

IMPROVING THE QUALITY OF HOUSING AND COMMUNAL SERVICES IN UKRAINE

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Abstract

The unsatisfactory condition of the housing stock, high level of depreciation of engineering networks and equipment, inefficient management structure determine the need to modernize the sector and improve the quality of housing and communal services in Ukraine. Objective of the article is to conduct a study of the need to improve the quality of housing and communal services in Ukraine and to develop a methodological basis for the study of the quality of housing and communal services. Research Methods: application of the methodological approach to measuring the quality of housing and communal services in Ukraine using the analytical method. It was found that the housing stock and functioning communal infrastructure have significant physical and moral deterioration. Its presence has a negative impact on the quality of housing and communal services provided to the population for consumption. The most significant factors are identified and the degree of their impact on the development potential of the sphere of housing and communal services is determined. The necessity of accounting of the indicated factors at development of economical and mathematical models allowing institutional agents of housing and communal services sphere to take optimal decisions in conditions of uncertainty and stimulating them for improvement of quality of produced housing and communal services has been grounded.

Keywords: *Housing stock, depreciation of the fund, the quality of housing and communal services, public infrastructure, reforming the industry of housing and communal services.*

JEL Codes: *L3, L8, R1, R2.*

Introduction

The relevance of the subject matter of this article predetermines the fact that in modern conditions the sphere of housing and communal services, on the one hand, requires immediate comprehensive modernization of communal infrastructure, and on the other hand, it has every reason to become a breakthrough direction of sustainable development of the domestic economy. As the main elements of management of the sphere of housing and communal services in the article the housing stock, as well as many institutional agents that operate it were identified. It is

established that the housing stock and functioning communal infrastructure have significant physical and moral deterioration. Several the most promising areas for comprehensive modernization of communal infrastructure of housing and communal services based on the introduction of new economic mechanisms and instrumental methods to improve the quality of housing and communal services are determined. Services of housing and communal services (HCS) are the most important part of the system of life support of the population, so improving the

quality of these services is one of the most important tasks at the present stage. At the present time the practice of quality assessment of housing and communal services (HCS) is very common. But the study of domestic experience in assessing the quality of housing and utility services is mostly aimed at researching the overall rating of management organizations, rather than the quality of services provided to residents: from water and heat supply, maintenance of common property in an apartment building and up to maintenance of order in yard areas, so a unified method of assessing housing and utility services has not been worked out yet. Therefore, the management companies have low information transparency, unwillingness to focus on the consumer and deviation from the normative and legal acts, standards, and rules of providing housing and utility services. The current Ukrainian regulations, which govern the procedure for quality assessment of housing and communal services, solve this problem only partly, as they are based on a poorly implemented mechanism. To solve this problem, it is necessary to create a methodology of quality assessment of housing and utility services by consumers themselves, which should reflect the concept of “quality assessment of housing and utility services”, as well as the basic goals, objectives, principles, and algorithms of quality assessment of housing and utility services. Quality assessment of housing and utility services is interpreted as a complex of stages, which are characterized by a certain order and include the definition of the quality assessment method, a set of indicators of properties of housing and utility services, as well as the search for values and calculation of the total quality indicator. The main goal of quality assessment of housing and communal services is to extract information about the quality of services provided by management companies for consumers with the possibility of providing all requirements for the quality of housing and communal services and their improvement. The purpose of this article is to develop a methodological framework for studying the quality of housing and communal services. To achieve the goal, the paper scientifically

substantiates the indicator “product quality”, considers the quality of housing and communal services through the quality of service, proposed a system of harmonization of service quality requirements with its real characteristics. The object of the study is the industry housing and communal services in Ukraine. The subject of the study is the quality indicators of housing and communal services in Ukraine.

The content of the study, scientific conclusions, conclusions, and recommendations are based on the wide application of the systems-analytical approach to the study of processes. The proposed work demonstrates the use of the following methods: a review of scientific literature and world analytics, a quantitative empirical study to determine global trends in the development of the of management of the sphere of housing and communal services. The article uses the methods of descriptive statistical analysis and visualization, comparative analysis, and assessment of the dynamics of key forms of development of management of the sphere of housing and communal services.

Scientific Problem

Improving the quality of housing and communal services should be one of the priorities of housing and communal services enterprises (HCS). The law of Ukraine defines the quality of housing and communal services as a set of normative characteristics that define the ability to meet the existing or projected needs of the consumer in accordance with the law (About...2004). Despite the systematic increase of tariffs, the quality of housing and communal services remains low. The increase of tariffs on housing and communal services should be based on improving the quality of services, argue some authors, but so far, the consumer often does not receive services at all (Bogenstätter, 2018). Speaking about the modern significance of the sphere of housing and communal services (HCS), many authors note, on the one hand, its high social importance in terms of providing the entire country with quality housing conditions, and on the other hand, its significant economic potential, which is directly related to the

formation of consumer demand for works and services of economic entities of this sphere and the presence of high potential opportunities to attract private business (Hutzschenreuter, 2015).

