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STANDARDIZATION OF QUALITY MANAGEMENT IN CONSTRUCTION

Abstract

Quality standardization is especially important for companies that provide construction, installation and repair services. The subjects of the construction industry that ensure a high level of quality management systems and are capable of promptly passing the construction site with the best cost performance of construction works and services are characterized by competitive advantages. This article requires special attention to standardization of the quality of work and services in the sphere of the construction and development of regional building clusters.

Key words:

Standardization of construction works quality, quality management, regional building (construction) clusters.

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Statement of the problem. In developed economies, with a healthy competitive environment contractor's reputation and professional qualities are given a priority value when deciding on co-operation or ordering goods (works, services). Indeed the companies that have established the practice of maintaining high standards of business processes, and also provide good quality products (goods and services) and management outcomes, are more stable, viable, and solvent, which makes cooperation with them less risky.

It is known that standardization of quality is performed by both domestic and international organizations. But if the national standardization system is aimed mostly at ensuring the required level of quality of goods and services, the main objective of the international one is quality leveling of goods and services produced (provided) by enterprises in different countries, ensuring interoperability of products (services) elements; Aid for Trade, exchange of scientific and technical information and speed up scientific and technological progress.

Analysis of recent research and publications. The economic literature paid much attention to the problems of standardization and quality certification, bringing quality to international standards. These issues are explored many foreign scientists, including: N. Arhipova, S. Bushuyev, R. Dzhozefson, H. Vinh, I. Kondo, D. Silverman, P. Samuelson, as well as domestic, including: S. Kropelnytska, A. Petrunyak, Yu. Rebryn, I. Tkachuk, M. Shapoval and others.

As part of our research emphasis requires standardize quality management and services in the system of construction in Ukraine.

The aim of the paper is the study of building structures in the regions in terms of standards and services for establishing quality standards of practice outcomes and enhancing economic competitiveness.

Materials and findings. Quality standardization is especially important for companies that provide construction, installation and repair services, since the construction process is long, driven by a wide range of risks, costs, and being capital-intensive, depends on a number of subjects of the environment (manufacturers and suppliers of building materials, design organizations, electric utility companies, administrative bodies and regulatory agencies, subcontractors, financial, transportation, logistics, etc), institutional factors and transaction procedures. Accordingly, those construction industry entities that ensure a high level of quality management systems and are capable of promptly passing the construction site with the best cost performance of construction works and services, are thus characterized with competitive advantage, especially in the markets of other regions of Ukraine and foreign markets.

Quality aspect is also important for the cluster structures, which are often referred to in scientific studies of the analyzed problems. I. Tkachuk, S. Kropelnytska and A. Petruniak in their paper «Organization of production by cluster model» prove the importance of having within a cluster some quality samples of goods (services), with which to constantly compare results of current management[1].

It is known that standardization of quality is done by both domestic and international organizations. But if the national standardization system is aimed more at ensuring the required level of quality of goods and services, the main objective of the international one is quality leveling of goods and services produced (provided) by enterprises in different countries, ensuring interoperability of products (services) elements, trade aiding, exchanging scientific and technical information and speeding up scientific and technological progress. Accordingly, proof that the companies comply with local building standards are getting their licenses for certain types of construction works; international quality standards – certificates for certain areas of standardization.

In Ukraine State Standard of Ukraine organizes and coordinates the work of standardization and the state system of standardization, establishes the organizational and technical rules for works and provides their interdepartmental coordination, determines the order of state registration of legal documents involved in carrying out activities of international and regional standards, and Ministry of Construction and Architecture of Ukraine directly organizes standardization works in the field of construction. Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine takes part in the work on standardization and organizes these activities within their jurisdiction through the main or basic organizations for standardization. The regional level is provided by the relevant standardization technical committees. As can be concluded national standardization system is constructed by analogy to other areas of government, having both vertical and functional characteristics, which on the one hand provides a higher level of control and on the other creates additional bureaucratic obstacles, leading to complications (due to the need for coordination of activities) of its operation and is a significant burden on the state budget. Accordingly, prospective way of elimination of these shortcomings is de-monopolization and privatization of national standardization system in Ukraine's regions, appropriate expansion of non-state structures and civil society organizations competences.

