Development of Total Quality Management in Kaunas University of Technology

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We reflect on the activities of Department of Quality Management, Faculty of Economics and Management, Kaunas University of Technology in this article. The reasons which lead to the establishment of the Department of Quality Management are briefly presented. Since 1997 the members of the department research various problems of quality management, co-ordinate programme for Master’s degree (Quality Management specialization) and communicate its research to business and public organizations. These three activities of the Department research, teaching and communication of the results are reviewed in this article. First, the topics of the research conducted from the establishment of the Department could be generalized under these themes: Total quality management (TQM) as conceptual core, quality culture, quality and performance measurement, stakeholders’ interests harmonization, processual approach, quality of life, wage administration under TQM. Research under these topics is reviewed. A theoretical contribution and results are discussed. Second, the courses underlying Quality Management specialization are also analyzed. It is argued that during the decade more than a hundred of students became quality managers. The content of the courses is discussed. Third, the ways of communication of quality management methods to business and public organizations is highlighted. The main means of communication of TQM are: the Lithuanian Association for Quality Management and the Center for Total Quality Management. The article presents the discussion on possible and relevant research topics. Five possible directions were identified: to proceed on research, that has been already conducted, look for new approaches to explain how quality is achieved, incorporate knowledge from other disciplines, reinterpret the main concepts of quality in the context of present changes, analyze the effects of quality management practices.

Keywords: total quality management, quality culture, quality and performance measurement, stakeholders’ interests harmonization, processual approach, quality of life, wage administration under TQM.

Introduction

The TQM which was founded in Japan and developed in the USA and in other countries is being adapted in many different cultures and economies (Rigby, 2001). In Kaunas University of Technology a research and communication on TQM began soon after it world’s peak – in 1994 (see Vanagas, 1994; 1995a; 1995b). At that time the Centre for Total Quality Management was established. It became intellectual base for the Department of Quality Management.

The members of the Centre and Department have always believed that TQM could provide competitive advantage for organizations locally and internationally. Following this belief the employees research, teach and communicate on the quality management methods in order to help Lithuanian organizations integrate into world business systems.

More than a decade of practice of researching, teaching and communication on TQM in Kaunas University of Technology provides perfect means to reflect on performance and establish some guidelines for future. The period is just enough to make generalizations, if the Department achieves its objectives in research, teaching and collaboration with business organizations. Consequently, the objective of the article is to review the development of TQM in Faculty of Economics and Management, Kaunas University of Technology: research, teaching and communication of results perspectives.

The article begins with a short historical overview of the establishment of the Department. The main part of the article is devoted to a review of research topics and results achieved by the members of the Department. The other part skips through teaching and collaboration with business and public organizations in order to convey the achievements of quality management for practice. The article is ended with the discussion on possible opportunities for research on quality management.

Establishment of the Department of Quality Management

The beginning of quality management in Faculty of Economics and Management of Kaunas University of Technology (KTU) is indicated by the establishment of the Centre for Total Quality Management. The Centre was established in 1995, according to the international project "Sustainable Development and Environment" (Tempus, Phare, 1994-1997), which was realized together with the universities of Angers (France), Greenwich (UK), Limerick (Ireland) and French company “Erles”. According to this project students and lecturers from KTU visited the universities participating in the project. The experts on TQM delivered lectures in KTU. The main result of this project was the establishment of the Centre. The Centre activities include the following fields: research, consultations, training and public education of TQM. The essential goal of the Centre was twofold: scientific - to study specific conditions required for the implementation of TQM, EFQM Excellence model and quality management systems based on ISO 9000 family of standards in Lithuanian organizations, and prepare rec-
ommendations how those conditions could be created, and applied - to initiate and support the implementation of TQM, Excellence Model and ISO family standards.

In the conceptual and material basis of the Centre the Department of Quality was established in November of 1997. Prof. dr. Povilas Vanagas was the head of it till 2007. The Centre became part of the Department and continues its activities until these days.
The Department defined its mission:
- To expand the world-class teaching and research activity.
- To use the results of our research for teaching engineers, master and doctoral students of Quality Management specialization
- To provide Quality Management information to society in general and senior staff of companies in particular.

