

## Typological Models of Motives and Effects of Adoption of ISO 9000 Series Standards

Mantas Vilkas, Sigitas Vaitkevicius

*Kaunas University of Technology*

*K. Donelaicio st. 73, LT-4402, Kaunas, Lithuania*

*e-mail: mantas.vilkas@ktu.lt, sigitas.vaitkevicius@ktu.lt*

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*In this article we aim to identify the types of adopters of ISO 9000 series standards based on complex patterns of motives of adoption and to disclose benefits and drawbacks associated with each pattern of motives. After survey of adopters of the standard, we identify three types of adopters of ISO 9000 series standards in Lithuania that are based on complex patterns of adoption motives, specifically, Operational effectiveness oriented adopters, Investing adopters, Partners oriented adopters. We find that each pattern of adoption motives is followed by particular benefits and drawbacks. In summary, Operationally oriented adopters experience negative, Partners oriented adopter positive and Investing adopters neutral to positive influence of adoption to operational and business performance. We explain these findings relying on institutional characteristics of Lithuanian economy and characteristics of adopters. This paper provides more nuanced understanding of patterns of adoption of ISO 9000 series standards transcending common functional-institutional framework. Also, it reveals that functional motivation to adopt the standards produces negative influence to operational and business performance of organizations in Lithuania, indicating of under researched institutional factors preventing successful internalizations of quality management practices constituting the standards. Our research identifies successful and unsuccessful strategies of adoption of ISO 9000 series standards in Lithuania. The results also imply that Lithuanian industrial policy which promotes the adoption of the standard through public tenders does not achieve its intentions.*

**Keywords:** *ISO 9000 series standards, motivation, effects, private decentralized institutions, institutionalism.*

### Introduction

Despite mixed implementation results the diffusion of ISO 9000 series standards continues. Sponsored by International Organization for Standardization, this series of standards provides guidance on design of quality management system of organization of any type and size. More than 1,1 million organizations comply to these standards in the world (ISO, 2013a) among which there are 1378 Lithuanian organizations (LSD, 2013). The standards are important global phenomena, as well as important characteristic of Lithuanian economy. Almost a third of the 20 biggest Lithuanian companies (Verslo Zinios, 2012) adopted these standards. ISO 9001 standard comprises simplified and unitary approach to the design of quality management systems based on propositions of total quality management (Boiral, 2003). The adoption of the standard consists of internalization of quality management practices which constitute the standard and certification of the quality management system. The certification procedure is conducted by third party organization and it is intended to evaluate the compliance of organizational quality management practices with the requirements of the standard and in case of match, issue the certificate of conformity (Power & Terziovski, 2007).

The research considering the motivations and effects of ISO 9000 standards with some exceptions (Boiral, 2003; Boiral, 2011; Heras-Saizarbitoria & Boiral, 2013) follows dualistic institutional-functional (Nair & Prajogo, 2009) or sometimes referred as technical-nontechnical (Heras-Saizarbitoria & Boiral, 2013), internal-external (Sampaio

*et al.*, 2009), framework. The functional perspective is mostly employed by scholars from operations and quality management fields (Heras-Saizarbitoria & Boiral, 2013). The institutional perspective consists of four approaches towards motivations and effects of adoption of certified management systems (CMS): self-regulation, decentralized institutions, cartels or clubs and New Institutionalism (Heras-Saizarbitoria & Boiral, 2013). Following functional explanation organizations adopt the standard expecting technical efficiency which is promised by operations management body of knowledge. Improvement of operational performance, greater customer satisfaction, decrease of operating costs are among some of the benefits of adoption usually promised within this line of reasoning (ISO 2012; Sampaio *et al.*, 2009). From the institutional perspective the decision to adopt it is explained in terms of coercive behaviour of state institutions (Guler *et al.*, 2002) or multinational organizations (Corbet, 2006), the intentions to signal about organizational reliability to partners that lack credible information (King *et al.*, 2005; Terlaak & King, 2006; Terlaak, 2007). In general, from the theoretical model established by functional perspective organizations adopt the standard because of internal reasons, whereas from institutional perspective because of external reasons. The same functional-institutional framework transcends efforts to capture effects of the adoption of ISO 9000 series standards. There is the consensus among scholars constituting functional line of research that functional motivation to adopt the standard leads to operational benefits, which in turn lead to increased business performance (Nair & Prajogo, 2009;

Sampaio *et al.*, 2009; Prajogo, 2011). Conversely, adoption because of institutional or scattered motivation is not related with increased performance, and even more “external motives may, therefore, reflect attitudes which are in conflict with the true intent of ISO 9000 standard” (Prajogo, 2011). Institutionally oriented scholars interpret effects of the adoption in the context of predictions of New Institutionalism. They argue that adopting of the standard because of institutional forces increases legitimating of actions of organization which in turn helps to sustain existing or gain new customers, but it is achieved by taking the dangers of decoupling of action and formal structures upon oneself (Meyer & Rowan, 1977). In summary, the functional vs institutional orientation dominates the research on motives and effects of ISO 9000 series standards. The decision to adopt the standard is analyzed showing that either institutional *or* functional drivers are at work while deciding to adopt the standard. The same perspective dominates while analyzing benefits of the standard. The effects of the standard are projected as a function of institutional *or* functional adoption motives.

We agree that this approach significantly contributed to the understanding of diffusion and effects of ISO 9000 series standards but it has certain limitations. By arguing that functional or institutional motivation dominates the decision to adopt the standard we fail to grasp complex decision pattern that guides decision of organizations to engage on not in adoption. While some of authors already consider institutional and functional motives together in the study, they usually fail to escape from the dualistic framework, eventually concluding which types of motives dominate the decision standard (Urbonavicius, 2005; Nair & Prajogo, 2009, Vilkas & Vaitkevicius, 2012, Prajogo, 2011). The rationality of organizations goes hand by hand with internal and external institutional factors producing contingent actions of organizations. Firms’ account for functional, institutional, as well as other types of motives reflecting retrospective, evaluative and projective capabilities of firms as agentic actors more or less constructed by institutional environment (Meyer, 2010) constituting complex patterns of motivations to adopt the standard. In this article *we aim* to go beyond institutional-functional motives and effects framework and uncover the types of motivations for ISO 9000 adoption based on complex pattern of motives and to disclose benefits and drawbacks associated with each type of motivation.

