

Empirical evidence on the benefits of applying quality standards in Serbian companies

Empirijski dokazi o prednostima primene standarda kvaliteta u srpskim kompanijama

Tatjana Janovac^{1}, Marijana Vukcevic²*

^{1,2}University Business Academy in Novi Sad, Faculty of Applied Management, Economics and Finance, Jevrejska 24, Belgrade, Serbia /

Univerzitet Privredna akademija u Novom Sadu, Fakultet za primenjeni menadžment, ekonomiju i finansije, Jevrejska 24, Beograd, Srbija

* Corresponding author / Autor za prepisku

Received / Rad primljen: 21.12.2023, Accepted / Rad prihvaćen: 02.02.2024.

Abstract: The purpose of this paper is to evaluate the benefits of applying quality standards for the business of organizations. Empirical research was conducted on the basis of an electronic survey in the period from September to November 2023. Ninety- eight organizations from the territory of the Republic of Serbia that apply some of the quality standards participated in the research. The results of the research indicate that the application of standards had a greater impact on a more efficient way of working. The analysis of perceived benefits could be crucial for the management of those organizations that have not yet implemented some of the quality standards. This research points to the benefits of applying quality standards for the business of organizations from aspects such as: a more efficient way of working; user and consumer satisfaction; Identification of business risk; preserving the environment, increasing competitiveness.

Keywords: quality standards, more efficient way of working; user and consumer satisfaction; more rational use of resources; preserving the environment, increasing competitiveness.

Sažetak: Svrha ovog rada jeste da se procene prednosti primene standarda kvaliteta za poslovanje organizacija. Empirijsko istraživanje sprovedeno je na bazi anketnog istraživanja elektronskim putem u periodu od septembra do novembra 2023.god. U istraživanju je učestvovalo 98 organizacija sa teritorije Republike Srbije koje primenjuju neki od standarda kvaliteta. Rezultati istraživanja ukazuju da standardi kvaliteta značajno doprinose kvalitetu poslovanja organizacija naročito kroz efikasniji način rada. Analiza uočenih prednosti mogla bi biti ključna za rukovodstvo onih organizacija koje još nemaju implementiran neki od standarda kvaliteta. Ovo istraživanje ukazuje na prednosti primene standarda kvaliteta za poslovanje organizacija sa aspekta kao što je: efikasniji način rada; zadovoljstvo korisnika i potrošača; Identifikacija poslovnog rizika; očuvanje životne sredine, povećanje konkurentnosti.

Ključne reči: standardi kvaliteta, efikasniji način rada; zadovoljstvo korisnika i potrošača; racionalnije korišćenje resursa; očuvanje životne sredine, povećanje konkurentnosti.

¹orcid.org/0000-0001-7436-0752, e-mail: tatjana.janovac@mef.edu.rs,

²orcid.org/0009-0009-9137-3630, e-mail: marijana.vukcevic@mef.edu.rs

INTRODUCTION

In the conditions of strong competition, unstable business environment, as well as changing user requirements, quality is one of the key factors of the sustainability of organizations. Orientation to meet the needs and expectations of users, permanent improvement of the quality of products, services and all processes that exist in the organization's business ensures the achievement of business success.

Quality is an abstract concept depending on the needs, wishes and expectations of the user. In order to direct the efforts of employees towards achieving the goal, a general understanding of this concept is necessary (Lai & Cheng, 2005). Researchers define quality management (QM) as a set of guiding principles and management style applied by managers in order to achieve competitiveness and organizational success (Jaafreh & Al-abadallat, 2013; Ebrahimi & Sadeghi, 2013). After conducting research, researchers Malhotra et al. (1994) come to the conclusion that the concept of quality management was a key strategic issue for companies in the 1990s. (Robinson & Malhotra, 2005). Further development of quality takes place towards achieving economic effects, thereby strengthening the quality function that permeates all functions in the company. Effective quality management involves a series of activities, including the development of a quality culture, measurement and evaluation of quality initiatives, alignment with organizational values, and continuous improvement (Jaafreh & Al-abadallat, 2013).