In the next section we review the research of the department.

**Topics of Research on Quality Management**

**TQM as a conceptual core.** The source of research of the Department lies at a conceptual core of quality management: TQM. The conceptual framework for research of TQM in Lithuania was put by P. Vanagas in 1994-1995. This was a dynamic period for field of quality management. Managers issued desperate call for research on TQM in order better understand antecedents and effects of TQM (Robinson et al., 1991). Research on TQM entered academic journals: Academy of Management Review published the issue on TQM, Hackman and Wageman (1995) concluded that TQM exhibits convergent (there is an agreement about the principles and practices of TQM among founders of TQM) and divergent validity (as articulated by founders TQM could be distinguished from other organizational improvement programs). Powel (1995) found empirical evidence that some of elements of TQM could provide competitive advantage. Following the international frontier Vanagas (1994; 1995a; 1995b) defined TQM as customer oriented approach to management. It could be explained by mutually reinforcing principles; customer orientation, continuous improvement and employee participation (teamwork).

Stancikas and Paulavičienė analyzed the relationship of TQM with operations management and work performance theory. Stancikas conducted research on the theory of work market and problems of work quality (Stancikas, 1997). Paulavičienė analyzed questions on work normalization, change of work concept, evaluation of work, compensation for work, the relationship of productivity and organizational strategy (Paulavičienė, 2002) under TQM. Vanagas (1997) argued for the necessity of integration of economics and management subjects with technology courses in universities of technology.

Paulauskaitė (1995, 1998a) plunged herself deep in management theory jungle in order to find a relationship of TQM with other theories and schools of organization theory. She defined TQM through principles, practices and tried to locate the roots of these principles and practices in organization theory. Finally she concluded (1998, p.48) that TQM could be treated as “new stage of development of management” based on tested and justified ideas of most of management schools, especially organizational culture theory:
- search for the highest efficiency, and efficiency as a value, scientific organization of work, importance of identification of competences, good relationships with employees, management by facts from Classical school;
- the need of stakeholder interests’ harmonization in order to achieve efficiency; a dependence of organizational development from employees development, attention to human side of organization from Human resource school;
- systems approach, a primacy of processes to objects, importance of flexibility, organic approach to organization, attention to context from Modern school (as she called it);

Paulauskaitė also finds no relationship of TQM with population ecology, agency and resource dependency theories. In general such conclusions contrast findings of Dean and Bowen (1994) and look similar to Grant et al. (1994) which also argue that TQM challenges management theory proposing new approach to managing organizations. According to Paulauskaitė, the closest antecedent of TQM is theory of organizational culture, which contrasts findings of Spencer (1994), who found that TQM based on mechanistic and organismic models of organization, therefore Paulauskaitė in her later works tries to prove her position.

By refinement of TQM by P. Vanagas and its roots by N. Paulauskaitė the conceptual background for research, especially research initiated by postgraduates, was created. Meanwhile doctoral students moved to specific topics in the field of quality management. There were some timely and stimulating research initiated by Vainikevičiūtė and Vanagas (2004) and Abramavičius (2004) on situation of TQM in Lithuania.

The main purpose of the research by Vainikevičiūtė and Vanagas (2004) has been to find out the level of knowledge of the TQM conception. The authors deployed a methodology used by Bhanugopan (2002) in order to compare results across one region of Lithuania and Papua New Guinea. The results of the research showed that the concept of TQM is not so well known by the managers of companies in the region comparing to the managers in Papua New Guinea, for example. The results of the research cannot be generalized on Lithuania, thus such findings produced positive reverberations among Lithuanian business society.

Abramavičius (2004) questioned if TQM is rudimental or vital phenomena in Lithuania. He concluded that despite all necessary theoretical premises for TQM existence, it is far away from being vital in Lithuania, it is not properly valued by business society and it is not vastly applied in business sector. The scholar identified these main reasons of such situation: orientation to most fashionable management tools and sometimes low practical level of management by Lithuanian business organizations, unpopularity of quality professionals and lack of quality enthusiasm. Abramavičius argued that these causes could be eliminated by the members of university and proposed these self-reflective counter measures: to solve problems adequate to practical level of management of Lithuanian enterprises, interpret works of classic quality writers in the contempo-
inary Lithuanian business context, involve professionals form other disciplines in research and discussion on quality management topics.

