analysis should be a part of decision-making proccesses particularly in the strategic quality management. Currently, turns out, that the quality is mainly an economic category and the factor which in a significant rate has an influence on long-term economic results of the company (Wildenmann, 2000).

The company is in market environment under a big pressure of competitors where can not stand without a good financial and economic management. With the entry of foreign capital in our market is closely connected the influx of new knowledge concerning the management of the company. There is an intensifying efforts of companies to know themselves, to increase their financial-economic performance, adapt and survive. An increasing pressure of emerging market leads the managers to the introduction of improved access analysis, planning and control, innovation of organizational structures and information systems (Potkány, 2008).

Since to the fore the economic aspect of the quality, it is a goal to become a quality measured, planned and controllable variable. The concept of controlling begins to appear in the field of quality management, under the name of quality controlling (Sasse, 2000).

The paper proposed model of the concept of controlling quality, based on the particular conditions of the corporate practice in Slovakia.

The paper is the result of partial solutions Vega 1/0268/13, those aim was a proposal for an integrated methodology of comprehensive economic assessment of the management of business support processes, as well as its implementation in the context of the principle of outsourcing in order to improve their quality, achieve the potential savings in business costs and increase business competitiveness.

The paper is divided into three parts. In the first part of the article, based on domestic and foreign literature, is presented the current state of quality controlling, as a part of corporate controlling and support of quality management with a focus on the cost essence of the concept of quality controlling and formulation of own theoretical conclusions on this matter.

The second part characterises practical basis of addressed area presented through a survey questionnaire method, which aimed to determine the level of understanding, implementation and introduction of quality controlling in manufacturing companies in Slovakia.

In the third part is presented the draft of general model of concept for quality controlling of manufacturing enterprises.

At the end of the article we present that the benefits of solution of the selected problem lies in the detection and identification of quality costs, its identification and in the definition of possibilities of monitoring and detection weak points in production. Successfull managing of the issue becomes a step to determine the possibility of detection and subsequent elimination of the problems raised (failures), which can lead to improving the quality of business processes, as well as increase its overall efficiency and performance.

1. Theoretical background

The concept of quality, in the general public, is often used to denote excellence of goods, or service. In everyday life we perceive this notion as an expression of evaluation, for example quality food, quality auto, books, etc. In defining that notion in terms of corporate governance, we must include in its evaluation the needs and requirements of end-user of product or services (Juran, 1962)

In the literature we encounter with a different approaches to the definition according different authors. Among the best-known authors that dealt with the explanation of the concept of quality belongs Juran, Crosby and Feigenbau. According to standard EN ISO 9000: 2008, is quality a degree with which a set of inherent characteristics (product, system or process) meets the requirements of (customers and other stakeholders).

The above standard defines quality management as coordinated activities which are focused to regulation and control of organization with regard to quality. Under the term of quality management system we understand the organizational structure, procedures, processes and resources necessary for the implementation of quality management (Mateides and Strašík, 2004 Šatanová, 2002).

The quality management system is usually connected with all activities related to product quality, starting from the identification of custo-

mer needs, through to the decision on the concept of product realization, after the actual implementation of the product, ensurance its functionality, user service and finally to its liquidation at the end of useful life (Nenadál, 2001).

In the theory there is no universally binding definition of the notion of controlling, so we can meet with multiple definitions and views. After analyzing the available domestic and foreign literature sources can be said that a controlling is kind of subsystem of the company management. This subsystem serves to the management of the company for obtaining the necessary information about events in the company and for the preparation of analyzes for business management.

By comparing planned and actual values it allows identifying gaps and through its tools and methods to correct the development of business processes for the prevention and correction of unfavorable status and ensure the efficient running of the company.

1.1 Controlling quality as part of controlling and support for quality management

According Horváth (1997), area of quality management in recent years has changed significantly: product-oriented interpretation of the quality concept was replaced by process-oriented quality in a company as an essential feature of Total Quality Management. This was outlined the role of quality controlling, namely - as well as profitability and liquidity make quality as a measurable value, which is a prerequisite to improving the overall quality of the company.

On the basis of notion "controlling quality", it can be considered as a part of the controlling system as well as a part of the quality management company. Its general tasks consist in supporting of result achievement in the company with regard to customer requirements and quality of competitors, as well as in the extending far more technically oriented quality management about economic aspects (Šatanová, Gejdoš, 2010).