Developing a quality culture is essential for organizations to achieve sustainable quality and continuous improvement. This includes creating a common understanding of quality throughout the organization, involving employees in quality improvement initiatives, setting clear quality goals and objectives (Kull & Wacker, 2010; Wu, 2015; Lapiņa et al., 2015; Srinivasan & Kurey, 2014; Saarikallio & Tyrväinen, 2023). In order to maintain quality awareness, Juran & Gryna (1993) propose constant quality measurement, which reinforces the idea of quality culture, which the same authors define as a model of human habits, beliefs and behavior. This includes defining metrics, collecting data, analyzing data, reporting results, taking action and continuous improvement. Many organizations accept the concept of total quality management (TQM), which connects organizational visions, missions, working principles and quality with meeting the needs of users. Different forms of quality management system (QMS) such as statistical process quality control (SPC), quality assurance (QA), quality standards and TQM are applied to improve business and achieve customer satisfaction (Lai, 2003). Certainly yes recommendation to

organizations that want to successfully realize their mission and goals, is to consider three aspects of quality - marketing, business and social (Heleta, 1998). To constantly improve the quality of their products and services, that is, to permanently develop a culture of quality with the aim of achieving customer satisfaction and long-term sustainability (Mitrović et al., 2023; Dukić et al., 2023).

During recent years, many studies have tried to examine the relationship between quality management and organizational performance (Hendricks & Singhal, 1997; Al-Mamary et al., 2014; Lai & Cheng, 2005; Shaheen, 2022; Antony et al., 2022; Shafiq et al., 2019; Milovanović et al., 2021). Likewise, there are studies that were based on the effects of quality management in Serbian food companies (Djekic et al., 2014; Djordjevic et al., 2014; Tomašević et al., 2016) as well as in transport organizations (Žeželj, 2013). Considering the shortcomings of previous studies, especially when it comes to research from the territory of the Republic of Serbia, this paper aims to point out the benefits of implementing quality standards for the business of Serbian organizations, observing from aspects such as: more efficient way of working; user and consumer satisfaction; identification of business risk; preserving the environment, increasing competitiveness.

1. MATERIALS AND METHODS

Empirical research was conducted on the basis of an electronic survey in the period from September to November 2023. Ninety- eight organizations from the territory of the Republic of Serbia that apply some of the quality standards participated in the research. The basic task of the research was to examine the views of the quality management manager or the employee responsible for the quality management system in the organization about the benefits of applying quality standards from aspects such as: more efficient way of working; user and consumer satisfaction; better identification of business risk; preserving the environment; increasing competitiveness.

Using the Likert scale, respondents expressed their agreement with each statement that evaluates certain aspects of the application of quality standards by giving a rating on a scale from 1 to 5 (1 - very unimportant, 2 - unimportant, 3 - neutral, 4 - important, 5 - very important). Hypothesis testing is made possible by the use of descriptive statistical indicators.

2. RESULTS AND DISCUSSION

When it comes to the structure of the sample based on company size, the sample is dominated by large companies with over 250 employees (30.6%),

followed by medium-sized companies with 10-50 employees (25.5%), medium-sized companies with 50-250 employees (21.4%), and small businesses with up to 10 employees with (22.4%) (Figure 1).

To the research question which quality standards are implemented in your organization, the answers presented in Figure 2 were obtained.