The research is based on e-survey of attitudes and notions of 92 Lithuanian companies’ representatives (total sample was 991 during the time of study). Factor analysis, Reliability analysis, k-mean clusters and Wilcoxon Signed Rank test were used to identify the types of adopters of ISO 9000 series standards and effects following each type of adopter. After analysis of the survey data on certified Lithuanian organizations we identified three types of motivations based on coherent patterns of adoption motives, specifically Operational effectiveness oriented adopters, Investing adopters, Partners oriented adopters. Each pattern of adoption motives is followed by particular benefits and pitfalls. In summary, Operationally oriented adopters experience negative, Partners oriented adopters - positive and Investing adopters neutral to positive influence of adoption to operational and business

performance. We explain these findings relying on institutional characteristics of Lithuanian economy and characteristics of adopters.

Our contribution is fourfold. First, we contribute ISO 9000 series related body of knowledge by identifying coherent patterns of motivations of adoption of the standard and relating these patterns with specific effects following each motivational pattern. By doing that we transcend common institutional-functional framework employed while analyzing motives and effects of adoption. The identification of the types of adopters based on patterns of motivations provides more nuanced understanding of decisions of organizations to adopt the standard. It enables us to argue that decisions of organizations to adopt the standard are more complex and are based on complex patterns in which various motives manifest in varying strength reflecting the intentions, evaluations of present situation and context of organization. Second, our research contributes to the theory of certified management systems (CMS) as private decentralized institutions (Terlaak, 2007). It is argued that CMS shapes socially desirable behaviours of organizations in the contexts of incomplete consensus and information when compliance is indicative of superior levels of performance or induces superior performance (Terlaak, 2007). Therefore our findings suggest that the influence of CMS to increasing performance of organizations in standard target area is moderated by institutional characteristics of countries and fields. In Lithuania ISO 9000 series standards fail to induce superior quality performance for companies that expect that from adoption while in other countries it is. It may distort consistency of signals of adoption of CMS in international context and threaten decentralized enforcement process. Third, we discover that institutional (or internal) motivation to adopt the standard may also lead to improvement of operational performance as in case of Partners oriented adopters, departing from common claims of functionally oriented standpoint. We propose the explanations of the phenomena using path formation based on positive feedback cycles approach. Forth, our finding, that ISO 9000 series standards fail to increase operational performance of companies which expect solely operational effectiveness from the adoption of the standard in Lithuania, has important implications to field of quality management, managers and policymakers. It provides evidence questioning universalistic application of quality management tools in Post-communist economies and creates background for further analysis of applicability of quality management techniques in this region. Also it allows arguing, that centralized enforcement of ISO 9000 series of standard through public tenders within country is fruitless because the adoption does not result in superior operational effectiveness if only this is expected. The adoption grants access to public resources although it does not increase effectiveness of transformation of these resources into public goods as it is expected.

The article has three parts. First, we provide literature review on the motivations and effects of adoptions of ISO 9000 series standards. While we conjuncture that motivations and benefits may be different in different countries because of institutionally derived factors, we discuss major contributions in this area and summarize the

results of the research on adoption of the standard by Lithuanian companies. In the next section we detail research methodology and describe the typology of adopters based on their decision patterns together with experienced results. In the last section we engage in discussion of the results that conflict with functionally oriented body of the research on motives and effects of the standard.

### **Review of motivations and effects of adoption of ISO 9000 series standards**

It is argued that organizations adopt ISO 9000 series standards due to functional or institutional motivations. The functional motivation to adopt the standard may be explained through the effects of quality management practices. Organizations adopt the standard expecting technical efficiency which is promised by operations management body of knowledge and resource-based theory. The series of standards are based on the total quality management framework (Boiral, 2003). By adopting the standard organizations introduce quality management practices related to 1) process management and 2) continuous improvement. The process management practices lead to analysis, improvement and collective adherence to improved processes (Benner & Tushman, 2003), while by internalizing continuous improvement practices, organizations create the infrastructure for rational problem solving that ensures continuous identification of problems, analysis of their causes and their elimination (Winter, 2000). Day-to-day practice of quality management heuristics may create capabilities of quality assurance and improvement which are difficult to imitate for competitors and lead to competitive advantage. Improvement of operational performance, greater customer satisfaction, improved relations within organization, improvement of internal efficiency are among some of the benefits of adoption usually promised within this line of reasoning (Heras-Saizarbitoria & Boiral, 2013).

The proponents of institutional and signalling perspectives argue that while functional motives, of course, are important, alone they cannot explain the worldwide diffusion of ISO 9000 series standards. The certification of the standards are not necessary to make them work, therefore it is widely practiced (Terlaak & King, 2006). Following the arguments of New Institutional theory, they argue that the standard is adopted because organizations are trying to satisfy the expectations of interested parties legitimating organizational action in this way (Meyer, 2010). Empirical studies of the institutional factors influencing adoption of the standard reveal that coercive behaviour of the states and multinational companies (Guler *et al.*, 2002; Corbet, 2006; Neumayer & Perkins, 2005), as well as signalling with the certificate about the organizational reliability in the situations where organizations are lacking reliable information on potential partners (King *et al.*, 2005) are among the most important factors explaining diffusion of these series of standards. Corbet (2006) found that part of diffusion of the standard did move upstream in global supply chains, as big companies from Europe pressured suppliers to comply with the standard, which behaved accordingly in face of possibility to loose contracts. These findings are supported

by Neumayer and Perkins (2005) who found that exports to the European Union, local involvement of transnational corporations, European colonial ties, and the availability of telecommunications all emerge as statistically significant determinants of adoptions of the standard.

The dominating factors influencing decisions to adopt the standard are different in different countries because they reflect the level of institutionalization of particular fields within countries, trade relations and economic structure, and even a history of the state. Thus we provide review on motives and effects of adoption of the standard in Lithuania and Baltic states. Ruzevicius *et al.*, (2004) study revealed that functional drivers (to ensure the constant level of quality of products; satisfy customer's needs better; improved competitiveness of a company) dominate the decision to adopt ISO in Lithuania. Therefore they found that institutional motives are also important (it was important for the company's image and prestige, implemented in order to export goods to foreign countries). Urbonavicius (2005) conducted in-depth interviews with 65 companies from Lithuania, Latvia and Estonia trying to grasp the motives and effects of adoption of the standard. Contrary to Ruzevicius *et al.*, (2004) findings, the research showed that Baltic organizations adopt the standard mainly because of institutional motives (increase of exports; more successful participation in public tenders; improvement of organizational image). Therefore functional motives were also found in the structure of decision. In order to settle these contradictory findings, Vilkas and Vaitkevicius (2012) surveyed the Lithuanian adopters and concluded that institutional motives (expectation to be valued as more reliable partners; standards were the part of image formation) dominate the decision to adopt the standards in Lithuania.

