

## SOCIAL DIMENSIONS OF POLITICAL INSTITUTIONS AND PUBLIC ADMINISTRATION

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### APPLICATION OF ISO 10000 STANDARDS SERIES FOR QUALITY MANAGEMENT SYSTEM IMPROVEMENT IN MUNICIPALITIES

The article deals with approaches to improving the quality management in municipalities of Ukraine as a step to sustainable development. An overview of the supportive ISO standards that could have been implemented in Ukraine local self-government was given. The study can help to identify priority ways of improving customer satisfaction and loss reduction in municipal activities. According to the results of the research, the approach to the development of quality assurance systems in public authorities, in particular local self-government, has been further developed through the implementation of the related requirements of the international standards ISO 10000 series and ISO 18091, which will contribute to the achievement of sustainable development goals in a specific territory or community.

**Keywords:** quality management, ISO standards, sustainable development, local self-government, municipality.

**Formulation of the problem.** At the present stage, Ukraine faces the necessity of solving many problems in the area of customer orientation and improving competence for the development of municipal quality management. The quality of municipal services is still an important priority of the state policy. That is why the need to study approaches to the implementation of the requirements of international standards in this field is actualized.

**Scientific background.** Research of the ISO 10000 series and ISO 9001 implementation presented in the works of M. Lahyza<sup>1</sup>, T. Mamatova<sup>2,3</sup>, O. Bortnik<sup>4</sup>, S. Seryogin, S. Kvitka<sup>5</sup>, O. Sokolovska<sup>6</sup>, P. Pidgaets, I. Brygilevych<sup>7</sup>, L. Prudyus<sup>8</sup> etc.

<sup>1</sup> Лахижа, М.І. (2008). *Система управління якістю в органах влади (вітчизняний та зарубіжний досвід)*. Полтава: РВВ ПУСКУ.

<sup>2</sup> Маматова, Т. (2010). Методологічні засади створення та удосконалення інтегрованої системи управління органу державного контролю. *Інвестиції: практика та досвід*, 5, 49-53.

<sup>3</sup> Маматова, Т.В. (2009). *Управління на основі якості: методологічні засади для органів державного контролю*. Дніпропетровськ: Свідлер А. Л., 293-295.

<sup>4</sup> Серьогін, С.М., Чикаренко, І.А. (ред.) (2018). *Децентралізація влади в Україні: оцінювання результатів формування та розвитку самодостатніх громад*. Дніпро: ДРІДУ НАДУ.

<sup>5</sup> Бортнік, О., Квітка, С., Маматова, Т., Серьогін, С. (2015). *Менеджмент якості в органах місцевого самоврядування*. Дніпропетровськ: Грані, 69-71.

<sup>6</sup> Маматова, Т.В., Бортнік, О.В., Квітка, С.А., Соколовська, О.О. (2013). *Системи управління якістю у відповідності до ISO 9001:2008 у регіональних органах влади*. Дніпропетровськ: Грані, 60-64.

<sup>7</sup> Підгаєць, П., Бригілевич, І. (2012). *Система управління якістю як інструмент вдосконалення діяльності органу місцевого самоврядування. Методичний посібник. Швейцарсько-український проект «Підтримка децентралізації в Україні – DESPRO»*. Київ: Софія-А, 27.

<sup>8</sup> Прудіус, Л.В. (2010). *Оцінка якості надання адміністративних послуг: теоретико-методологічний підхід: наукова розробка*. Київ: НАДУ.

Some international researches, for e.g. A. Chiarini<sup>1</sup> shows that customer satisfaction increased after implementation of ISO 9001, but it's difficult to say about costs reduction. Here we should notice that it also depends on implementation costs and needs to train and involve personnel in the municipality. Nevertheless, costs for ISO 9001 implementation mean investments in the prevention of nonconformities. It's not easy to directly measure how many costs could be saved later if we speak about the reduction of time waste, upset customers, duplicating functions and other problems that historically became a part of Ukrainian local government reality. Research on these questions was done within the UNDP project<sup>2</sup>.

In the research of Marek Salerno-Kochan, Renata Salerno-Kochan<sup>3</sup> we could find a conclusion that the degree of dissemination of the ISO 10000 series standards is highly unsatisfactory.