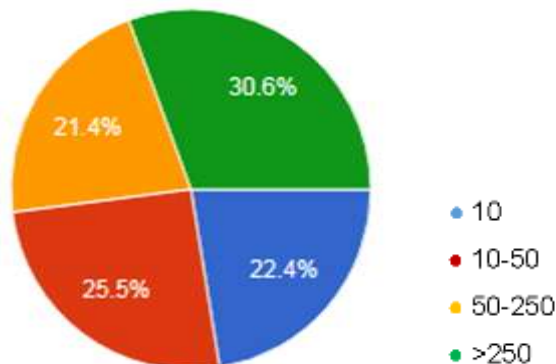


Figure 1 - Company size based on the number of employees
Source: Own research

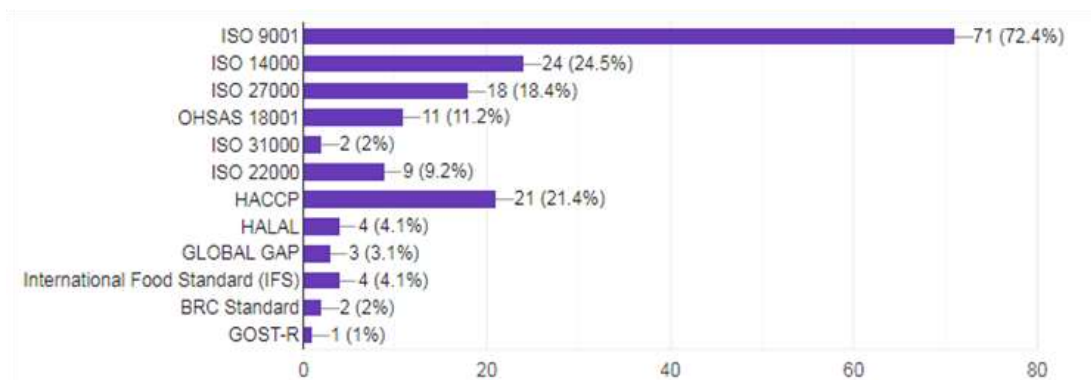


Figure 2 - Quality standards implemented in organizations
Source: Own research

Based on the research results, it can be seen that the ISO 9001 standard is the most represented in organizations (72.4%), followed by ISO 14000 (24.5%) and HACCP (21.4%), while the least represented standards are GOST-R (1%), BRC Standard (2%) and ISO 31000 (2%). Such a result is expected if we take into account that the ISO 9001 standard is a generic standard and is compatible with other standards, that is, the organization may have another standard implemented in addition to the ISO 9001 standard. Standards such as ISO 22000, HACCP, HALAL, GLOBAL GAP, International Food Standard (IFS), BRC Standard and GOST-R standard are applied in food and agricultural production, while standards such as ISO 14000 - environmental management system, ISO 27000 - information security management system.

When asked whether the organization has a certificate for the specified standard/s, the respondents' answers are shown in Figure 3.

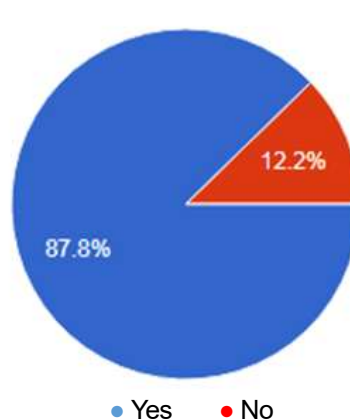


Figure 3 - Having a certificate for the standard/s
Source: Own research

Of the 98 organizations that participated in the research, 12 organizations do not have a certificate, that is, they did not go through the accreditation

process. It is assumed that these organizations are in the process of certification because they apply certain standards.

To the research question to what extent the implementation of standards influenced a more efficient way of working, the respondents gave the answer shown in Figure 4.

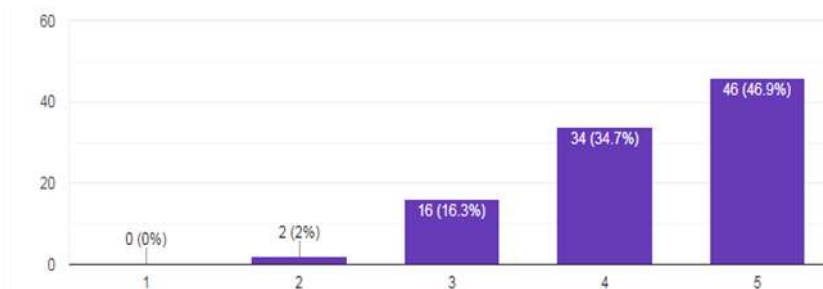


Figure 4 - The impact of standards on a more efficient way of working
Source: Own research

The majority of respondents (46.9%) believe that the implementation of the standard had complete impact on the more efficient way of working, 34.7% of the respondents believe that the implementation of the standard had partial impact on the more efficient way of working, 16.3% took a neutral position, while

2% of the respondents believe that the implementation of the standard had little impact on a more efficient way of working.

To the research question to what extent the implementation of the standard affected the satisfaction of users and consumers, the answers obtained are shown in Figure 5.