#### ***The effects of adoption of ISO 9000 series standards.***

The research on effects of ISO 9000 series standards is concentrated to reveal if and in what way adoption of the standard is positively associated with business and operational performance.

There is a consensus among scholars from operations management field that functional and institutional adoption motives lead to different outcomes of the adoption of the standard (Jones *et al.*, 1997; Briscoe *et al.*, 2005; Casadeu *et al.*, 2001; Martinez-Costa *et al.*, 2008; Sampaio *et al.*, 2009; Nair & Prajogo, 2009). The explanation of internal mechanics of this effect is provided and tested by Nair and Prajogo (2009). They report that despite institutional or functional motives dominate the decision to adopt the standards, the internalization of quality management practices encoded in the standard takes place. Therefore, a higher level of internalization of practices is achieved when it is adopted because of functional motives rather than of institutional ones. The level of internalization refers to the level of practicing of quality management heuristics encoded in the standard. In other words, the dominating institutional motives in the decision to implement the standard lead to weaker practice of heuristics encoded in the standard. The study of Nair and Prajogo (2009) further reveal that the internalization of the standard is positively associated with operational performance, and operational performance, in turn, is positively associated with business performance. The results also suggest that in low performing

organizations the institutional motives were as important as functional factors while deciding to adopt the standard. Conversely, high performing firms based their decision on functional motives. In summary it is argued that functional motives lead to high level of internalization of the standards which leads to increased operational and business performance. On the contrary, diffused motives lead to lower internalization, which, in turn, leads to lower performance. While according functional perspective the effects of the adoption of the standard to business performance are mediated by operational performance, according to the institutional and signalling approaches, the certification may directly influence business performance when certain characteristics of organizational fields are present. In highly institutionalized fields the certification of the standard may grant legitimacy in the eyes of customers (Meyer & Rowan, 1977), access to public and private orders (Guler *et al.*, 2002), facilitate potential orders from potential buyers because certification provides a signal of superior quality of organization products (Terlaak and King, 2006). Therefore adoption of the standard in institutionalized fields usually leads to decoupling of action and formal structures which is associated with particular dangers (MacLean & Behnam, 2010).

The studies report positive effects of the standards in Lithuania and other Baltic countries. According to the study of Ruzevicius *et al.* (2004) Lithuanian companies report improved operational performance (decrease of nonconformity of products, more carefully chosen contractors, fewer complains from the clients). Companies also reported that adoption allowed gaining access to public tenders. The study of Urbonavicius (2005) revealed that while institutional motives dominate the decision to adopt the standards in Baltic states, the benefits are functional in nature. Accordingly the organizations mentioned that adoption of the standard was followed by

more clear procedures and functions; better organizational structure and smoother processing of documents; better control of operations; increased quality of products.

As the review demonstrates, the institutional vs functional perspective transcends all efforts to analyze the motivations and benefits of ISO 9000 series standards. In the next section the methodology of identification of patterns of motivations and associated effects escaping this common dualistic framework is provided.

### Methodology

Motives and effects of adoption of ISO 9000 series standards were studied using the e-survey research in beginning of 2010. Attitudes and notions of 92 Lithuanian companies representatives were studied (there were 991 certified companies during the time of the study). Ninety-one of returned questionnaires are appropriate numbers for the future analysis. The returning rate of questionnaires is 9,1 %. In Lithuania because of small returning rate this returning rate can be considered as normal (Kriauciunas *et al.*, 2011).

The SPSS 20.0 software (licensed to the KTU) and Excel 2010 (licensed to the KTU) were used for data analysis. The results of this research compatible to the level  $p=0,05$  and can be used to explain the behavior of total population. To ensure this the appropriate research methods were used.

Factor analysis with principal components extraction method and Varimax rotation method were used to reduce the total number of primary indicators. In this way 5 scales were extracted out of 25 primary items (Tables 1 and 2). The construct validity of the scales was tested by the Reliability analysis. One out of 25 questions do not added to the scales. It was interpreted as an "independent indicator". It has high classification capacity itself.

Table 1

Distribution of items across the scales

Index	Factors	Component	Corrected Item-Total Correlation
Operational effectiveness	Quality of products/services	0,513	0,289
	Alignment of activities with objectives of organization	0,743	0,615
	Communication among different levels of organization	0,587	0,420
	Understanding of processes constituting organization	0,678	0,666
	Allocation of authority and responsibilities	0,525	0,449
	Performance control	0,734	0,751
	Integration and alignment of processes achieving results	0,741	0,608
	Process of improvement of organization	0,652	0,484
Image formation	At that moment it looked like the only way to become a leader	0,602	0,424
	We wanted to be exceptional in the market	0,705	0,508
	We believed that we are going to be treated like more reliable partners	0,616	0,441
	We thought that it is going to be easier finding foreign partners	0,518	0,385
	We hoped to become more attractive for investors	0,579	0,468
	It was the only way to make better contracts	0,508	0,377
	We wanted to become equal partners	0,621	0,460
That was part of image formation	0,637	0,445	
Recovery of organizational positions	We were unlucky at that time, we had to do something	0,812	0,459
	Partners suggested to implement ISO	0,624	0,323
	Lending opportunities depended on that	0,840	0,517
Expansion into mature	It was an effort to enter the EU and other more advanced markets	0,610	0,278
	We had to master processes taking place in organization	0,585	0,250

Index	Factors	Component	Corrected Item-Total Correlation
markets	It enabled to enter new markets	0,605	0,275
	Organization believed in ISO benefits and added value	0,729	0,373
Following competitors	Competitors were implementing ISO	0,887	0,573
	The outlook that ISO has to be implemented prevailed on the market	0,887	0,573
Success	We were successful at that time and wanted to invest in something	-	-

All five scales have high psychometric characteristics: the lowest individual factor correlation to the scale is  $F_{min} = 0,508$ , the highest is  $F_{max} = 0,887$ ; the lowest item correlation to the others on the scale is  $i/tt_{min} =$

0,250, the highest is  $i/tt = 0,751$ ; the highest KMO is 0,828, the lowest - 0,596. The scale "Following competitors" consists only of two items; finally the highest Cronbach  $\alpha$  is 0,813 and the lowest - 0,502.