**Setting paper objectives (aim).** The purpose of this article is to examine the opportunities to use ISO 10000 series standards for performance improvement and expenses reduction in local self-government.

**Presentation of the main results and their substantiation.**

What are ISO 9001 requirements? It's a basement for other methods, tools and technics that could help to improve internal management and reduce expenses. We could find explanations and additional information about such methods in ISO 10000 series standards. They "can provide assistance to organizations when they are established or seeking to improve their quality management systems, their processes or their activities"<sup>4</sup>. The author of these additional standards is ISO/TC 176<sup>5</sup> – that develops standards and tools in the field of quality management, through its three subcommittees (SC):

SC 1 – Concepts and terminology (ISO 9000)

SC 2 – Quality systems (e.g. ISO 9001, ISO 9004, ISO 10005-7)

SC 3 – Supporting technologies (e.g. ISO 10001-4, ISO 10008-18)

ISO/TC 176 developed two very important documents for quality management in governments such as ISO/TS 54001 "Quality management systems – Particular requirements for the application of ISO 9001:2015 for electoral organizations at all levels of government" (published in 2019) and ISO 18091:2019 "Quality management systems – Guidelines for the application of ISO 9001 in local government"<sup>6</sup>. Links between ISO 10000 series standards, ISO 18091:2019 and Sustainable Development Goals presented in Table 1.

Among others, we will analyze only several standards more suitable for municipal management systems from our point of view.

Well known and often used ISO 10013 because it helps to understand and implement requirements from the early start of implementation of MS. Now this standard is under revision and project ISO/DIS 10013 Quality management – Guidelines for quality management system documented information was approved on 10/02/2020<sup>7</sup>. The document includes guidelines and should not be used as a requirement. This standard described documented information that could be useful to support the operation of quality management systems. Now standards have more freedom to choose what types of documents will help. For example, quality manual, that "should provide a description of the quality management system and its implementation in the organization". Now it's not obligatory document and organizations make individual decisions about how to use it.. This document very useful for managers who implement ISO 9001 and internal auditors to better understand standard requirements.

<sup>1</sup> Chiarini, A. (2016). Strategies for improving performance in the Italian local government organizations. *International Journal of Quality & Reliability Management*, 33, 344-360. <[https://www.researchgate.net/publication/297726790\\_Strategies\\_for\\_improving\\_performance\\_in\\_the\\_Italian\\_local\\_government\\_organizations](https://www.researchgate.net/publication/297726790_Strategies_for_improving_performance_in_the_Italian_local_government_organizations)>.

<sup>2</sup> Маматова, Т., Бортнік, О. (2013). *Системи управління якістю при наданні муніципальних послуг у відповідності до вимог ISO 9001:2008: існуючі практики та напрями удосконалення : аналіт. дослідж., виконане в рамках Проекту ПРООН «Муніципальна програма врядування та сталого розвитку»*. Київ: ПРООН МПВСП, 26-27.

<sup>3</sup> Salerno-Kochan, R., Salerno-Kochan, M. (2014). *The assessment of knowledge of the ISO 10000 standards by organisations that use a quality management system*. <[https://www.researchgate.net/publication/277015894\\_THE\\_ASSESSMENT\\_OF\\_KNOWLEDGE\\_OF\\_THE\\_ISO\\_10000\\_STANDARDS\\_BY\\_ORGANISATIONS\\_THAT\\_USE\\_A\\_QUALITY\\_MANAGEMENT\\_SYSTEM](https://www.researchgate.net/publication/277015894_THE_ASSESSMENT_OF_KNOWLEDGE_OF_THE_ISO_10000_STANDARDS_BY_ORGANISATIONS_THAT_USE_A_QUALITY_MANAGEMENT_SYSTEM)>.

<sup>4</sup> ISO 9001:2015 Quality management systems – Requirements. *ISO*. <<https://www.iso.org/standard/62085.html>>.

<sup>5</sup> ISO/TC 176 Quality management and quality assurance. *ISO*. <<https://committee.iso.org/home/tc176>>.