The sphere of housing and communal services is designed to meet the respective needs of the population of the country in quality housing and provide the necessary conditions for normal life, it supports the functioning of both social and production structure of municipalities in all regions of Ukraine (Dolgalova et al, 2020). However, the importance of the sphere of housing and communal services is determined by a broader range of issues, which in addition to social and economic issues can reasonably include demographic, technical, environmental, regulatory, political, innovation, sustainable development of regions, as well as several other aspects and their interconnection across regions and territorial formations of our country. Today the sphere of housing and communal services provides the population of all regions of Ukraine with a multi-branch complex of housing and communal services (HCS), creating conditions for their livelihood and forming the level of comfort in their residence, as well as ensuring compliance of engineering and technical condition of housing stock with the requirements of modern standards, quality, and reliability of all types of services. In addition, the sphere of housing and communal services does not only provide a set of services that improve the quality of life, culture of life and filling the way of life of the population with new content, but also has a significant impact on the growth of socio-economic potential of all regions of Ukraine, their investment attractiveness, forms a favorable environment for the introduction of innovation, as well as the development of private entrepreneurship. That is why the sphere of housing and communal services needs a comprehensive modernization, based on the results of modeling and system analysis (Kirillova, 2020), the advantages of corporate culture, the processes of integration

(Komissarova, 2018) and informatization (Szostek, 2021), whose main goal should be to bring the quality of the complex of housing and communal services provided to the population to international standards, while expanding their range.

Studies by different authors

Practical issues of communal economy, improving the quality of housing and communal services and the functioning of finance in the sphere of housing and communal services are reflected in the works of Kovalevsky A.R., Mints V.I., Nefedov V.A., Pinegin M.V., Talalykin V.M., Faerman E.Y., Khachatryan S.R. and others. The main problems of assessing economic efficiency indicators at enterprises are covered in the works of domestic and foreign scientists: Gladstone D., Gryaznova A.G., Zhuravkova I.V., Krylov E.I., Livingstone L, Colasse B., Meyer W., Marshall W., Pickford J., Prokopenko I.K., Sutcliffe M., Skamay L., Saunders M., Steiner B., Brailey R., Myers S., Mertens A.V., Kovalev V.V., Chernenko A.F., Shim A.H., Shyborsch K.V., Evans F.C. and others.

Some economists proceed from the fact that the quality of products is determined only by the properties useful for the consumer, i.e., those properties that characterize the given products as consumer value (Danilchenko et al, 2019). This position is enshrined in the legislation, state standards of Ukraine (DSTU, 1995), as well as the International Organization for Standardization (ISO), which interprets quality as a set of properties and characteristics of products or services that give them the ability to meet the determined or anticipated needs. This approach to the problem of determining the quality of products was called “technical”. Other authors formulate quality as the degree of satisfaction or suitability to satisfy a certain need. In quality economics, the question of attributing value characteristics to the quality-forming properties of products is debated. Some scholars believe that quality is related only to

the value of the consumer and is indifferent to the costs incurred to ensure this quality. Cost indicators, in their opinion, are necessary only for studying the interdependence of changes in quality indicators and corresponding costs, i.e., for evaluating the effectiveness of costs to improve the quality of products (Lelyuk et al, 2017). The third group of economists considers the technical and economic aspects of the phenomenon of “quality” in a comprehensive way, believing that both aspects are organically combined with each other and do not contradict each other (Dolgaleva, 2018).

These scientists, to reflect the economic content in the definition of the concept of product quality, offer to consider the socially necessary costs of production and consumption of products. The validity of this point of view derives from the well-known postulates of political economy. Individual consumption value satisfies certain human needs thanks to its properties. Consumption value created for others is social consumption value. When individual use value turns into social value, i.e. it expresses certain social relations, it acquires economic content and becomes an economic category. This approach to the definition of quality is the most complete. However, its content must be supplemented with the characteristic of the effect achieved using a quality product by the consumer in the process of operation, because it is the consumer who evaluates and chooses from several products of the same purpose and properties the one that, from his/her point of view, will bring the greatest effect. Therefore, the following refined wording is proposed: “product quality” is a set of characteristics of products, allowing to establish the level that characterizes the degree of satisfaction of certain needs of consumers, considering the socially necessary costs of its production. Developing this definition in relation to the category “quality of housing and communal services”, we can offer the following: quality of housing and communal services is a set of characteristics of housing and communal services that allow to set the level of satisfaction of consumers with comfortable conditions of residence and stay in the buildings with regard for socially necessary costs of their production.

However, the scientific economic literature does not fully address the issues related to the research and substantiation of improving the quality of reproduced housing and communal services based on the analysis of efficiency indicators and operational risks for communal enterprises and for management companies and HOAs. In addition, it is necessary to consistently develop measures to streamline the management of housing and communal enterprises, improving their organizational structure to improve the quality of their activities, considering the impact of market factors. Modern literature on the reform of the domestic housing and communal services describes mainly shortcomings and problems that exist in the sector and almost no specific directions of adapting the reformed housing and communal services and its component enterprises to the needs of the population, the need to improve the quality of housing and communal services. The obvious relevance of the topic of the proposed study, as well as its insufficient development determined the purpose, objectives, object, and subject of the scientific article.