Table 2

**Scales homogeneity verification results**

Indexes	Cronbach's Alpha Based on Standardized Items	Summary Item Statistics			% of Variance	KMO
		Mean	Minimum	Maximum		
Operational effectiveness	0,813	0,356	0,028	0,681	42,588	0,828
Image formation	0,745	0,267	0,014	0,602	36,153	0,644
Recovery of organizational positions	0,638	0,370	0,256	0,540	58,501	0,596
Expansion into mature markets	0,502	0,201	0,116	0,289	40,269	0,626
Following competitors	0,729	0,573	0,573	0,573	78,658	0,500

The modelling of ISO 9000 typological variety was performed using the k-mean cluster method. For verification purposes of extracted types the values of all five scales and "independent indicator" transformed into the z-scale. In particular case the standard deviation level on the z-scale more than 1 between the cluster centers was treated as significant difference between the studied populations. For the modelling of typological variety, 91 out of 92 questionnaires were used (Figure 1). Created model of typological variety was characterized by high distinctive power, so it can be stated that the study sample is enough for the typological generalisation of researched phenomenon. There are 53 number of cases in the first cluster (Operational effectiveness oriented adopters), 11 in the second (Investing adopters) and 27 in the third (Partners oriented adopters). There are 91 totally valid cases, 1 is missing. The factors that determine the specific

type formation were identified comparing the average values of primary items between the types. Standard deviation of all primary items for all types does not exceed 1 ( $SD_{min} = 0,000$ ,  $SD_{max} = 0,522$ ) therefore the averages were treated as comparable. After, by using the Wilcoxon Signed Rank test, there was assessed the difference between the attitudes before and after adoption of ISO 9000 series standards. The significant factors were determined under the significance level  $p \leq 0,05$ .

**The types of adopters of ISO 9000 series standards**

The data analysis enabled to identify three groups of ISO 9000 series standards adopters which internally share similar patterns of motivations: 1) Operational effectiveness oriented adopters; 2) Investing adopters; 3) Partners oriented adopters (Figure 1).

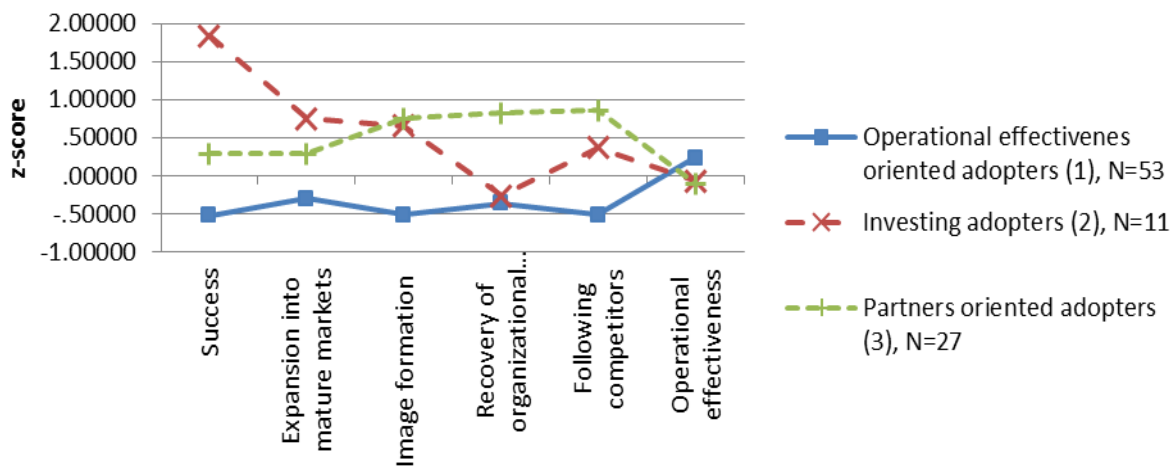


Figure 1. Typological models of motives and effects of ISO adoption

**Operational effectiveness oriented adopters.** The distinguishing characteristic of the motivation pattern of this type of adopters is the domination of functional motives. These firms have comparatively lower business performance, reject image, expansion, position recovery and imitation related adoption motives. They adopt the standard seeking to improve operational effectiveness. The other types of adopters are similarly motivated to improve operational effectiveness therefore they also have other motivations. But for this type of adopters motivation to improve operational effectiveness is the only motivational factor within the pattern of decision to adopt the standard. The rejection of all other motivation factors enables to argue that the improvement of operational effectiveness was the objective itself, not the means to expand into mature markets, or to recover business performance.

The effects of the adoption of the standard are mixed for Operational effectiveness oriented adopters. They experience the improvement of competitive position ( $p=+0.007$ ) and understanding of processes constituting organization ( $+0.046$ ). Therefore at the same time these organizations report negative effects on the biggest number of dimensions comparing them with other types of adopters. They experience decrease of product quality ( $-0.007$ ), motivation and commitment of employees ( $-0.011$ ), understanding which processes are core ( $-0.003$ ), profit ( $-0.007$ ), exports ( $-0.001$ ), image of the company ( $-0.041$ ), possibility to win national quality prize ( $-0.016$ ) and increase of operating costs ( $-0.034$ ) after the adoption of the standard. It seems that while Operationally oriented adopters agree that in certain circumstances the standard may be used in the competitive battle (for example, it creates opportunity to participate in public tenders), overall Operational effectiveness oriented adopters are dissatisfied with the performance effects of the certified quality management system.

**Investing adopters.** The complex pattern of motivation for adoption of this type of adopters is characterized by sound business performance and domination of expansion, image formation and competitors following oriented motives. These organizations are sensitive to competitors' actions as Partners oriented adopters, and are equally interested in operational effectiveness improvement as both other types of adopters. The sound business performance and expansion, image formation and competitors following oriented motives within decision pattern of adoption enable to identify this group of adopters as Investing adopters. The slack resources are invested in the adoption of the standard while trying to consolidate image, enhance expansion oriented capabilities and do not give up present competitive position.

After the investment, this type of adopters experiences increase in customer satisfaction ( $+0.003$ ), organizational reliability in the eyes of potential Lithuanian customers ( $+0.014$ ) and understanding which processes are core processes ( $+0.046$ ). Therefore they experience negative effect of the standard adoption on performance control ( $-0.025$ ) which may be explained by necessity to share performance calculation virtues with third party auditors. In general it may be concluded that Investing adopters are rather satisfied with their investment.

**Partners oriented adopters.** The pattern of motivation of this type of adopter is distinctive in terms of emphasis on recovery of organizational position while deciding to adopt the standard. Also this type of adopters has comparatively lower business performance, is motivated by image improvement, they follow competitive climate and equally as other types of adopters are motivated by improvement of operational effectiveness. Deeper analysis of recovery of organizational position index reveals that it is constituted by worries about business performance and cues from business partners that adoption of the standards would be a positive move. Hence, this type of adopters is titled as Partners oriented adopters.