<sup>6</sup> ISO 18091:2019 (en) Quality management systems – Guidelines for the application of ISO 9001 in local government. *ISO*. <<https://www.iso.org/obp/ui/#iso:std:iso:18091:ed-2:v1:en>>.

<sup>7</sup> ISO/DIS 10013 Quality management – Guidelines for quality management system documented information. *ISO*. <<https://www.iso.org/standard/75736.html>>.

Table 1

**Links between standards and Sustainable Development Goals**

<b>Name of standard</b>	<b>Sub-committee</b>	<b>Linked with ISO 18091:2019</b>	<b>Contribution to the following Sustainable Development Goals</b>
ISO 10001:2018 Quality management – Customer satisfaction – Guidelines for codes of conduct for organizations	SC3	ISO 9001:2015, Quality management systems – Requirements 9.1.2 Customer satisfaction (see NOTE 4)	8, 9, 10
ISO 10002:2018 Quality management – Customer satisfaction – Guidelines for complaints handling in organizations	SC3		8, 9, 10
ISO 10003:2018 Quality management – Customer satisfaction – Guidelines for dispute resolution external to organizations	SC3		8, 9, 10
ISO 10004:2018 Quality management – Customer satisfaction – Guidelines for monitoring and measuring	SC3		
ISO 10005:2018 Quality management – Guidelines for quality plans	SC2	ISO 9001:2015, Quality management systems – Requirements 8.4.3 Information for external providers (NOTE)	
ISO 10006:2017 Quality management – Guidelines for quality management in projects	SC2		
ISO 10007:2017 Quality management – Guidelines for configuration management	SC2		
ISO 10008:2013 Quality management – Customer satisfaction – Guidelines for business-to-consumer electronic commerce transactions	SC3		
ISO/AWI 10009 (under development) Quality management – Guidance for quality tools and their application	SC3		4, 12
ISO/WD 10010 Quality management – Guidance to evaluate and improve quality culture to drive sustained success	SC3		4, 8, 9, 12

Continuation of table 1

Name of standard	Sub-committee	Linked with ISO 18091:2019	Contribution to the following Sustainable Development Goals
ISO 10012:2003 Measurement management systems – Requirements for measurement processes and measuring equipment	SC3	ISO 9001:2015, Quality management systems – Requirements 7.1.5.2 Measurement traceability (Note)	
ISO/DIS 10013 Quality management systems – Guidance for documented information	SC3		
ISO 10014 Quality management – Guidelines for realizing financial and economic benefits	SC3		
ISO 10015:2019 Quality management – Guidelines for competence management and people development	SC3		8,9,10
ISO/DIS 10017 Quality management – Guidance on statistical techniques for ISO 9001:2015	SC3		9, 12
ISO 10018:2012 Quality management – Guidelines on people involvement and competence	SC3		
ISO 10019:2005 – Guidelines for the selection of quality management system consultants and use of their services	SC3		

Other very important document that now also will be revised is ISO/DIS 10014. ISO/DIS 10014 “Quality management systems – Managing an organization for quality results – Guidance for realizing financial and economic benefits” creates for top management of organization of any size and type of activity. It helps to understand how management principles contribute to improving ISO 9001 performance.

The main quality management principles are:

- a. customer focus,
- b. leadership,
- c. engagement of people,
- d. process approach,
- e. improvement,
- f. evidence-based decision making,
- g. relationship management

Implementation of these principles is a strategic top-management decision, establishes and enables linkage between effective management and the realization of financial and economic benefits and other organizational goals.

The economic benefit is attained by using the principles in daily operating practice, through the effective management of resources implementation and monitoring of defined processes to improve the overall output of the organization.

The financial benefit is realized within the organization by implementing and utilizing cost-effective management system practices based on the principles. The resulting organizational and financial improvement is expressed in monetary form.

Financial, economic, and organizational benefits resulting from the application of the quality management principles include, but are not limited to:

- improved budgetary performance,
- reduced costs,
- reduced business risks,
- improved customer retention and loyalty,
- optimized use of available resources,
- heightened employee engagement,
- optimized, effective and efficient processes etc.<sup>1</sup>

Some of them more applicable to the private sector but many of them equally important for local self-government also. Due to the project of the standard we should provide monitoring of key performance metrics and then taking improvement action based on it. Metric is a verifiable measurement used of quantifying or evaluating an output. For non-profit organizations goals and objectives could be their performance measures. Top management should choose such measures and then monitor them using PDCA and process approach and involving process owners considering risks. Some examples of links between quality management principles, measures and benefits shown below in Table 2.

