

Model for measurement and evaluation of processes` performance in the quality management system for large wood-processing enterprises

JARMILA KLEMENTOVÁ - MARIANA SEDLIAČIKOVÁ

Department of Business Economics, Technical University, Zvolen, Slovakia

Abstract: The article deals with the issue of quality management system implementation based on measurement and evaluation of processes` performance. From the analysis of primary sources in practice of Slovak large wood-processing enterprises it can be stated that some companies do not know or do not use or only partly use appropriate methodologies to measure and evaluate the performance of individual processes, what ultimately reflects in the overall perception and evaluation of the quality of the company on the market. So from this reason, a proposal of model of measurement and evaluation of processes` performance in the quality management system of large wood-processing enterprises was the subject of this paper, which was based on advanced knowledge of the theory and analysis of practice. The model is proposed universally and each company can select specific methods for measuring and evaluating of processes` based on its own specifics. This model provides mainly a methodology and orientation in the implementation of quality management system into practice, through the efficiency of individual processes.

Keywords: quality, process, quality management, quality measurement and evaluation, wood-processing enterprises

INTRODUCTION

The continuous improvement of quality of individual processes is essential for the maintenance of the company on the market (*Biernacka, 2010*). To be raising the quality feasible and effective, it is necessary for companies to have created a process map to get aware of differences and specificities of individual processes and sub-processes. It is important for the improvement of quality of processes to select appropriate methods and tools for the measurement and evaluation. Then based on the obtained results, it is necessary implement changes and corrections into the monitored processes (*Šatanová, 2008*). The changes in the single processes must be in compliance with order processes to create a synergy effect for the business. It is also necessary to implement changes in accordance with the needs and requirements of the market and customers, to be ensured customers` satisfaction and loyalty (*Závadský, 2004*).

Fast and flexible customers` services must to be a part of manufacturing enterprises offer, namely from the point of view of a comprehensive quality perception. Based on the results of the analyses which was aimed to the mapping of used methods and instruments of measurement and evaluation of processes` performance in the area of quality management in the wood-processing practice in Slovakia, it ***was designed a comprehensive standardized model for large wood-processing enterprises***, which is presented in the this paper. This model can serve as a methodological support for companies that decide to implement the quality management system in practice, but also for those that already have applied the philosophy and quality policy.

MATERIAL AND METHODS

Large enterprises represent a small percentage from all enterprises, but a large share of production in the national economy. In Slovakia, large enterprises have undergone with major changes and transformations since their establishment. The same suits to enterprises of wood-processing industry. The overwhelming share of production of these enterprises is intended for export. Large enterprises in Slovakia, often with foreign capital participation, have better and more efficient sophisticated technology and work organization, as Slovak small and medium enterprises. However, there are still reserves for improvement in various areas, e.g. human resources, organization, logistics, administration because foreign investors work in the Slovak conditions with a predominance of Slovak employees. Enterprises must continually search for new bases and compromises, so that their outputs and reputation on the market has been the best. However, in advanced economics in times of recession, mainly the effort for the application of modern methods of effective enterprise management dominates, among which includes **process management of quality**. Elaboration and implementation of quality management system is a complex and long lasting process which requires the involvement of all employees at all levels of management (Nedeliaková et al., 2014). To attain the required quality, not only production but all processes, it is important the systematic implementation of methods and tools of quality management in the single processes of the company to bring desired outputs what will lead to an overall improvement of the quality of the company (Malá, Minárová, 2008). Measurement and evaluation of processes' performance is necessary to understand as activities which have to provide objective and accurate information about individual processes so that these processes can be continuously manage through the owners of processes, in order to fulfill all the requirements that are desired from them (Šatanová, Holiková, 2005). The role of the top management is based on comprehensive knowledge of the individual processes within the enterprise and its parts, to achieve the synergy effect. This is especially important in large enterprises where is a large number of processes and sub-processes of different nature, orientation and relations among them (Paulová, 2014).

Based on the analysis in practice of large Slovak wood-processing enterprises, it can be stated that many of them do not know and do not use the appropriate methodologies to measure and evaluate the performance of processes in the area of quality management. So from this reason, a proposal of model of measurement and evaluation of processes' performance in the quality management system of large wood-processing enterprises was designed, which was based on advanced knowledge of the theory and analysis of the practice condition. The sequence of steps of the model was established based on **literature review** in the area of quality management, based on **standards ISO 9000** and based on the **controlling principles of enterprise management**.

RESULTS AND DISCUSSION

The proposed model of measurement and evaluation of performance of processes in the quality management system for large wood-processing enterprises (Figure 1) is based on the specifics of the wood-processing industry, is based on ISO 9000, mostly standard 9001: 2008 and its process approach.

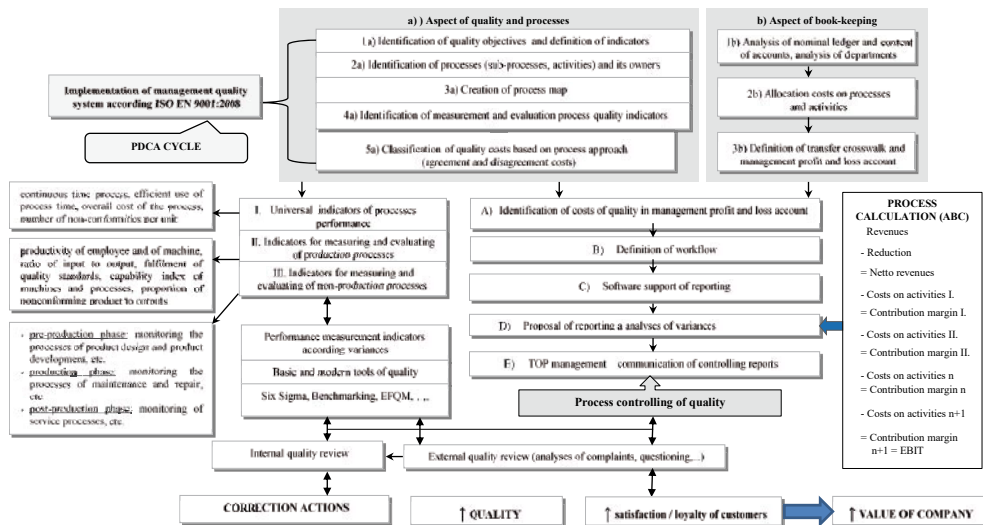


Figure 1 Framework model for measurement and evaluation of processes' performance in management of quality for large enterprises