Nevertheless, any specific complaints from building companies about impossibility of the standardization procedures or their excessive cost in the media or specialized academic and industry publications in regions of Ukraine are not traced, and the number of licenses issued each year is increasing. There is a

[1] Tkachuk I. G. Organization of cluster model production: manual / Tkachuk I. G., Kropelnytska S. O, Petruniak A. D. – Ivano-Frankivsk: «Play» Publishing House CIT Stefanyk Carpathian National University, 2009. – pp. 95–96.

widespread practice when the same experts are claimed as representatives of various companies to obtain building permits. This suggests that despite strict state control and regulation the license-obtaining procedure for construction works in the regions of Ukraine is quite liberal. The reason for this is objective, since authorities are interested in increasing the number of entities in the construction industry and scope of their activities, subject to the appropriate level of quality and services, safety, environment and others.

However, the procedures of the international standardization system are somewhat more complex and time consuming due to, among others, a greater number of problems to be solved. This in addition to the international convergence of quality goods and services and to promote scientific and technical cooperation, is elimination of technical barriers to trade and harmonization of regulations (which is particularly important for local construction firms in conditions of low «acquis communautaire» harmonization), safety and health guarantee as well as environment protection.

Add that UNECE has identified only 15 sectors applicable for standardization of quality including construction equipment and elements. Therefore, more attention should be paid to quality management of this component as part of the resources for regional building clusters.

International Organization for Standardization (ISO), International Electrotechnical Commission, and the International Telecommunication Union are leading international standard organizations. In addition, the recognized international organizations participating in the standardization include UNECE, World Trade Organization, the International Organization of Legal Metrology, International Organization of Consumer Unions, and quite a large number of structures that have clearly specialized (sectoral) orientation. Recognized regional standardization organizations are CIS Interstate Council, the European Standardisation Organisation, NATO and others.

Note that the most common in regions of Ukraine is the practice of certification in the International Organization of Standardization (ISO), which is understandable, because it is one of the most experienced and respected organizations in the analyzed area, while having private ownership. Although the cost of the quality standardization procedure is high (costs are primarily required for training specialists for company that wants to undergo standardization, and for the activities they have to perform) and it requires quite a long period of time, obtaining a certificate ensures the other economic participants in the construction sphere that company's services are safe, reliable and of high quality. Moreover, it is also important for the efficiency of business processes, and serves as a strategic tool to reduce costs by minimizing the time and production losses, expansion of production capacity and better meeting the needs and demands of consumers, increasing market share, getting access to foreign markets and leveling condi-

tions of competition with leading international construction companies, improving social and environmental responsibility.

It should be noted that quality management (ISO 9000), environmental management (ISO 14000), social responsibility (ISO 26000), risk management (ISO 31000) are among the most popular ISO standardization items. This is true for domestic regional building clusters because of the importance of these aspects in construction activity and in those areas whose reinforcement their creation and development are oriented towards.

Regional building clusters management employees and regional and local authorities should pay attention to the activities of many international scientific societies and consortia participating in international standardization. In particular, they have a structure that specializes also in the construction industry. These include American Society for Materials Research (ASTM), a non-profit organization that develops standards and documents worldwide in several economic activities, including construction, and the International Council for the rules and regulations (ISS), a nonprofit organization whose function is to develop a single comprehensive and coordinated national model standards that directly relate exclusively to the construction sector.