Aleknevičienė and Vanagas (2004), Vanagas (2005), Aleknevičienė et al (2007) responded to call of agricultural organizations to transform themselves and initiated some research on TQM implementation in agricultural companies. Žekevičienė (2003) analyzed the implementation of TQM in universities, Seniūnaitė (now Kašubienė) (2004a) in internet based companies. Paulavičienė devoted herself for more diverse themes as: what is the role of the leader in the context of TQM (Paulavičienė, 2007); what is the effect of TQM on financial performance of organizations (Paulavičienė and Arlauskaitė, 2007), the influence of organizational competences on the implementation of TQM.

If senior researchers were engaged in grounding of conceptual core of quality management department, doctoral students under supervision of P. Vanagas and E. R. Stancikas, but guided by their own interests, were searching for scientific problems and answers. Thus, some specific lines of research emerged.

**Quality culture.** Paulauskaitė (1996, 1997) and Abramavičius and Vanagas (2000), Abramavičius (2001) analyzed the concept of quality culture. They saw it as the main aspect of implementation of TQM. Paulauskaitė (1998a, 1998b) initiated her doctoral thesis seeking to find out which means could help to change culture of organization in order to facilitate the implementation of TQM. She created instrument to diagnose a quality culture of organization, which could be treated as the main theoretical contribution of her research. The core of the instrument was based on operationalization of the principles of TQM: (orientation to customer, total participation, continuous improvement) into 17 empirically measurable indicators. This research was the basis of the doctor degree (Paulauskaitė, 1998a).

Abramavičius and Vanagas (2000), Abramavičius (2001) extended the research of N. Palaulauskaitė. He noticed that a paradigm emerged: ISO 9000 should be introduced before TQM, thus enabling TQM to be built on a systems base. But the empirical data argue about the suggestions that ISO 9000 may impede the pursuit of TQM. Based on this practical controversy the author argued that there is a scientific problem of integrity of the standardized quality systems and TQM. Thus, Abramavičius initiated research in order to find the relationship between the way organizations prepare themselves for ISO 9000 implementation, the way they implement quality system and the abilities to implement TQM on the basis of standardized quality system after the implementation of ISO 9000.

The research contributes to organization theory in some ways. First, conceptual model to solve standardized quality systems and TQM integration problem in the aspect of organizational culture has been proposed. Second, the most effective principal way to minimize organizational culture gap by deploying ISO 9000 family of quality management system standard during its implementation stage in relationship with pre and post-standard stages has also been proposed. Third, direction and strength of correlation between the way ISO quality management system is implemented and the possibilities of the organization gained in a post – standard phase discovered. Forth, direction and strength of correlation between the readiness of the organization in a pre – standard phase and the way ISO 9000 family of quality management system standard is implemented in the organization has been discovered. Fifth, methodological presumptions of the standardized quality systems and TQM integration in the aspect of organizational culture problem solving substantiated.

With reference to the theoretical and empirical research performed by Abramavičius, it is possible to conclude that there exists the most effective way in terms of minimal organizational culture gap. It can be realized through the way the organization is prepared in a pre-standard period and the way it implements quality management system complying the requirements of ISO 9000 family standards: more extensive and intensive exploitation of social dimension of organization. Abramavičius (2002a) was granted Doctor Degree for solving the scientific problem of integrity of the standardized quality systems and TQM through the concept of quality culture.

After the doctoral thesis the scholar published a number of articles in which he tried to warn business organizations that the implementation of ISO 9000 family of standards rarely inspires a implementation of TQM, whose effects on organizational performance are more superior. Abramavičius also criticized the standards from the philosophical point of view: standardization can never be a vehicle for continuous improvement because the very essence of it is different. He also appointed the disability of the ISO 9000 family of standards from human resource aspect.