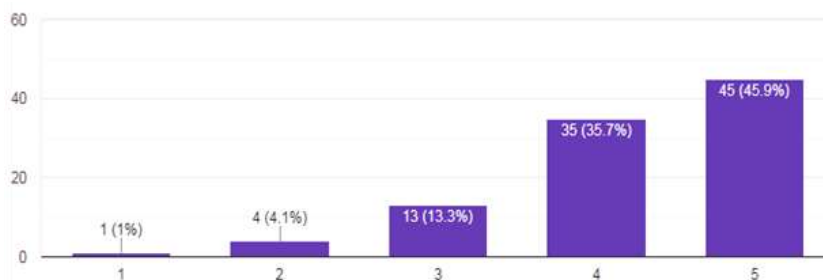


Figure 5 - The impact of standards on user and consumer satisfaction
Source: Own research

The results show that the majority of respondents (45.9%) believe that the implementation of the standard had complete impact the achievement of user and consumer satisfaction, 35.7% of respondents believe that the implementation of the standard had partial impact the achievement of user and consumer satisfaction, 13.3% took a neutral position, 4.1% believes that the implementation of the standard had little

impact on the satisfaction of users and consumers, while only 1% of respondents believe that the implementation of the standard had no impact on the achievement of user and consumer satisfaction.

To the research question to what extent the implementation of the standard influenced the better identification of business risk, the respondents' answers are shown in Figure 6.

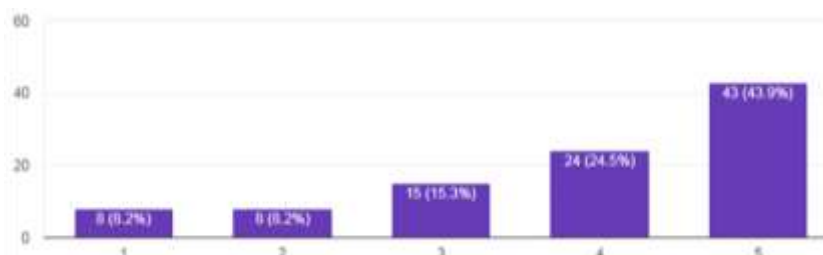


Figure 6 - The impact of standards on business risk identification
Source: Own research

The responses of the majority of respondents (43.9%) indicated that the implementation of the standard had a complete impact on better risk identification, 24.5% of the respondents believed that the implementation of the standard had a partial impact, 15.3% took a neutral position, while 8.2% of the respondents believed that the implementation of the standard had a little impact the identification of

business risk, and as many (8.2%) believe that the implementation of the standard had no impact on better identification of business risk.

To the research question to what extent the implementation of the standards affected the preservation of the environment, the respondents' answers are shown in Figure 7.



Figure 7 - The impact of standards on environmental protection
Source: Own research

The majority of respondents, 41.8%, believe that the implementation of the standard had partial impact the preservation of the environment, 28.6% believe that the implementation of the standard had a complete impact on the preservation of the environment, 22.4% took a neutral position, 6.1% of the respondents believe that the implementation of the standard had little impact, while 1% believes that

the implementation of the standard had no impact the preservation of the environment at all.

To the research question to what extent the implementation of the standard influenced the conquest of new markets and the increase of competitiveness, the respondents' answers are shown in Figure 8.

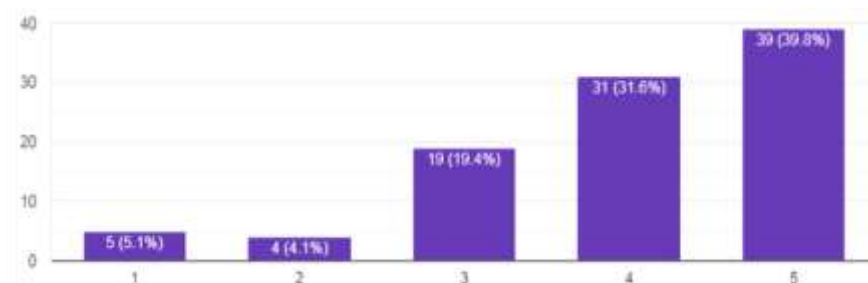


Figure 8 - The impact of standards on conquering new markets and increasing competitiveness
Source: Own research

The results show that the majority of respondents, 39.8%, believe that the implementation of the standard had a complete impact the conquest of new markets and increased competitiveness, 31.6% of the respondents believe that the implementation of the standard had a partial impact, 19.4% took a neutral position, and 4.1% of the respondents believe that the implementation of the standard had little impact, and 5.1% of respondents believe that the implementation of the standard had no impact at all on conquering new markets and increasing competitiveness.