The model on the left side provides a segmentation of indicators for measurement and evaluation according to the focusing of processes and subsequently provides appropriate methods and tools useful for the implementation of quality in each process. The aspect of book-keeping and controlling is developed on the right side of the model, which is a supporting tool in the implementation of quality management system. The model is a guide for companies that have decided to build system of quality management or upgrade it.

CONCLUSION

For every business it is important its name on the market of which the companies try to fight by various ways. Namely large companies have more financial sources, and thus more opportunities. Satisfied customers are the most important for the building and maintaining of the reputation on the market. Not only quality of products is important for customers - this should be the norm in large enterprises, on the basis of high-quality technology. It is crucial the quality of relationships and high-quality logistics of company for customer retention, too. The improvement of all enterprise's areas is necessary for the implementation of complex quality management system. There must be a worthy communication with customers and resolve of their complaints. What is important is the time and way of reacting on the customers' complaint or action based on the results of surveys. After the implementation of this model into the practice, it is expected the improvement of efficiency of individual processes, the increase of customers' satisfaction and loyalty and significant changes in the efficiency of these enterprises and consequently the increase of their market value.

Acknowledgement

This paper was processed in the frame of project No.1/0527/14 – Process management of the quality and performance measurement of the processes as the result of authors' research at significant help of VEGA agency, Slovakia.

This publication is the partial result of the project APVV-14-0506 – Lowering of formaldehyde emission from wood based panels by environmental progressive modification of polycondensation adhesives with biopolymers from leather waste, natural nanofillers, additives and activators.

REFERENCES:

1. BIERNACKA J. 2010. The Assortment and Production Technology Progress in Wood Processing in Poland, In: *Conference Yundola*. Yundola, Bulgaria. 2010.
2. MALÁ, D., MINÁROVÁ. M., 2008. Linking the EFQM Excellence Model and Balanced Scorecard. In: *Zborník z 6. medzinárodného vedeckého sympózia Problémy marketingového manažmentu v podmienkach globalizácie*. Banská Bystrica : TRIAN, 2008, ISBN 978-80-89382-00-2.
3. Nedeliaková, E. et al. 2014. Methodics of identification level of service quality in railway transport. In: *Procedia - social and behavioral sciences*, Vol. 110, Elsevier, 2014, ISSN 1877-0428
4. PAULOVÁ, I. 2014. *Komplexné manažérstvo kvality*. Bratislava: Wolters Kluwer, s.r.o., 2014, 164 s., ISBN 978-80-8168-083-0.
5. ŠATANOVÁ, A. a kol. 2008. *Manažérstvo kvality*. Zvolen: TU vo Zvolene, 2008, 353s., ISBN 978-80-228-1928-2.
6. ŠATANOVÁ, A., HOLÍKOVÁ, M. Uplatnenie controllingu kvality v podnikovej praxi. [online] 2005. [cit. 10.4.2015] Dostupné na internete: <http://www.casopiskvalita.eu/casopis/rocnik-2005-pdf/casopis-kvalita-2-2005>.
7. ZÁVADSKÝ, J. 2004. *Procesný manažment*. Banská Bystrica: Ekonomická fakulta Univerzity Mateja Bela, Bratia Sabovci, s. r. o., 2004, 145s. ISBN 80-8083-010-X.

Streszczenie: *Model do pomiaru i oceny procesów` w systemie zarządzania jakością dla dużych przedsiębiorstw przerobu drewna.* W artykule omówiono kwestię pomiaru i oceny procesów w systemie zarządzania jakością. Z analizy źródeł w praktyce dużych słowackich przedsiębiorstw przetwórstwa drewna można stwierdzić, że niektóre firmy nie umieją lub nie używają wogóle lub tylko częściowo wykorzystać odpowiednich metod pomiaru i oceny wyników poszczególnych procesów. Z tego powodu propozycja modelu pomiaru i oceny procesów w systemie zarządzania jakością w dużych przedsiębiorstwach przetwórstwa drewna jest przedmiotem tego artykułu, opartego na zaawansowanej wiedzy z zakresu teorii i praktyki. Po wdrożeniu tego modelu w praktyce, oczekuje się poprawy efektywności poszczególnych procesów, zwiększenia satysfakcji i lojalności klientów, istotnych zmian w efektywności tych przedsiębiorstw, a w konsekwencji wzrostu ich wartości rynkowej.

Corresponding authors:

Ing. Jarmila Klementová, PhD.
Department of Business Economics
Faculty of Wood Sciences and Technology
Technical University in Zvolen
T. G. Masaryka 24
960 53 Zvolen
Slovakia
mail: klementova@tuzvo.sk
phone: 00421-045-5206434

Assoc. prof. Ing. Mariana Sedliaciková, PhD.
Department of Business Economics
Faculty of Wood Sciences and Technology
Technical University in Zvolen
T. G. Masaryka 24
960 53 Zvolen
Slovakia
mail: sedliacikova@tuzvo.sk
phone: 00421-045-5206420