**Quality and performance measurement.** Slatkevičienė (1998, 2002), Slatkevičienė and Vanagas (2000, 2001a) were active scholars in the field of performance measurement. Slatkevičienė believed that one of the measures for the implementation and survival of continuous improvement is performance measurement system that enables an enterprise to measure and assess its approach to business excellence, its performance, and continuous improvement performance on continuous basis. Therefore she critiqued existing performance measurement systems because of two important drawbacks: the lack of methodology for measuring business excellence, performance, and continuous improvement performance (BEPCIP) on continuous basis and there is no clear flowchart to measure BEPCIP in consequent order. Therefore, the author initiated research in order to develop BEPCIP measurement system that has no above mentioned drawbacks.

We believe Slatkevičienė has made theoretical contribution as follows. First, the existing performance measurement systems has been analyzed, classified and compared, revealing main advantages and drawbacks. She evaluated 15 most popular performance measurement systems according to 10 criteria. The scholar concluded that none of them met the requirements for advanced performance measurement systems, although EFQM excellence model met the requirements for advanced performance measurement systems in the best way.

Second, BEPCIP measurement system that enables enterprises to measure their performance consequently and on continuous basis has been developed. The model comprised stages of evaluation, business excellence, performance, and continuous improvement performance measure-
ment systems, and provided suitable solution to scientific identified scientific problem. The results of the research presented by Slatkevičienė (2001b) have been successfully accepted and the scholar has a Doctor of Social Sciences.

Slatkevicienė also diagnosed the situation of integrate performance measurement in Lithuanian business organizations. She analyzed four cases and compared them by four criteria: company’s experience in performance planning and evaluation, company’s experience in assessing business excellence, company’s experience in planning and evaluating business improvement performance and company’s experience in changing the measurement system. The study enabled to find out that performance measurement systems of studied companies only partially meet the requirements of integrated performance measurement. And the hypothesis was confirmed that the bigger the company’s experience in quality management, the more its performance measurement system meets the requirements of integrated performance measurement.

If Slatkevicienė was interested in integrated performance measurement, Seniūnaitė formed a promising field of research: evaluation of quality related issues of e-services. The author started from very conceptual and multidiscipline research on Internet information quality (Seniūnaitė, 2002) and refined such quality of Internet information evaluation criteria system: accuracy, authority, coverage, currentness, density, interactivity, objectivity, promptness. Seniūnaitė (2004b) proceeded on more specific research questions as measurement of e-services and concluded with a modification of Servqual model to measure quality (customer satisfaction) of e-services. Recent research comprises interest on e-government quality issues (Kašubienė and Vanagas, 2007). The authors emphasize that the main justice of e-government services quality is the citizen (which is different from customer because of the duties) and services quality evaluation process should start from revealing citizen’s needs. During inquiry assumptions of e-government services quality evaluation were formulated: evaluation of e-government services quality depends on stages of e-government maturity: provision of information, two-way communication, transaction services, transforming process.

Daunoriienė et al (2007) analyzed different aspects of performance evaluation: customers’ satisfaction measurement methods; the usage of balanced scorecard; and lately a methodology of quality cost for evaluation of national quality costs (Bagdonienė et al, 2008; Daunoriienė, 2007).

Stakeholders’ interests harmonization. Susnienė and Vanagas (2005, 2006), Susnienė and Jurkauskas (2006) tried to solve a problem of harmonization of stakeholder interests. The scholar moves forward from orientation to customers approach to more socially accountable viewpoint of organizational performance. The scientific problem of research could be formulated as follows: what premises could capacitate satisfaction of stakeholder needs in organizational management? In order to solve the problem Susniene conducted inquiry trying to reason the premises for satisfaction of stakeholder needs in organizational management (with reference to the principles of TQM).

The theoretical contribution of the scholar is threefold. First, after a analysis and generalization of different approaches on stakeholder concept and satisfaction of their needs, the stakeholder concept is revised (stakeholders should be considered as natural or legal persons or their groups that are closely related to organization’s setting, its business processes and/or contribute to its wealth creating capacity, therefore are its potential beneficiaries and/or risk bearers). The issue of stakeholder satisfaction has been theoretically grounded from the aspect of TQM, different criteria has been identified relevant to organization’s processes preconditioning the satisfaction of stakeholder needs.