The controller in area of quality management should be involved in defining quality objectives in cooperation with quality managers, so that they could quantified these goals and developing tools for measure quality.

The role of the controller should be effort to minimization, respectively cost optimization in order to achieve the best effects, and the overall results in the economy of the company.

1.2 Development grades of quality management and quality controlling

New understanding of quality through process orientation and customer requirements requires the support and ensurance by relevant information. Therefore, the controlling quality became an essential building block of TQM. Quality management and quality controlling were developed in three grades, which are presented in the figure 1.

According to Figure 1, it can be stated that the basis for quality controlling became costs on quality.

In business practice for the purpose of collecting, analyzing and evaluating the quality costs has been used traditional approach according that is necessary to distinguish between costs and losses (Šatanová, 2008).

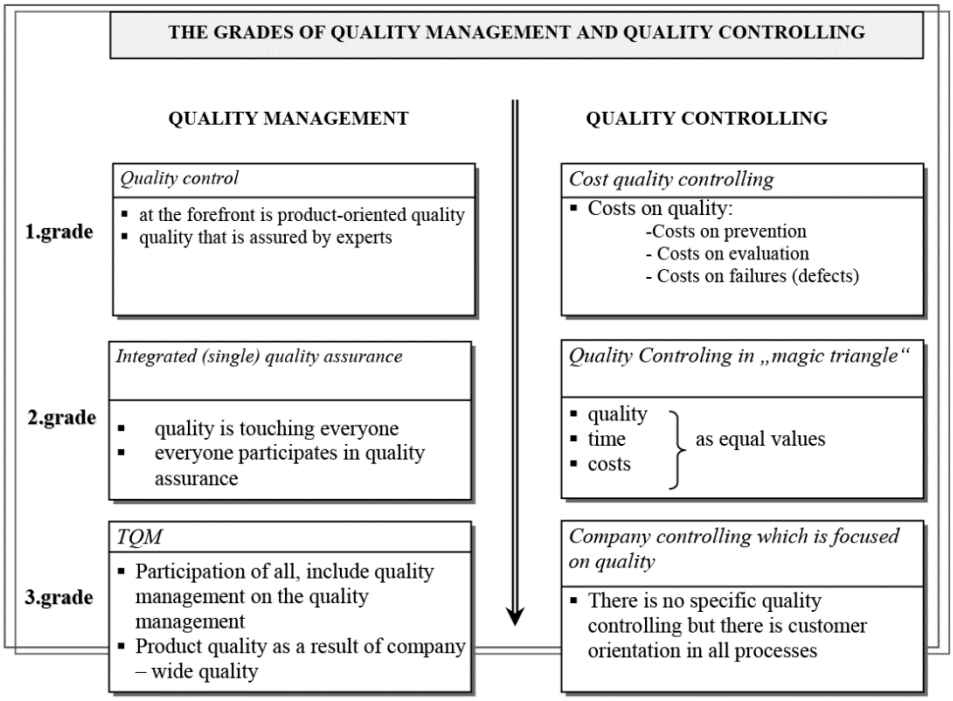


Figure 1. **The grades of quality management and quality controlling**

Source: WILDEMANN, H. (2000): Qualitätscontrolling in Industrieunternehmen. Zeitschrift Kostenrechnungspraxis, Sonderheft č. 1, s.11-17.

Quality costs are financial expenses that are necessary for the realization of implementation activities which are related to quality assurance and as such to pass the value of a new product. Losses from poor quality of production on the other hand arrise due to lack of effective quality management system, do not participate in the creation of value, and only reduce profit organizations (Sestak, 2002). PAF model consists from four basic categories of costs (Nenadál 2001, Sasse, 2001):

a) The costs of prevention are the costs of any activities which is related to the prevention and reduction of the risk of discrepancies and also the cost of improving quality levels.

b) Evaluation costs are all the costs connected with the process of assessing and demonstrating compliance which borne by the manufacturer. This is the second group (along with the costs of prevention) effective use of resources within each company.

c) Internal losses represent costs incurred within the company as a result of errors incurred in meeting quality requirements and the requirements set by the legislation. This costs have a character of unnecessary spending.

d) External losses arise from the failure to meet customer requirements and regulatory requirements after delivery to the customer. This costs have also the character of unnecessary spending.