This group of adopters is the most satisfied with the results of adoption. They experience different benefits of the adoption, among which there are: increased level of capability of identification of customer requirements ( $+0.033$ ), customer satisfaction ( $+0.013$ ), satisfaction of employees with work ( $+0.034$ ), the integration of system of processes and alignment of it for results ( $+0.033$ ), capability to react to opportunities ( $+0.011$ ), capability for facts-based decision making ( $+0.033$ ), market share ( $+0.02$ ), capability to react to changing customer requirements together with suppliers ( $+0.005$ ), ability to win private tenders ( $+0.004$ ), ability to defend Lithuanian customers ( $+0.02$ ), organizational reliability in the eyes of potential Lithuanian customers ( $+0.007$ ) and increased competitive advantage ( $+0.001$ ).

The pattern of motivations and effects of the adoption of the standard enables speculation that this type of adopters adopted the standard because of domination of expansion, image formation and competitors following oriented motives among which the most important was recovery of business positions through gaining access to new sets of the customers, which provided cues that adoption of the standards will positively influence chance of contracts. The adoption helped to regain competitive position by granting new customers. If the adoption of the standard provided mostly negative effects on Operational effectiveness oriented adopters and moderately satisfying effects on Investing adopters, it was revelation for Partners oriented adopters.

## Discussion

The research enabled to identify three types of adopters of ISO 9000 series standards based on their patterns of motivation to adopt the standard, specifically Operational effectiveness oriented adopters, Investing adopters and Partners oriented adopters. As further analysis revealed, each type of adopter reports different effects of the adoption. The Operational effectiveness oriented adopters report negative influence of adoption of the standard on various operational and business performance characteristics. The Investing adopters are moderately satisfied with their investment, while Partners oriented adopters report positive influence of the adoption on different operational and business characteristics.

These results challenge the knowledge of technically or functionally oriented scholars and raises important questions, specifically: 1) Which mechanisms are responsible that

Partners oriented adopters experience the most significant positive effects of the adoption and these effects are related with business and operational performance? 2) Why the adoption of the standard does not support operational effectiveness for Operational effectiveness oriented adopters as it does in other countries? Further we provide the discussion on these topics.

**The positive effects of the standard adoption for Partners oriented adopters.** The evidence that Partners oriented adopters experience positive effects of adoption on business and operational performance contradicts functionalists' findings (example, Jones *et al.*, 1997; Briscoe *et al.*, 2005; Casadeus *et al.*, 2001; Martinez-Costa *et al.*, 2008; Sampaio *et al.*, 2009; Nair & Prajogo, 2010). The need to recover organizational position, image formation, competitors following and expansion into mature markets dominate the decision to adopt the standard of Partners oriented adopters. The functional motives for this type of adopters are as well important, therefore less important than the institutional ones.

The "Recovery of organizational positions" index is important factor influencing decision to adopt the standard only for this type of adopters. This factor and comparatively lower business performance distinguish this type of adopters from Investing adopters which experience different set of benefits and deficiencies from the adoption. It is consistent that Investing adopters don't need to recover organizational positions – their business performance is sound enough. Also this enables us to concentrate on "Recovery of organizational positions" with conjunction with other factors within decision pattern of Partners oriented adopters while explaining different effects of adoption of the standard comparing to Investing adopters. Further analysis of index of "Recovery of organizational positions" allows arguing that these adopters adopted the standard while having cues from partners. Thus the particular effects of the standard adoption for Partners oriented adopters are influenced by, inter alia, orientation to expanding relationships of present partners or customers and gaining access to the new ones. These results are consistent with certified management systems (CMS) as private decentralized institutions theory (Terlaak, 2007; Anderson *et al.*, 1999).

Among other propositions, the theory of CMS as private decentralized institutions suggests CMS embody two features, that's it – codification and certification that allows "to create order without law in settings with incomplete consensus and information" (Terlaak, 2007, p. 969). Codification enables to shape behaviours in contexts where consensus on best practices in standard area is incomplete. Certification and subsequent surveillance audits provide otherwise hardly accessible information on compliance of operations of organization to codified standard. ISO 9000 series standards are constantly reviewed to reflect best practice on quality management (ISO, 2012). The certification of accordingly created quality management systems is performed by notified certification organizations (Power & Terziovski, 2003). ISO 9000 certification may be preferred by industrial buyers as multinationals and big local companies because certification 1) creates common "reference points" that limit possibilities for different interpretations how quality

has to be assured by identifying best practices in quality management (Terlaak, 2007, p. 973); 2) lowers the risk of operational failures of buying organization because of delivered defective parts or services by supplying organization which in turn may lead to loss of image of buying company (Terlaak, 2007); 3) lowers the monitoring costs of suppliers in case of long term relationship (King *et al.*, 2005). As practitioner puts it "International Standards enable operational excellence and standardization across our complex global company. They are also key to our relationships with partner companies since they build a basis for mutual trust and common understanding based on clear specifications and performance expectations" (ISO News, 2013b).

Our results allow expecting that Partners oriented adopters are successfully engaged in new or expanded business contracts. Recall that, the Partners oriented adopters experience significant increase in ability to win private tenders (+0,004), ability to defend Lithuanian customers (+0,02), organizational reliability in the eyes of potential Lithuanian customers (+0,007), capability to win in public tenders (+0,058), customer satisfaction (+0,013) and increase of market share (+0,02). The Lithuanian market is known for requirements of certification when participating in public tenders. Also Terlaak (2007) proposes that certification is more likely to occur when partners are distant from each other, especially in the context of cross-cultural transactions. While we cannot fully exclude that new or expanded contracts have been initiated with foreign or public customers our results point that it is more likely that these are private partners located in Lithuania. This calls for further analysis of internal market of Lithuania in order to better understand the internal factors influencing diffusion of the standard.