Obviously, during creation and development of regional building clusters it is important to ensure the conditions that give priority to the construction business entities that have established a quality management system, to participate in these structures. It is important to consider several aspects. First, the construction companies that received government licenses for full-range or certain types of construction work, and carry them in compliance with the national legislation of regulatory construction support (i. e. within national norms and standards) and also identify themselves as performing activities in compliance with the standards. However, in this case, the only standardized item is quality of construction and repair work. It can not go about ensuring quality of an entity's full range of business processes and does not systematically cover all its management functions. Thus, compliance with the described approach no longer meets modern requirements for effective functioning entities. That is why as one of the targets of construction policies and programs in regions of Ukraine it is important to determine not only compliance with government regulations and standards, but also the formation of construction quality management business processes and, more promising – the interaction of participants of integrated building structures.

Secondly, the company that provides construction services can provide adequate quality control of their business processes without obtaining this evidence from leading international standardization organizations by drawing appropriate procedures in the form of intra-management documentation. This approach has both advantages and disadvantages, so it can not be characterized as sufficient or perfect. The benefits can be attributed directly to the actual implementation of quality management and business processes control as well as

saving on a system standards quality conformity certificate and its annual maintenance. However, the main drawback is the lack of a document confirming compliance with the standards, which is not conducive to the strengthening of its intangible competitive advantage.

Thirdly, practices of quality control standardization of various subsidiaries, related, affiliated companies or individual construction stages of the process, such as design or construction of infrastructure facilities, counseling services and implementation process construction support, financing, or sale of completed projects should be considered positive, but still not enough.

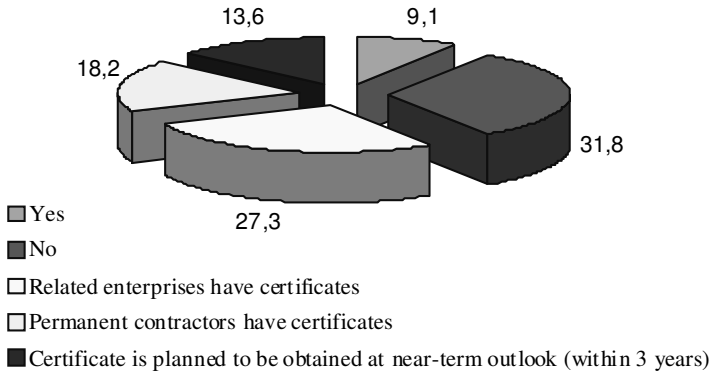
Thus, regional governmental bodies should cooperate fully with construction companies and other participants of cluster structures in their implementation of quality management systems to obtain certifications recognized by international organizations for standardization. But it is clear that this requires a clear understanding of the problems and challenges that accompany such initiatives today and view of both perspectives and specific mechanisms and appropriate assistance tools at the regional and local levels, strengthening effective factors in promoting the transition of enterprises to international quality standards. This can be achieved at cost of the regional and local budgets by financing managers and enterprises specialists training, providing services of international experts on the implementation of quality systems management with further tracking of construction companies, whose representatives have been trained or consulted, receiving the relevant international certificates.

Unfortunately, despite the mentioned feasibility and benefits, domestic enterprises in the regions of Ukraine rarely decide on the implementation of quality management systems business process followed by the procedure of international standardization (Fig. 1).

Thus, the results of the expert survey (the representatives of the leading construction companies and organizations engaged in Lviv Region namely for the period of April – June 2012 22 experts who are managers or professionals of such enterprises as «Comfortbud» Building Company, «Galbud» JSC, «Karpatbud Corporation» JSC, «Eco- Home» Holding Company, «Integral–Bud» SE, «SV» LLC, «Eurobud Plus» PE, «Lviv Engineering and Construction Company» LLC, «World of Construction and Comfort» LLC, «Frankivskmiskbud» BC, «Ars – Bud» ICC, «Skol» BIC, «Dobrobud» BC, «Ternopilbud» BC, «Creatorbud» BC were interviewed) show that only 9.1 % of the industry consider it necessary to standardize procedures and passed the quality management system of international organizations (e. g. ISO). Almost every third building company in the area (31.8 %) and their main contractors and business partners did not pay attention to standardization problems. However the practice of obtaining international quality certificates by related companies is more widespread (27.3%).