Second, a concept of balanced quality of stakeholders satisfaction has been devised allowing to harmonize and satisfy all stakeholder needs and interests; harmonization of stakeholder needs is disintegrated into accommodation of interests, alignment of interests and balance of interests.

Third, according to theoretical analysis criteria (48 of them) have been identified and adapted to organizational processes in order to generate the premises of satisfaction of stakeholder needs as well as to assess how these criteria manifest in organization and with the help of them to identify areas that need improvement in the context of stakeholder satisfaction. Susniene (2007) was not only awarded Doctoral degree because of the research, but also was very active in presenting the results of her research in theoretical and practical conferences.

Žirgutienė joined Susnienė in the analysis of the diffusion of ideas of sustainable development in the corporate level. She argues that banks play critical role in the diffusion of sustainable development. Banks are central in social networks and they have certain levers of power to diffuse this approach. Scholar provides theoretical model and empirical results for this thesis (Žirgutienė and Žirgutis, 2004).

**Processual approach.** A concept of process approach gained adequate attention from the members of the Department. The quest of understanding how organizations change could be accomplished by understanding how processes of organization change. In order to understand how processes change Vilkas and Stancikas (2005; 2006) and Vilkas (2007a, 2007b, 2008a; 2008b) initiated research on different problems: typology of organizational processes, the relationship of process and routines concepts, the micro-processes of change in organizational work processes, the evaluation of process change effectiveness in the context of planned change, the influence of process members networking on change effectiveness of processes.

Vilkas and Stancikas (2005) analyzed the types of processes constituting an organization. They concluded that the typology suggested by Garvin (1998) and the main types of work, behavioral, management and change processes, usefully integrates process models of different management schools and so far provides the best conceptualization of prevalent understanding of organizational process types although it must be the subject to further refinements. Later they modeled planned, purposive change of the organizational work process in terms of Feldman’s and Pentland’s (2003) theory of internal structure of work processes (Vilkas and Stancikas, 2006). According their proposed model change of work process occurs through communication (conceptualization, communication and interpretation of new ostensive aspect of process) and adaptation of change (discovery and integration of process new performative aspect of process).
Vilkas (2007a) analyzed the relationship between two concepts: process and routine. He concluded that the relationship which bound these concepts is the relationship of subordination: all routines are processes, however, not all processes are routines. He suggested a substituting term routine for term process, which could have a low or high measure of repetitiveness.

Vilkas (2008a) suggested that the approach to such a socially constructed concept as change effectiveness depends on the purpose of evaluation, perspective to change and features of processes. Scholar concluded that change effectiveness of processes has to be approached as use of planned changes during routine implementation of process. The methodology for evaluation of process change effectiveness for empirical purposes has been also proposed. It comprises the comparison of specific features of processes (which could be classified into these groups: boundaries of process, networks of process, implementation of process, organization of process, physical technologies of process) in different (as before, as planned, as resulted) moments of time.

Vilkas (2008b) was granted Doctor Degree for theoretical grounding and empirical testing of the thesis: intensive networking of organization work processes’ members in order to interpret, discover and integrate planned change contribute to change effectiveness of work processes. The research contributed to the organization theory integrating social network analysis perspective with process approach, systemization of the reasons of process’ members networking during planned change of processes, and grounding that networking intensity characteristic is associated with change effectiveness of work processes.

Baronienė and Neveauskas (2005), Baronienė (2008) continue to analyze how organizations change. The scholars inquire which factors underlie risk that implementation of managerial innovations could fail. By our opinion authors contributed by identifying and grouping the factors which contribute to the risk of implementation of innovation failure. The authors identified 30 factors and grouped them into these groups: factors depending on a selected managerial innovation, environment and organization.

The application of processual approach, when implementing TQM, principles of horizontal organization or quality management system based on requirement of ISO 9000 family of standards also poses challenges, some of which have been dealt in the Department. Adomėnas (2002) analyzed the usage of process approach in quality management system. Adomėnas and Vaičiukonis (2001) participated in the research in order to determine the role of organizational processes in quality management system. Vilkas (2007b) proposed the concept of process network and means of analysis of process networks for practical purposes. The scholar also analyzed a relationship of present management system and creation of new quality management system, critiqued limited approach to types of processes of organization which are by default embedded in the logic of ISO 9001 standard, judged very “technical” approach for such a social concept as organizational process and provided guidelines for the identification of processes of organization.