Model of process costs divides the cost on quality into two basic groups (Sasse, 2001 Wildemann, 2000):

a) the cost on conformity - arise due to efforts to meet customer requirements beside corresponding deployed performance respectively at work (eg. costs arising up from systematic quality planning, preventive measures for education in terms of quality, etc.)

b) the cost of non-conformity - are associated with non-compliance of customers and has been incurred for the removal of deviations from the customer requirements (eg. the cost of terminating labor guarantees and legal safeguards expenses to cover losses arising from the departure of dissatisfied customers, and so on.).

Some authors (Mateides and Strašík, 2004) called these the two groups of procedural costs as costs on quality (compliance/conformity) and the cost of poor quality (non-conformity).

The importance of promoting the process management in enterprises and thus the process calculations result from the customer-orientation of quality controlling in all processes. The method Activity Based Costing (ABC) is a modern method of calculating the cost of individual processes, products and customers, which eliminates inaccuracies of traditional methods of the last century (surcharge calculation, calculation of incomplete costs). It provides reliable information for strategic and operational decisions, as well as showing mutual causal relationship between the occurrence of costs and revenues for the company products or services by customers.

1.3 Quality indicators system

Effective control of efficiency in quality assurance requires current and targeted overview of the quality cost structure and their relations

(Staněk, 2003). In the quality controlling, for this purpose, is developed specific quality indicators system that provides necessary information concerning the conduct of quality costs. The combination of cost and performance parameters is recommended for the creation of such a system of communicating information, and it is necessary to introduce into the system also indicators for process management through quality assurance measures (Alber, 2003).

As a part of the cost parameters used in practice ratios of individual groups of quality costs, which are referred to in the numerator the amount of quality costs and the denominator of a fraction of various volume indicators, for example the total cost, sales, etc. A company may through them monitor a state of financial expenditure, their development over time and also compare them with each other. In terms of explanatory skills, can be practically regarded as the most significant following (Linceni and Novakova, 2001):

- the indicator of internal losses to total operating costs,
- the indicator of external losses to total costs,
- the indicator of external losses to the undertaking's turnover,
- the indicator of the costs on evaluation in the process of supplying to the total material costs of the purchase,
- the indicator of operating costs on evaluation to total operational costs,
- the indicator of the total quality costs to company's total costs.

All of the above mentioned indicators should over time take on a downward trend, in other cases it can be concluded that the quality management system in the company is not sufficient.

As to the fore process orientation in quality assurance, the above indicators need to be complemented with indicators of process performance. Starting from (Nenadál, 1995) regarding the division of quality costs to the costs of compliance and the cost of conflicts within the process model we present the following indicators:

- total process costs (N_p),
- effective costs utilisation (V_{efn}),
- share of conflicts in process (P_n).

2. The results of the survey aimed at mapping out the issue of quality controlling in businesses of wood-processing companies

The starting point for mapping the situation on the issue of quality controlling in the Slovak small and medium companies were done through questionnaire investigation. Its main goal was to determine the level of understanding and implementation of relevant issues in the practice of small and medium companies. The survey data were presented in a des-

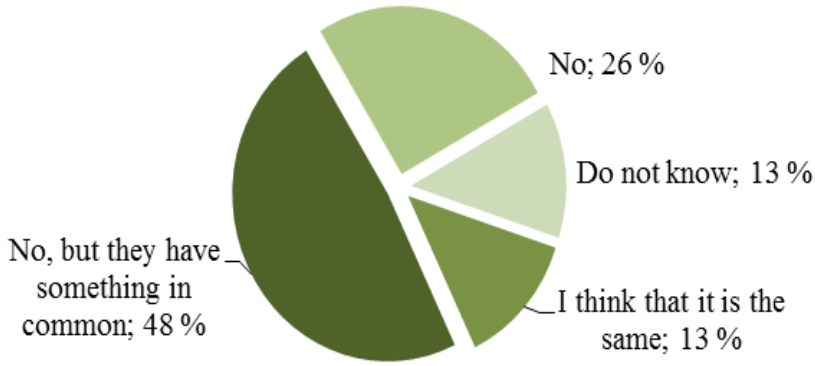
criptive way by numbers in tables and graphically. Within the part of evaluation of questionnaire, we looked for a link between the quality controlling and quality management, and so questions were evaluated either individually or in groups of closely related issues.

The questionnaire contained six questions, and all questions were designed as a closed, which means that respondents can chose one of the offered answers. This form was chosen because of the simplicity and time-unassuming for the respondents and also for the ease and exactness of evaluation. Through the questionnaires were interviewed 300 small and medium companies. Rate was 62%, it means 186 completed questionnaires.