Descriptive statistical indicators are shown in Table 1.

By displaying the mean values, it can be seen that the highest mean value has the More efficient way of working aspect (Mean=4.27). The aspect Identification of business risk has the lowest mean value (Mean=3.88). This result is also understandable if we take into account the fact that only 2% of the organizations that participated in the research have implemented the ISO 31000 risk management standard.

Table 1 - Descriptive statistical indicators

Business aspects	Mean	Variance	Std. Deviation
A more efficient way of working	4.27	0.651	0.756
User and consumer satisfaction	4.21	0.809	0.900
Preservation of the environment	3.91	0.847	0.920
Identification of business risk	3.88	1,655	1.286
Increasing competitiveness	3.97	1.226	1.107

Source: Own research

The results of the research indicate that the application of quality standards through aspects such as a more efficient way of working, user and consumer satisfaction, environmental protection, identification of business risk and increased competitiveness contributes to the quality of business operations of organizations. Similar results were reached by researcher Milovanović et al. (2021) who show that the certification of companies according to the ISO 9001 standard contributes to the improvement of the operational and market performance of the company. Another interesting study was conducted by Spanish researchers Heras et al. (2001), on a sample of 500 companies. The results of this research indicate that the application of the ISO 9000 standard affects the economic results of companies as well as the standardization of work procedures, improving the definition and responsibilities of workers.

CONCLUSION

Quality management is a systematic approach which ensures that products and services meet or exceed customer expectations. This includes planning, controlling, ensuring and improving quality in all aspects of the organization's operations. Quality management is essential for maintaining customer satisfaction, improving the quality of products and services, and improving organizational performance. Key elements of quality management include customer focus, continuous improvement, employee involvement, and data-driven decision making.

The research results show that ISO 9001 is the most common standard in organizations. This standard is suitable for all organizations that want to improve their management, regardless of the size or activity of the organization. It is also compatible with other standards. The results of the research indicate that the application of standards had a greater impact on a more efficient way of working. A more efficient way of working with conquering new markets and increasing competitiveness, as well as achieving user and consumer satisfaction are key factors for the success and sustainability of any organization.

This research complements the existing literature on the benefits of applying quality standards for the business of organizations, observing from aspects such as: more efficient way of working; user and consumer satisfaction; better identification of business risk; preserving the environment, increasing competitiveness. Analysis of the perceived benefits of implementing quality standards could be crucial for the management of those organizations that have not yet implemented any of the quality standards. The limitation of this study refers to the fact that the relationship between the activities of the organization and the implemented standards was not taken into consideration.

Future research will be focused on the analysis of the importance of the implementation of standards from aspects such as increasing profits, rationalizing the use of resources, fulfilling legal obligations, and information security etc.

REFERENCES

- [1] Al-Mamary, Y.H., Shamsuddin, A., & Aziati, N. (2014). The relationship between system quality, information quality, and organizational performance. *International Journal of Knowledge and Research in Management & E-Commerce*, 4(3), 7-10.
- [2] Antony, J., Sony, M., Furterer, S., McDermott, O., & Pepper, M. (2022). Quality 4.0 and its impact on organizational performance: an integrative viewpoint. *The TQM Journal*, 34(6), 2069-2084. doi:10.1108/TQM-08-2021-0242
- [3] Djekic, I., Tomic, N., Smigic, N., Tomasevic, I., Radovanovic, R., & Rajkovic, A. (2014). Quality management effects in certified Serbian companies producing food of animal origin. *Total Quality Management & Business Excellence*, 25(3-4), 383-396. doi:10.1080/14783363.2013.776765
- [4] Djordjevic, D., Cockalo, D., & Bogetic, S. (2011). An analysis of the HACCP system implementation - The factor of improving competitiveness in Serbian companies. *African Journal of Agricultural Research*, 6(3), 515-520.