Figure 1

Structure of the respondents' answers to the question «Does the company management have international organizations certificate for standardization?»
(specified by the author on the results of the expert survey)



In order to minimize the time and cost of major construction companies of the region quality management standards are implemented at their subsidiaries or affiliates whose activities are mostly highly specialized and controlled by a limited number of employees (usually up to 10–15 people). It is therefore much easier and cheaper for such economic agents to go through all the necessary procedures. But the marketing benefits of getting international certificates of quality standards are enjoyed by the parent company as well as other related companies. In particular, the practice has spread to major construction companies in the region including «Comfortbud BC» JSC, «Galbud Company» JSC, «Eco-House» Holding Company among others. In 2003 the group of companies «Comfortbud» established «Comfortbud Institute for Design» which provides «turnkey» integrated design (new construction, reconstruction, technical re-equipment, and restoration) and the development of individual and special sections project proposals. Most of these works are performed for related companies and «Comfortbud» Institute for Design LLC has ISO 9001:2008, ISO 14001:2004 and other ISO certificates (area of certification: development of urban planning, integrated design of residential, public and industrial buildings with utilities, engineering work) (Official web site of «Comfortbud» Institute of Design. – [Electronic resource]. – Mode of access: http://www.comforfbud.ua).

Moreover, since the problem of quality management standardization has absolutely not been considered by 31.8% of the industry, we found that 63.6% of

the enterprises lack systematic activity of quality management systems standardization (which includes the development of regulatory, planning and monitoring compliance with procedures). That is actually a deeper problem, since nearly two- thirds of the construction sector undertakings in the region lack not only appropriate, but any attention at all to the problems of quality management. Hence problems of construction and services quality instability arise, along with not acceptable indicators of financial and economic management efficiency.

Furthermore, in the context of proper institutional environment conducive to the development of construction quality management it is important to extend the competence of construction industry associative structures and consulting, to promote innovation and cluster connections in the field of communications, create regional and local coordination processes management standardization activities in the field of quality of business processes in construction and the formation of contractual relations between the parties.

To address the most significant barriers to the development of quality management in construction enterprises of Ukraine regional and local authorities need to create favorable conditions for improving entities resource and financial support. Therefore it is necessary to develop appropriate local and regional target programs which include these measures aiming at financing the improvement of the material and technical base and giving the entities access to information and methods of quality management systems preparation and standardization. It is important that priorities of the state financial and credit assistance (reimbursement of the interest rate or loan funds of commercial banks, extension of capital and interest rates repayment terms etc) enterprise projects in the regions of Ukraine were supplemented by funding projects to standardize the quality of real sector entities in regional economic systems.

Organizational support from the authorities should be considered an important addition to resource, financial and economic assistance to building enterprises in the introduction of modern quality management systems. It can be expressed in comprehensive care in passing the relevant process stages of standardization of quality information, support cluster members who wish to improve business process management, etc.

Obviously, experts and officials who work in construction at present lack the experience, skills and knowledge to independently organize and implement comprehensive measures to implement quality management systems, especially in large enterprises, employing a large number of employees, and technological process consists of a large number of operations. Therefore businesses need some professional support. This means full or partial payment of consultant services aimed at sharing the experience, skills, professional knowledge of the organization as integrated systems and implement there quality management systems, assistance in obtaining sufficient training and development of intellectual

and staffing of regional building clusters, getting access to the necessary expertise.

Thus full-scale work of creating a favorable environment for the development of quality management systems in construction also requires the formation of positive public opinion, because its absence objectively reduces firms' incentives to implement appropriate measures which incur significant cost. Therefore, regional and local government should implement measures aimed at improving attitudes towards companies that have standardized their management system and participate in the cluster structure, awareness of all stakeholders' construction market preferences and objective necessity of integrating as well as improving management efficiency.

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