Quality of Life. Stancikas (2000, 2001) initiated the direction of research in order to acquire some guidelines whose indicators can express the quality of population. Such a multi-discipline research may provide important guidelines during transition period of Lithuania. This research was continued by Bagdonienė and Stancikas (2002, 2003). Bagdonienė concentrated on scientific problems: what are indicators of population quality, how the improvement of population quality could be managed. The scholars concluded that features and structures expressed by potentials of the habitants which show the current level of development of country habitants and the future level as well. Furthermore population quality is defined by the following components: basic (health, the level of general and professional education, the level of overall culture, etc.), specific (national features) and secure (living conditions) characteristics; demographic, economic, social and other structures.

Authors approached formation of population quality as an interaction and integration of managerial systems and modified quality function deployment and Hoshin Kanri models in order to make the model of population quality improvement. The use of Hoshin Kanri method solving the problems of population quality management allows determining strategic goals and activity policy of population quality improvement. Adaptation of these widely known managerial methods for management of integrated population quality system clearly defines the activity strategy, allows to precisely determine priority tasks of decisions and especially to improve coordination of activities and accessibility of information.

Wage Administration under TQM. Vanagas (1996a, 2007) has performed the research in wage administration find in order to examine the wage administration system that could be able to motivate the employees to pursue quality. The research was based on the worldwide research results for wage and salary administration systems and their adaptation to the TQM methodology, also on the experiences of the implementation of wage and salary administration systems as a personnel motivating method to achieve quality in Lithuanian companies. The results of the research proved the necessity of special wage administration systems under TQM. The expedience of joint method for assessing all carried work in an organization as well as the expedience of unified wage administration system in TQM were reasoned. The unified wage administration system that motivates employees to pursue quality was prepared. This study contributes to theory examining of wage administration system from the perspective of motivation of employees to pursue quality. The findings of this study are useful in providing managerial implications for company administrators to male wage administration system as a method of motivation.

Teaching of Quality Management in KTU

The Department co-ordinates programme for Master’s degree for Quality Management specialization. It provides 8 courses specialized in quality management. Bachelors acquire knowledge on a conception of TQM in terms of principles and means for implementation of the principles, ISO 9000 family of standards and quality costs. This course provides basic understanding of quality management. Master level students learn TQM more deeply. Students become familiar with EFQM excellence model, social responsibility issues and its relationship with TQM.
Other courses provided are intended for quality management specialization and comprise courses on quality function deployment, quality certification, implementation of quality management systems. The course for advances on quality management and its relationship with organization theory is given for doctoral students. During these 11 years more than 100 students became quality managers and a lot of students acquired basic knowledge on TQM. The students specialized in Quality Management defended their master thesis making the scholarship of the Department richer and more diverse.

The research on TQM in Kaunas University of Technology provided background for textbook “Total Quality Management” (Vanagas, 2004). The author was given an award of the Ministry of Education and Science in social sciences field in 2007 for this textbook. This book is supplemented by exercise/cases textbook (Žekevičienė, 2007). Vanagas (2008) and Bagdonienė (2008) accordingly provided a textbook and an exercise/cases book for quality function deployment course.

**Communication of TQM to Organizations**

The Department obliges itself to provide quality management information for society in general and senior staff of companies in particular.

The members of The Centre and the Department of Quality Management were at the centre of events of quality movement in Lithuania: they took part in development of National Quality Program, initiated teaching on TQM, participated in founding of Lithuanian Association for Quality Management (LAQM), and organized conferences with LAQM on quality issues on annual basis.

In September, 1996 the Government of Lithuania approved the National Quality Program, in which preparation the members of the Centre took central role. The program was meant to provide the framework for solving problems in quality management, creating new quality improvement methods, preparing engineers of quality and quality management specialists, spreading the knowledge in public.