- [5] Dukić, A., Urošević, A., Riznić, D. (2023). Zelena ekonomija i kvalitet usluga u maloprodaji. *Ecologica*, 30(109), 9-14. doi:10.18485/ecologica.2023.30.109.2
- [6] Ebrahimi, M., & Sadeghi, M. (2013). Quality management and performance: An annotated review. *International Journal of Production Research*, 51(18), 5625-5643. doi:10.1080/00207543.2013.793426
- [7] Heleta, M. N. (1998). *TQM-model for business excellence*. Educta.
- [8] Hendricks, K.B., & Singhal, V.R. (1997). Does implementing an effective TQM program actually improve operating performance? Empirical evidence from firms that have won quality awards. *Management science*, 43(9), 1258-1274. doi:10.1287/mnsc.43.9.1258
- [9] Heras, I., Casadesús, M., & Ochoa, C. (2001). Effects of ISO 9000 certification on companies' profitability: an empirical study. In: *Integrated Management: proceedings of the 6th International conference on ISO (Vol. 9000, pp. 60-5)*.
- [10] Jaafreh, A.B., & Al-abadallat, A.Z. (2013). The effect of quality management practices on organizational performance in Jordan: An empirical study. *International Journal of Financial Research*, 4(1), 93-109. doi:10.5430/ijfr.v4n1p93
- [11] Juran, J.M., & Gryna, F.M. (1993). *Quality Planning and Analysis - from product development to use*. Zagreb: MATE doo.
- [12] Kull, T.J., & Wacker, J.G. (2010). Quality management effectiveness in Asia: The influence of culture. *Journal of operations management*, 28(3), 223-239. doi:10.1016/j.jom.2009.11.003
- [13] Lai, K.H. (2003). Market orientation in quality-oriented organizations and its impact on their performance. *International journal of production economics*, 84(1), 17-34. doi:10.1016/S0925-5273(02)00382-1
- [14] Lai, K.H., & Cheng, T.E. (2005). Effects of quality management and marketing on organizational performance. *Journal of Business research*, 58(4), 446-456. doi:10.1016/j.jbusres.2003.08.001
- [15] Lapiņa, I., Kairiša, I., & Aramina, D. (2015). The role of organizational culture in the quality management of universities. *Procedia - Social and Behavioral Sciences*, 213, 770-774. doi:10.1016/j.sbspro.2015.11.472
- [16] Milovanović, V., Janošević, S., & Paunović, M. (2021). Quality management and business performance of Serbian companies. *Business Economics*, 69(5-6), 345-356. doi:10.5937/EKOPRE2106345M
- [17] Mitrović, M., Dević, Ž., Mitrović, I. (2023). Socijalni kapital u funkciji porasta kvaliteta poslovnih performansi na primeru klastera. *Ecologica*, 30(110), 253-260. doi:10.18485/ecologica.2023.30.110.12
- [18] Robinson, C.J., & Malhotra, M.K. (2005). Defining the concept of supply chain quality management and its relevance to academic and industrial practice. *International journal of production economics*, 96(3), 315-337. doi:10.1016/j.ijpe.2004.06.055
- [19] Saarikallio, M., & Tyrväinen, P. (2023). Quality culture boosts agile transformation - Action research in a business-that-business software business. *Journal of Software: Evolution and Process*, 35(1), e2504. doi:10.1002/smr.2504
- [20] Shaheen, S. (2022). Quality Management and Operational Performance: A Case Study from Pakistan: Quality Management and Operational Performance. *South Asian Journal of Operations and Logistics*, 1(1), 1-13. doi:10.57044/SAJOL.2022.1.1.2201
- [21] Shafiq, M., Lasrado, F., & Hafeez, K. (2019). The effect of TQM on organizational performance: empirical evidence from the textile sector of a developing country using SEM. *Total Quality Management & Business Excellence*, 30(1-2), 31-52. doi:10.1080/14783363.2017.1283211
- [22] Srinivasan, A., & Kurey, B. (2014). Creating a culture of quality. *Harvard business review*, 92(4), 23-25.
- [23] Tomašević, I., Šmigić, N., Đekić, I., Zarić, V., Tomić, N., Miocinović, J., & Rajkovic, A. (2016). Evaluation of food safety management systems in the Serbian dairy industry. *Dairying*, 66(1), 48-58.
- [24] Wu, S.J. (2015). The impact of quality culture on quality management practices and performance in Chinese manufacturing firms. *International Journal of Quality & Reliability Management*, 32(8), 799-814. doi:10.1108/IJQRM-12-2013-0199
- [25] Žeželj, S. (2013). The implementation of a quality management system: a case study of Serbian transport organizations. *International journal for traffic and transport engineering*, 3(4), 397-407. doi:10.7708/ijtte.2013.3(4).04.