Based on the research conducted, it was found out that 74% of asked companies do not consider management of quality and quality costs control as identical areas while 48% of the asked ones think that these two areas still have something in common. These two answers can be considered as right which means that most of respondents have the proper knowledge of the subject matter (Graph 1).

Graph 1

Question: Do you think that quality contolling is the same as the quality management?

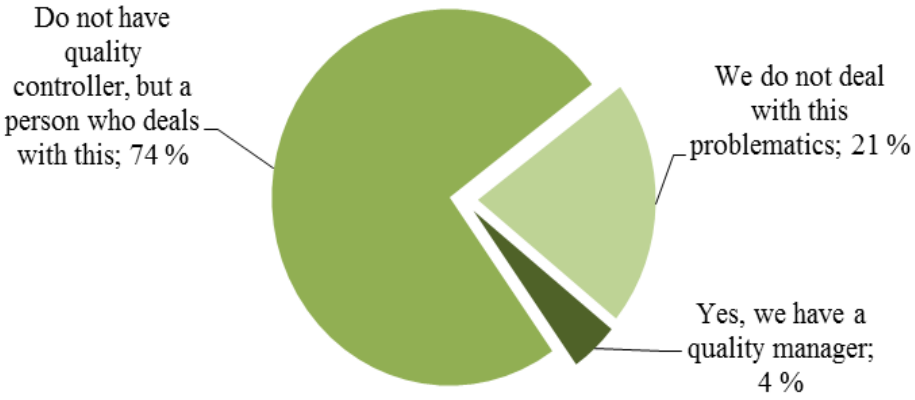


Source: Own research

Workers in companies, which deal with quality costs control, these have mostly cumulated job functions (74% of respondents) and these represent posts of quality managers, agents for quality and managers of manufacture. Only 4% of the surveyed enterprises have because of this reason its own job position of a quality controller (Graph 2).

Graph 2

Question: Do you have within your company a position of a quality controller or any other position dealing with monitoring and appraisal of quality costs?



Source: Own research

Conclusion

In recent years economic aspect of quality is getting into the forefront on the larger scale. Quality is not only a technical category and the system of the management of quality is not focused on the product quality orientation. Quality and costs are closely interlinked. From this reason part of the quality management system should be monitored the system of quality costs, but in many companies this does not work. ISO standards and TQM approach also devote to process measurement and so include also the economic fundamentals of quality management (Sasses, 2001, Holíková, 2010).

In many companies the level of internal claims and losses caused by bad quality manufacture which gradually cause customer dissatisfaction and their continual loss is growing on a larger scale. As one of the basic principle of international ISO standards is orientation on customers and raising their satisfaction, aim of each company should be elimination of these losses, detecting weaknesses and realisation of preventive measures, i.e. creation of effectively functioning feedback system, which would signalise weaknesses on time and would offer the concerned staff information valuable for solution of the present state (Nedeliaková, 2014). These listed problems force companies to use modern management tools, one of which is controlling, emerging also in the area of quality management. Its task is to secure the quality

management by equally relevant information concerning the quality with the aim to fulfil set objectives, detecting weaknesses and aroused process defects.

Bibliography

ALBER, S., 2003. Process management as base of quality, enviroment and risk management. Kvalita, 3/2003, 4-8, Journal of the Slovak Society of Quality Management, ISSN 1335-9231

BARAN, D., 2001. Podnikový controlling. Bratislava: Vydavateľstvo STU. ISBN 80-227-1558-1.

BRABEC, D., KYMLIČKA, P., 1996. Controlling: nástroj efektívneho řízení podniku. Moderní řízení, 96, č.5, s. 36-38.

BS 6143 GUIDE TO THE ECONOMICS OF QUALITY. 1992. Part 1.: Process Cost Model. London, BSI 1992.

ESCHENBACH, R., et. al., 2000. Controlling. Praha: Aspi Publishing. ISBN 80-85963-86-8.

FOLTÍNOVÁ, A., 2009. Nákladový controlling. Bratislava: IURA EDITION, spol. s. r. o. ISBN 978-80-8078-286-03.

HANSEN, W., KAMISKE, G., F., 2003. Qualitätsmanagement. Digitale Fachbibliothek. Düsseldorf: Symposion Publishing GmbH, 2003. ISBN 3-936608-48-2.