On the basis of our empirical evidence that the adoption of the standard has positive effects on business and operational performance of Partners oriented adopters, we conjuncture that in case of such pattern of decision to adopt, increased business performance may lead to increased operational performance. It is expected that in case of institutional motivation, the internalization of the practices is low (Brunson *et al.*, 2013; Boiral, 2013). Therefore the internalization may increase as organizations directly attribute increase of business performance to the adoption of the standard. Our results show that Partners oriented adopters have comparably lower business performance and they needed to recover organizational positions. The interconnection of increased business performance with adoption of the standard may initiate self-reinforcing mechanism based on positive feedback when organization is trying to increase the factor which it associates with success (Sydow *et al.*, 2009). In this case commitment of leaders and employees to quality management methods in face of positive feedback is expected to raise leading to investments in training and more contingent internalization of quality methods. The level of internalization of the practices also is expected to be supported by surveillance audits and position of partners which signalled for necessity of the standard. Finally, the increasing and more contingent internalization of quality methods positively impacts operational performance (Nair & Prajogo, 2009) completing the cycle.

As Partners oriented adopters are obviously the winners of the adoption, further we proceed to the biggest cluster of organizations, for which the decision to adopt brought anything but dissatisfaction.

***The negative effects of the standard adoption for Operational effectiveness oriented adopters.*** The Operational effectiveness oriented adopters are the biggest type of adopters and may represent more than a half of all adopters of ISO 9000 series standards in Lithuania. These firms adopted the standard solely because of functional motives. The empirical evidence that most of firms implement the requirements of the standard because of functional motives is not unexpected. The standard is the tool for improvement of operational effectiveness, after all the creators of ISO 9000 series of standards emphasize its functional not institutional nature (ISO 2012). What is surprising, that this type of adopters reports negative influence of adoption on various operational and business performance characteristics. These results contrast body of knowledge of functionally oriented scholars and practitioners. There is the consensus among functionally oriented scholars that functional motivation is superior to institutional or scattered motivation in terms of effects of the adoption of the standard (Jones *et al.*, 1997; Briscoe *et al.*, 2005; Casadeus *et al.*, 2001; Martinez-Costa *et al.*, 2008; Sampaio *et al.*, 2009; Nair & Prajogo, 2009). Recall that, it is argued that the functional motivation is leading to improvement of operational performance which in turn leads to increased business performance. More specifically, the high performing in terms of operational and business performance firms base their decision to adopt the standard on functionalist motives while for low performing both types of motives (institutional and functional) are important. Therefore our findings suggest that adopters which relied on operational effectiveness improvement motives solely, thus perfectly fit functionally oriented adopters, experience negative results on business and operational performance. They experience decrease of certain operational characteristics (product quality (-0,007), motivation and commitment of employees (-0,011), understanding which processes are core (-0,003) and increase of operating costs (-0,034) and business performance characteristics (profit (-0,007), exports (-0,001), image of the company (-0,041), possibility to win national quality prize (-0,016) after adoption of the standard. Further we'll concentrate on explanation of these findings.

To start, we argue that if the adoption of the standard does not improve operational or business performance directly as expected, it is more likely that it is going to influence performance negatively than neutrally because of costs of internalization of quality management practices, costs of certification and continuous costs of third party auditing. The costs of certification constituting certification, re-certification and surveillance audits discriminate the adoption of the standard from other managerial tools, which may be dismissed if they do not produce results. Decrease in profits, exports, increase in operating costs happen because resources are wasted during internalization process and they are still exploited for surveillance and recertification audits of the quality management systems which do not provide benefits. Organizations may feel stuck between auditors that

dissuade from suspending the certification and sunk costs (Hammond *et al.*, 2006) of adopting the standard. This situation is likely to result in loss of motivation and commitment for quality tools in the company, decrease of perception of image of organization, as well as possibility to win excellence prize.

While the effects of the standard on business performance are inconclusive (Heras-Saizarbitoria & Boiral, 2013), the findings of the positive effects of the standard on operational performance are more consistent. Because the adoption of the standard does not positively influence operational performance in case of functional adoption motives in Lithuania while it does in more mature economies, as Australia (Terziovski *et al.*, 2003; Nair & Prajogo, 2009), Hong Kong (Lee, 1998), Basque country (Casadeus *et al.*, 2001), Canada (Briscoe *et al.*, 2005), Spain (Martinez-Costa *et al.*, 2008; Karapetrovic *et al.*, 2010) it prompts about institutional forces in action. We propose that the presence of following characteristics of certified organizations and institutionally derived attitudes lead to situation in which functionally motivated adoption of the standard in Lithuanian context does not provide positive influence to operational performance: 1) lower competitive aspirations for increase of customer satisfaction and quality improvement of organizations founded in Communist institutional environment; 2) low experience on quality management practices; 3) difficulties of adoption of the standard for service companies; 4) difficulties of adoption of the standard for small companies.

First, Shinkle and Kriauciunas (2011) found that organizations founded in Communist institutional environment have lower competitive aspirations for increase of customer satisfaction and quality improvement comparing to organizations founded in market institutional environment in Lithuania and other Post-communist countries. The analysis of demographic characteristics of our sample reveals that 30% of organizations have been established during Soviet period. The authors explain this effect by imprinting of founding institutions in decision blueprints and modes of organizing which seems to decay slower than expected (Shinkle & Kriauciunas, 2011). These results suggest that the internalization of practices related to quality improvement and orientation to customer may be more difficult to internalize on full scale in Lithuanian organizations founded before 1990, whereas high levels of customer orientation and continuous improvement are cornerstones of the standard.

Second, Lithuanian companies have less experience with quality management practices comparing to companies from, for example, Japan, USA or other mature European economies. Japan companies started to apply quality management methods in 1960s, US and European companies began practicing them in early 1980s and were able to match quality levels of Japanese companies in late 1990s (Cole, 1988). Lithuanian companies started applying quality management practices around year 2000. Most textbooks on quality management (example, Vanagas, 2004; Ruzevicius, 2006; Kaziliunas, 2007, Mikulis, 2007) were published after the year 2000. Research, based on standardized comparable questionnaire, reports rather low levels of knowledge on quality management in Lithuanian organizations comparing to other organizations from other



countries (Vainikeviciute & Vanagas, 2003). The low experience on quality management may couple with fast expectations of operational improvements. It is generally accepted that effects of quality management practices have a time lag (Hackman & Wageman, 1995). The demographics of our sample suggest that 43 % of organizations use the standard for 3 or less years. Therefore 3 years may be minimum time lag while adoption has effects on business performance (Corbet *et al.*, 2005).