The Centre was active in teaching on TQM. About 600 industry, market enterprises and healthcare institutions executives and specialists have received certificates in Quality Management at the Centre. In 2000, 86 businessmen and women on the basis of Phare project "The Support program for business beginners at Alytus district" were trained. In 2002 the Centre commenced two new analogous Phare projects with title "The training program of the business basics prepared according to European Quality Management Foundation Excellence model". The purpose of these projects was to give the basics of business in the form of series of special program's practical lectures in Utena and Anykščiai to unemployed, young, disabled, elderly people and ex-prisoners as well. Over 500 people were trained.

LAQM was founded in December, 2001 in order to support Lithuanian economic entities in improving competitiveness because of advanced quality management theory and practice. The Association visioned itself as the main source of information and motivation to the Lithuanian economic entities in pursuit of the quality management professionalism and perfection of activities.

Now the Association unites 36 members. For some years it arranged the delivery of National Quality Prize which is given on the basis of evaluation against criteria of EFQM excellence model. Now the Association initiated a competition of Best Quality Manager. Thus, the biggest impact is produced on business (and not only) community in promoting quality management methods during annual conferences, which usually unite very different organizations interested in contemporary development of quality management. The Association organized seven conferences: contemporary changes in quality management (2007), challenges of quality management: value for consumer or benefit for a business (2006), globalization processes and role of quality in the economy of Lithuania (2005), Lithuanian membership in the EU and the effects of quality management upon national economy (2004), approximation on quality promotion and legal regulation in Lithuania and the EU (2003), quality management in the process of integrating Lithuania into the EU (2002), quality management – the foundation of competitive business (2001). Part of the research presented in the section above was initiated and published in the conference proceedings which are well known as “table book” of Lithuanian quality managers.

**Discussion on future research topics**

This chapter is intended to initiate some discussion on possible future development of quality management in Kaunas University of Technology in research area.

First, it is necessary to build on the strengths, i.e. on research that has been already conducted in the Department of Quality Management. The concept of quality culture could be called one of the missed opportunities in the field of quality management. The issues of stakeholder interests harmonization and social responsibility are extremely important in recent days. Processual approach is a powerful and promising approach in explaining organizations and its merge with social network analysis perspective could provide sound results. The questions of quality of digital, informational products and services and complex performance measurement are timely and relevant.

Second, a principles-practices approach which has been dominating in quality management may have outlived its usefulness. Too many scholars tried this approach, and most of them finished with different outcomes. This does not lead to advancing of understanding of TQM (see Siland Ebrahimpour, 2002) for meta-analysis on principles and practices of TQM). It is possible to use more formal way of theorizing or borrow perspectives from other fields of social sciences in order to explain what quality is and how it is achieved in organizations. The best examples of the first type of approach could be found in Anderson and Rungtusanatham (1994) and Anderson et al. (1995). The authors attempted to extract theory from Deming’s prescriptions and test the relationships among identified constructs. Weick (2000) analyzed TQM from sensemaking, Winter (2000) from evolutionary economics perspective and these could be named as the best examples of second type of approach. It is also tempting to put aside what we know about quality for a while and try to build grounded theory of TQM.
Third, TQM is inherently cross-functional (Dean and Bowen, 1994). It embodies issues of leadership, marketing, operations management, human resource management. It is a bless and the curse of TQM. The analysis of these topics in the context of TQM, should address the findings in specific a discipline. For example the issues on customer satisfaction, its effects are well covered in marketing discipline, the issues of change management - in organizational development, change management and strategic management. This will lead to the integration of knowledge and many conceptual and cognitive resources could be saved.

Fourth, the reinterpretation of the concept of quality, and means and tools of achieving it in the context of present developments of society and world economy could provide inspiring results. Most of the quality methods are the reflection of the way of thinking and acting in the previous century. Therefore a lot of changes on the way people think, see and act are under way.

Fifth, the research on effects of TQM and other quality management practices as ISO 9000 family of standards, EFQM excellence model, six, seven sigma, require sophisticated research designs, but the importance of such research is obvious.

**Conclusions**

1. After the analysis of the beginning and the development of TQM in Faculty of Economics and Management, Kaunas University of Technology, it is possible to conclude that the research that has been conducted on TQM could be summarized under these topics: TQM, quality culture, quality and performance measurement, stakeholder interests harmonization, processual approach, quality of life, wage administration under TQM.