Due to ISO 10014:2006<sup>2</sup> any organization can make self-assessment of implementation of management principles to understand own level of quality management performance. One more additional benefit of the standards is a reference to different methods and tools for realizing financial and economic benefits. It combines the process approach, the management principles and the Plan-Do-Check-Act (PDCA) methodology. Examples of applicable methods and tools are presented within the Plan, Do and Check columns in each flowchart of the clause 5 of standard. The list of methods and tools shown in the Plan, Do and Check columns is not exhaustive, and users should select those most appropriate to their organization. Some methods and tools are utilized in more than one subclause indicating the interrelationship between principles. Quality managers could not find these direct references in ISO 9001 but usually interested in ways to implement standard requirements or ways to improve performance and reduce costs. And the answers to their searches could be found in ISO 10014. Nevertheless, typically top managers do not know about this standard and even quality managers do not clearly understand how to use it in practice. This applies to both private businesses and local governments.

For example, realization of customer focus principle linked with SWOT analysis, quality functional deployment (QFD), customer relationship management (CRM), bottleneck management, benchmarking etc. And achievable benefits include enhanced organizational performance, credibility, sustainability, customer retention and loyalty.

Therefore, we could mention that ISO 10014 plays a role of the reference book of methods and tools, but a deep explanation of them could be found in additional literature. We advise to include these standards, methods, and technics into the learning programs for top management of local self-government and creation of a methodical toolkit for practical use.

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<sup>1</sup> ISO/DIS 10014 Quality management systems – Managing an organization for quality results – Guidance for realizing financial and economic benefits. *ISO*. <<https://www.iso.org/standard/75233.html>>.

<sup>2</sup> ISO 10014:2006 Quality management – Guidelines for realizing financial and economic benefits. *ISO*. <<https://www.iso.org/standard/37263.html>>.



Table 2

## Links between quality management principles, measures and benefits

Potential Financial and Economic Benefits from Applying the Management Principles	Potential Financial and Economic Measures	Management Principle
Improved customer retention and loyalty	<ul style="list-style-type: none"> <li>• Customer satisfaction</li> <li>• Customer engagement</li> <li>• Total number of customers</li> <li>• Number of customers that use the organization's services on a routine basis</li> <li>• Number of customer referrals to potential customers</li> <li>• Revenue from new customers</li> <li>• Customer complaints</li> </ul>	Customer focus, Leadership, Relationship management
Reduced costs	<ul style="list-style-type: none"> <li>• Budget and actual costs by major categories</li> </ul>	Process approach, Improvement, Evidence based decision making,
Optimized, effective and efficient processes	<ul style="list-style-type: none"> <li>• Process defects</li> <li>• Process time</li> <li>• Process scrap</li> <li>• Rework costs</li> <li>• Warranty claims</li> <li>• Cost of Poor Quality (CoPQ)</li> </ul>	Process approach, Improvement:
Optimized use of available resources	<ul style="list-style-type: none"> <li>• Productivity</li> </ul>	Improvement: Evidence based decision making

**Conclusions and perspectives for further research.** The results of the research can help in determining opportunities for quality management systems improvement in municipalities of Ukraine. It could be used also for specialized training for employees, e-learning and their combination; learning at the time of different projects implementation striving towards quality service improvement; implementation of municipal strategies with the aim to be more customer-oriented. Guidelines and models, self-assessment technics of implementation of management principles, optional implementation of methods and tools mentioned in ISO 10000 series need to be included during implementation and development of quality management system in local self-government as far as in training programs and methodical materials for personnel. These should help to enhance performance results, reduce costs, and add citizens' loyalty to the operation of municipalities in Ukraine.

According to the results of the research, the approach to the development of quality assurance systems in public authorities, in particular local self-government, has been further developed through the implementation of the related requirements of the international standards ISO 10000 series and ISO 18091, which will contribute to the achievement of sustainable development goals in a specific territory or community.

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