Third, scholars agree that quality management efforts are more complicated and tend to be less successful in service organizations than in manufacturing organizations (Hayes *et al.*, 2005; Sureshchandar *et al.*, 2001). 66 % of organizations which adopted the standard in Lithuania, i.e. all population, are service organizations (LSD, 2013). The problems for service organizations implementing quality management practices emerge because 1) it is more difficult to measure quality of a service than quality of product; 2) services are accompanied by attributes that standard productivity measures do not account for (Hayes *et al.*, 2005); 3) process management techniques are less developed for managing services (Lewis & Brown, 2012). The measurement of quality and its improvement in service organizations is fuzzy because services have less clearly defined characteristics. For example, the quality efforts in higher education (Newton, 2013) and health (Burton, 1999) industries always suffer from these problems. Some of characteristics of services (for example, convenience) are not measured by standard efficiency measures, unless they are reflected in price changes (Hayes *et al.*, 2005). Finally, the process management techniques that are important part of the standard are less suitable for service organizations operations of which are less repetitive and are characterized by high levels of customization. Even more, Sureshchandar *et al.*, (2001) suggest that critical success factors for TQM implementation are different for service and manufacturing organizations. At the same time the standard is generic – devoted for organizations of any type and any size.

Finally, there are additional difficulties for small organizations implementing the standard, whereas 40% of organizations of our sample have 60 or less employees. The Alfonso Rodríguez-Escobar *et al.* (2006) report that actual experience of small companies is lower than expectations in most of the aspects they measured. Small organizations are especially dissatisfied with commercial benefits, operational benefits (except lower costs derived from audits imposed by customers) and most of organizational and control benefits. The expectations of the benefits of the standard may be inflated by too optimistic rhetoric of success (Zbaracki, 1998), consultants motivated by profits and International organizations for standardization themselves, which advertise no less than 25 nontrivial benefits from the adoption of the principles constituting the standard (ISO, 2012).

Each factor alone may not have the negative effect although the coupling of them may create the situation when the adoption of the standard fails to increase operational effectiveness for Operational effectiveness oriented adopters. For example, if organization is small or service-based but its investments in quality management knowledge are substantial it is more likely that it may

tailor the generic requirements of the standard for its context. The same is true for organizations established in Communist institutional environment. Therefore we expect that the Operational effectiveness oriented adopters have substandard quality performance. Our data show that this type of adopters is comparably less successful in terms of business performance. Terlaak (2007) also proposes that while certification will be practiced more by organizations that have above average performance in standard area, the internalization of the best practices outlined in the standard will be more practiced by organizations that have below average performance in standard area because their marginal costs for improvements based on best practices are smaller.

After accounting for results which conflict premises of functionally oriented scholars from operations management field we proceed to conclusions.

### **Conclusions**

With some exception the previous efforts to grasp motivation to adopt ISO 9000 series standards are limited to dualistic approach revealing either functional or institutional motivation dominates the decision to adopt the standard. While we agree that this approach significantly contributed to the understanding of diffusion and effects of ISO 9000 series standards, in this article we take different approach. We identify types of adopters based on their motivational patterns accounting for various factors, specifically Operational effectiveness oriented adopters, Investing adopters, Partners oriented adopters. We also identify specific benefits and dissatisfactions experienced by each type of adopter. Operational effectiveness oriented adopters adopt the standard while solely trying to improve operational effectiveness of the company. Investing adopters rely on complex pattern of motivations in which dominated the notions of expansion to mature markets, image formation and following of competitors. The pattern of motivation for adoption of Partners oriented adopters is characterized by emphasis on recovery of organizational positions, image improvement, following of competitors. By doing that we provide more nuanced view of motivations for adoption of the standard as well as effects following each pattern of motivation.

The results of our research show that the Partners oriented adopters experience the most positive effects from the adoption of the standard, while Operational effectiveness oriented adopters are the most dissatisfied among the identified types of adopters. The Operational effectiveness oriented adopters experience negative effects of adoption on various business (profit, image of the company) and operational (product quality, motivation and commitment of employees, operating costs) performance characteristics, to name but few. Investing adopters experience positive effects on product quality, organizational reliability among potential Lithuanian customers and understanding which processes are core and negatively influence performance control. Finally, Partners oriented adopters experience positive effects on rather big amount of various business and operational performance characteristics. These findings contradict the functionally oriented body of knowledge which argues that functional motivation leads to improved operational effectiveness,

which in turn leads to increased business performance and on the contrary scattered motivation provides short term effects or does not provide any.

To explain these results we turn into institutional context of Lithuanian economy. We argue that in Lithuania the adoption of the standard does not improve operational performance of Operational performance oriented adopters, while in other mature economies it does, because of 1) lower competitive aspirations for increase of customer satisfaction and quality improvement of founded in Communist institutional environment, 2) low experience on quality management practices; 3) difficulties of adoption of the standard for service companies; 4) difficulties of adoption of the standard to small companies. We expect that operational and performance improvement effects on Partners oriented adopters may be explained by successful engagement of this type of adopters into business contracts with new partners or expanding relations with present ones. These results are consistent with findings of line of research analysing patterns of

diffusions of the standard and predictions of theory certified management systems as private decentralized institutions theory, arguing that certification despite the level of the internalization of the practices may signal of superior quality management practices of certified company.

Finally, our results provide implications for managers and Lithuanian policy makers. The decision to improve operational effectiveness through adoption of the standard is a recipe to failure for organizations that provide services, are small in size, were founded during Communist period, have common level of experience in quality management practices. And on the contrary, if in your sector your export or local partners value certification as a signal of consistent quality the decision to adopt may be the wise one. Also it allows arguing, that the initiative of centralized enforcement of ISO 9000 series of standard through public tenders in Lithuania is not achieving its objectives, particularly the gradual increase of quality of performance of Lithuanian organizations.

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Mantas Vilkas, Sigitas Vaitkevičius

### Tipologiniai ISO 9000 serijos standartų diegimo motyvų ir pasekmių modeliai

Santrauka

Šiame straipsnyje siekiama nustatyti ISO 9000 serijos standartų diegimo motyvų tipus ir pasekmes, remiantis kompleksiniais diegimo motyvų modeliais, taip „peržengiant“ nusistovėjusių institucinių-funkcinių veiksmų perspektyvą, nagrinėjant ISO 900 serijos standartų diegimo motyvus ir pasekmes. Tyrimas grįstas įmonių atstovų nuostatų apklausa, kurios yra įdiegusios ISO 9000 serijos standartus. Tyrimas vykdytas 2010 m. pradžioje. Lietuvoje tais metais buvo 991 įmonė, kuriose buvo įdiegti ISO 9000 serijos standartai. Tyrimo rezultatai pateikti remiantis 92 anketų analize.