2. The analysis of teaching and communication of research results for business organizations revealed that during decade more than 100 quality managers were educated. It is argued that the main means of achieving communication of results for business organizations is Lithuanian Association for Quality Management and The Centre for Total Quality Management.

3. The article initiates the discussion on possible future directions for research in TQM. Five possible themes was identified: to proceed on research, that has been already conducted, look for new approaches to explain how quality is achieved, incorporate knowledge from other disciplines, reinterpret the main concepts of quality in the context of present changes, analyze the effects of quality management practices.

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Santrauka


Anttrojoje straipsnio dalyje teigiamai, kad per 14 metų atlikus ir šiuos metus atliekamus mokslinius su kokybės vadyba susijusius tyrimus galima apibendrinti šiose temomis: visuotinės kokybės vadyba (VKV), kokybės kultūra, kokybės ir pasiektių vertinimas, suinteresuotųjų šalių poreikių derinimas, procesinis požiūris, gyventojų kokybė bei darbo apmokėjimas VKV kontekste.


Kokybės kultūros tema atliekė N. Paulauskaitė ir Š. Abramavičius tyrimai. N. Paulauskaitė, pabrėžė mokslinius kokybės vadybos svarbos ir tokio organizacijų įgyvendinimą kontrastinę, nagrinėjo komplek- sinę mokslinę problemą, kuria galima apibrėžti šiais klausimais: Kokios charakteristikos nusako organizacijos kultūra? Kokias išsiskiria bru- zois išsiskiria kokybės kultūra? Kokiai metodai galima keisti organizi- cijos kultūrą? Š. Abramavičius rūpejo, ar yra kokybės vadybos sistemos, atitinkančių ISO 9000 serijos standartų reikalavimus, diegimo ir būsto ryšių su organizacijos įgyvendinimu galimybėmis kokybės vadybai įgyvendinti, pasinaudojant įdiegiant standardizuota kokybės sistema. Ty- rimo metu buvo nustatyta sukurtas modelis, demonstruojantis standarti- zuotų kokybės valdymo ir užtikrinimo sistemų diegimo variantus ir jų sąsajas su organizacijų pasirengimui diegti šią sistemą bei po jos įgyvendinimo pasiekimais organizacijos galimybėmis įgyvendinti visuotinės kokybės vadybą, pasiūlytas konceptualus problemos sprendimo būdas, įgalinant pasiekti minimalų organizacinių kultūros atotinkų, kurį organizacijoms reikėtų įdiegti standartizuotas kokybės vadyba ir užtikrinto duorganizacijų įgyvendinimu galimybėmis kokybės vadybą galima paminėti, pasinaudojant įdiegiant standardizuota kokybės sistema. Ty- rimo metu buvo nustatyta sukurtas modelis, demonstruojantis standarti- zuotų kokybės valdymo ir užtikrinimo sistemos diegimo variantus ir jų sąsajas su organizacijų pasirengimui diegti šią sistemą bei po jos įgyvendinimo pasiekimais organizacijos galimybėmis įgyvendinti visuotinės kokybės vadybą po to, kai sistemos įgyvendinti, to, lipas, stipruminas ir kryptis.

Kokybės ir veiklos pasiektų vertinimas – sritis, kurioje tyrimus at- lieka G. Slatakievičienė ir L. Kaščiūnaitė. G. Slatakievičienė, įvertinus pen- kiolika pagrindinių pasiektių vertinimo sistemų, pastebėjo, jog visos minėtos sistemos nepritaikomos metodikos, galinčios kompinokliškai įvertinti bet kurio hierarchinio organizacijos lygio veikslov kokybę, veiklos pasiektimą ir tobulinimo pasiektį. Sukėlės panaikinti susidarės įtarimą, kad kūrybos svarbą, kūrymos procesų, veiklos teikimo, veiklos valdymo, veiklos kokybės užtikrinimo technologijos ir technologijos, veikloje siekiant užtikrinti įvairius aspektus kokybės vadybos konceptualus kokybės vadybos kultūros, išsiskiria kokybės kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklos pasiektų konceptualaus kokybės vadybos kultūros, kokybės ir veiklo-