HOLÍKOVÁ, M., 2010. Možnosti uplatnenia controllingu kvality v podmienkach drevárskeho a nábytkárskeho priemyslu. 127 s.

HORVÁTH & PARTNER, 1997. Qualitätscontrolling. Stuttgart: Schäffer-Poeschel Verlag für Wirtschaft Steuern Recht GmbH. ISBN 3-7910-1148-0.

JURAN, J. M., 1962. Quality planning and analysis. New York: McGraw Hill.

LINCZÉNYI, A., NOVÁKOVÁ, R., 2001. Manažérstvo kvality. Bratislava: Vydavateľstvo STU v Bratislave. ISBN 80-227-1586-7.

MANN, R., MAYER, E., 1992. Controlling. Průmysl a obchod, Praha: Profit, a.s. 1992.

MATEIDES, A., STRAŠÍK, A. (2004): Manažérstvo kvality. Banská Bystrica: EF UMB. ISBN 80-8055-906-6.

NEDELIAKOVÁ, E., SEKULOVÁ, J., NEDELIAK, I., MAJERČÁK, P., 2014. Services in railway passenger transport and its evaluation by dynamic models. Transport means 2014, Kaunas University of Technology, Lithuania. p. 227-230.

NEDELIAKOVÁ, E., DOLINAYOVÁ, A., GAŠPARÍK, J., 2010. Methodology of transport regulation in the Slovak Republic. Periodica Polytechnica: Transportation Engineering. Vol. 38, No. 1, p. 37-43.

NENADÁL, J., 1995. Ekonomika jakosti v praxi. Žilina: MASM. ISBN

80-85348-26-8.
NENADÁL, J. (2001): Meření v systémech managementu jakosti. Praha: Management Press. ISBN 80-7261-054-6.
POTKÁNY, M., 2008. Personnel outsourcing processes. Ekonomie a management: vědecký ekonomický časopis, *11*, č. 4, s. 53-62.
POTKÁNY, M., HAJDUKOVÁ, A., TEPLICKÁ, K., 2012. Target costing calculation in the woodworking industry to support demand at the time of global recession. Drewno = Wood, *55*, No. 187, p.89 -104.
SASSE, A., 2001. Kosten- und nutzenorientiertes Qualitätscontrolling. Zeitschrift Kostenrechnungspraxis, Sonderheft č. 3, s. 76-79.
SASSE, A., 2000. Systematisierung der Qualitätskosten und der Abweichungskosten für das Qualitätskostenmanagement. Zeitschrift Kostenrechnungspraxis Qualitätscontrolling, s.43-55.
SEDLIAČIKOVÁ, M., ŠATANOVÁ, A., FOLTÍNOVÁ, A., 2012. Finančný kontroling v teórii a praxi malých a stredných podnikov. Ekonomický časopis/Journal of Economics, *52*, č. 9, s. 148-159.
STAŇEK, V., 2003. Zvyšování výkonnosti procesním řízením nákladů. Praha: Grada Publishing. ISBN 80-247-0456-0.
STN EN ISO 9001: 2008. Systémy manažérstva kvality. Požiadavky. Bratislava: Slovenský ústav technickej normalizácie, november 2008.
ŠATANOVÁ, A., 2002. Manažment kvality. Zvolen: LSDV TU vo Zvolene. ISBN 80-89029-60-4.
ŠATANOVÁ, A., POTKÁNY, M., 2004. Controlling - moderný nástroj riadenia podniku. Ekonomický časopis/Journal of Economics, *52*, č. 2, s. 148-165.
ŠATANOVÁ A. a kol., 2008. Manažérstvo kvality. Zvolen: Vydavateľstvo TU vo Zvolene. ISBN 978-80-228-1928-2.
ŠATANOVÁ, A., GEJDOŠ, P., 2010. Ekonomika kvality. Zvolen: Vydavateľstvo TU vo Zvolene. ISBN 978-80-228-2123-0.
ŠESTÁK, M., 2002. Náklady na kvalitu známe i neznáme. KVALITA, *2*, s. 40.
WILDEMANN, H., 2000. Qualitätscontrolling in Industrieunternehmen. Zeitschrift Kostenrechnungspraxis, Sonderheft č. 1, s.11-17.
ZGODAVOVÁ, K., 2002. Zmluvné zabezpečovanie verejných služieb: teoretické východiská a prax v Slovenskej republike. Ekonomický časopis/Journal of Economics, *50*, č. 6, s. 1005-1021.