Išanalizavus duomenis buvo nustatyti trys, besidiegiančių standartus įmonių tipai: *į partnerius besiorientuojančios* įmonės; *investuojančios į ISO 9000 serijos standartus* įmonės ir *operacinį efektyvumą besiorientuojančios* įmonės. Buvo nustatyta, kad kiekvienas, besidiegiančių standartus įmonių tipas susijęs su specifinėmis, tik tam tipui būdingomis pasekmėmis. Į *operacinį efektyvumą besiorientuojančios* įmonių apklausos rezultatuose teigiama, kad jos patiriančios neigiamą standartų įdiegimo poveikį įmonės operaciniams ir verslo pasiekimams. Į *partnerius besiorientuojančios* įmonių atstovų atsakymuose teigiama, kad jos patiriančios pozityvų standartų įdiegimo poveikį įmonės operaciniams ir verslo pasiekimams. O *į standartus investuojančios* įmonės atstovai teigia, kad jos patyrusios neutralų-pozityvų įdiegimo poveikį įmonės veiklai.

Į *operacinį efektyvumą*, ir *į partnerius orientuotų* įmonių atsakymas, vertinant standartų įdiegimo poveikį operaciniams ir verslo charakteristikoms, buvo netikėtas. Straipsnyje daug dėmesio skiriama siekiant paaiškinti šiuos rezultatus. Argumentuojama, kad neigiamas, *į operacinį efektyvumą besiorientuojančių* įmonių standartų įdiegimo pasekmes lemia tai, kad Lietuvoje: a) standartus diegia paslaugų įmonės, b) standartus diegia mažos įmonės, c) yra vidutiniškas kokybės metodų išmanymo lygis; d) iš esmės mažesnė orientacija į vartotoją ir kokybės tobulinimo pastangas tų įmonių, kurios įkurtos prieš 1990 metus. Į *partnerius besiorientuojančių* įmonių pozityvūs standartų įdiegimo rezultatai aiškinami tuo, kad standartų įdiegimas padėjo įmonėms gauti naudos ar įtvirtinti esamus sandorius. Sandorių sudarymas pozityviai veikia įmonės verslo rezultatus ir, laikui bėgant, įmonės ima vis labiau taikyti standartuose užkoduotas kokybės vadybos praktikas, automatiškai investuodamos į tai, kas teikia naudos verslui.

Tyrimo rezultatai papildo tyrimus, naujų žinių kūrimo kokybės vadybos ir decentralizuotų privačių institucijų srityse. Pirma, straipsnyje naujai pateikiama nusistovėjusi funkcinė-institucinė, standartus besidiegiančių įmonių motyvų ir pasekmių perspektyva, kurioje teigiama, kad standartų diegimą lemia arba funkciniai, arba instituciniai motyvai. Tyrimo metu nustatyti standartus besidiegiančių įmonių tipai, remiantis kompleksiniais diegimo motyvų modeliais. Pasiūloma tikslesnė, geriau atspindinti strategišką, nors ir ribotai racionalią organizacijų elgseną, diegimo motyvų ir su jais susijusių pasekmių tipologija. Antra, tyrimo rezultatai implikuoja, kad decentralizuotų privačių institucijų funkcionavimas tarptautiniu mastu yra sąlygojamas institucinių šalių charakteristikų. Lietuvoje, dėl operacinio efektyvumo pagerinimo, standartus besidiegiančios įmonės patiria neigiamą standartų įdiegimo poveikį įmonės veiklai. Tyrimai rodo, kad kitose šalyse pastebimas priešingas efektas. Tokiu būdu silpnėja decentralizuotų privačių institucijų poveikis tarptautiniu mastu, nes įmonės, ieškosamos partnerių, kurios signalizuoja apie aukštesnę veiklos kokybę standartais, negali vienareikšmiškai interpretuoti standartus įdiegusių įmonių: vienu šalių įmonės, įsidiegusios standartus, pasižymi aukštesne veiklos kokybe, kitų - ne.

Tyrimo rezultatai taip pat svarbūs praktikoje. Pirma, tyrimo rezultatai identifikuoja sėkmingas ir nesėkmingas ISO 9000 serijos standartų diegimo strategijas Lietuvoje. Jei įmonė siekia pagerinti operacinius pasiekimus įsidiegdama standartus, būtina užtikrinti tam tikras investicijas į kokybės vadybos žinių kėlimą, ypač jei įmonė teikia paslaugas ir yra nedidelė ar kilusi iš įmonės, įkurtos dar Sovietų Lietuvos laikais. Tik tokiu būdu galima pritaikyti standarto praktikas įmonės veiklai ir pasiekti pozityvių rezultatų. Antra vertus, jei įmonė disponuoja perteklinėmis lėšomis, ar dar svarbiau, iš partnerių Lietuvoje ar užsienyje gauna signalų, kad standartų įdiegimas galėtų padėti sudaryti ar išplėsti bendrą veiklą, ji turėtų diegti ISO 9000 serijos standartus. Antra, tyrimo rezultatai svarbūs Lietuvos ekonomikos politikai. Šiuo metu Lietuvoje ISO 9000 serijos ir kitų standartų diegimas skatinamas per viešuosius pirkimus. Tokiu būdu siekiama, kad kuo daugiau įmonių Lietuvoje įsidiegtų ISO 9000 serijos standartus, nes manoma, kad jie skatina įmonių veiklos kokybės gerėjimą. Tačiau tyrimo rezultatai rodo, kad standartų įdiegimas nepadeda įmonėms, kurios to tikisi, pagerinti veiklos kokybės, net priešingai – turi neigiamą poveikį įmonės veiklai. Todėl centralizuotas standartų populiarinimas per viešuosius pirkimus nėra veiksminga, bendrą įmonių veiklos kokybę lygi kelianti priemonė.

Galima identifiikuoti šiuos tyrimo apribojimus. Pirma, tyrimo rezultatai grįsti subjektyvių įmonės atstovų patirčių, nuostatų ISO 9000 serijos standartų diegimo ir pasekmių atžvilgiu, tyrimu. Šio tyrimo rezultatus galima verifiukuoti surenkant objektyvius įmonių operacinio efektyvumo ir verslo pasiekimų duomenis bei juos susiejant su motyvacijų diegtis standartus tipais. Antra, mes galime tik diskutuoti, kodėl konkretūs motyvų modeliai lemia tam tikrus rezultatus. Taikant kokybinius metodus, būtų galima tiksliai identifiukuoti konkrečius motyvų tipus ir pasekmes susijančius mikroprocesus.

Raktažodžiai: ISO 9000 serijos standartai, motyvai, pasekmės, institucionalizmas, decentralizuotos privačios institucijos.

The article has been reviewed.

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