Approaches to solving the problem of improving the quality of housing and communal services abroad

Currently, economic entities that provide management and operation of the existing housing stock of our country, for several objective (significant physical deterioration of equipment and network infrastructure) and subjective (slow pace of implementation of innovative mechanisms of interaction between economic entities, etc.) reasons cannot fully provide owners and tenants of housing even a minimum amount of housing services of adequate quality. Moreover, in comparison with most developed countries the sphere of housing and communal services in Russia is still significantly inferior in terms of the range and quality of housing services provided to owners and tenants. This situation is largely due to different approaches to the management and operation of the existing housing stock. Abroad, the improvement of the quality of housing and utility services is largely based on the

separation of the management and operation of the existing housing stock into an independent activity. This approach stimulates the creation of a competitive market of professional managing companies and promotes the involvement of small business in the housing and utility sector. As a result, there is a constant growth in the market of housing management services, and owners and tenants of housing can almost always choose a management company that is able to provide a higher quality and wider range of services. Let us take the example of two countries that are our neighbors to the north.

In Sweden, for example, quality control of housing services for owners and tenants is provided by their unions and associations, which are well developed throughout the country. As a rule, each union or association has its own headquarters and branches at the level of regions and municipalities, which are organized on a territorial basis. Naturally, through these organizations there is interaction with municipalities and state authorities, as well as monitoring of prices for the entire range of housing and utility services. Today there are hundreds of thousands of homeowners and tenants who are members of such unions and associations. The main goal of these organizations is to involve homeowners and tenants in the management of housing maintenance and to raise their interest in high-quality housing and utility services. To reach this goal, they usually use one of two popular models - the "discount" model or the "depreciation" model. The "discount" model is based on the possibility to choose the range of services that the owner or the tenant wants to receive. Payment for the services is set in proportion to the assortment of services chosen. The "depreciation" model is based on the economical use of all types of communal resources consumed. Naturally, the owner or tenant of the housing pays less for the consumed housing and utility services if the resources are more economical (Brauer, 2021).

There are about 1.4 million houses in Finland. Control over the quality of housing

and utility services is carried out by about 70,000 joint-stock companies in which the owners and tenants of housing are united. Of these, almost 50,000 engage private operators for this purpose, who are also engaged in the management of housing stock operation, and about 20,000 more are engaged in control and management of housing stock operation on their own. Private operators control the quality of provision of housing and utility services and manage the operation of the housing stock based on contracts, which clearly stipulate all the conditions of provision of housing and utility services, their range and cost. In turn, private operators can choose on competitive terms to provide housing and utility services from an operating organization, which will either provide services under contracts independently or engage other specialized companies to do so. The operating organization annually reports to the owners and tenants of housing on its financial situation. Thanks to this approach the sphere of housing and communal services in Finland is distinguished by the high quality of housing and communal services that are provided practically without interruptions to consumers. In Finland the sphere of housing and communal services has long been a normal business that functions steadily under any conditions. It does not matter how the housing stock is managed, because the whole management system is built on the same principles: cost reduction, resources saving and implementation of innovative technologies. For example, three sources can be used for obtaining heat energy - coal, gas, and hydroelectric power plants. As a rule, the choice is made in favor of the cheaper source of resources, and in case of unforeseen increase in peak loads, large cities have reserve boilers with the necessary reserves of resources (Diederichs, 2021). Municipalities closely monitor the activities of private operators to ensure that they do not have a clear competitive advantage and ensure that any homeowner or tenant has not only the right, but also the technical means to choose an

alternative provider of housing and utility services. All he needs to do is pay for the housing and utility services provided by the alternative provider on time. Naturally, certain financial resources are needed to keep the utility infrastructure in working order and to renovate it. To minimize them, the depreciation of municipal equipment in Finland is not allowed to exceed 60 percent. That is why the number of financial resources to be attracted as a rule is not considerable. The receipt of the necessary number of financial resources is always timely, because the management system in the sphere of housing and communal services is simple and transparent, and getting a loan is not a problem either for the municipality or for a private operator (Brauer, 2021). Summarizing the approaches used abroad to solve the problem of improving the quality of provision of housing and utility services to owners and tenants, it can be concluded that to achieve this goal they unite in non-profit consumer organizations that manage and operate the housing stock while controlling the quality of housing services. In most countries, tenant and homeowner associations are common, such as neighborhood associations, condominiums and housing cooperatives in the United States and Canada; unions and associations in Sweden; and joint stock companies in Finland. It is these structures that currently ensure the provision of housing and utility services of adequate quality and further increase their level.

The results of the study on the quality of housing and communal services in Ukraine

Given that most services are intangible, and their materialization occurs only at the time of consumption, that is, because of interaction between an economic entity and a specific user, let us formulate a generalized approach to the disclosure of the economic essence of the category “quality” in relation to housing and utility services. A particular service can be deemed to be of proper quality if, on the one hand, the economic entity in the housing and utility sector has the proper capabilities and capacity to produce the service

subject to compliance with the quality indicators established in normative documents. And on the other hand, any consumer of this service will perceive it to be fully compliant with the requirements of normative documents and the indicators specified in them. Quality rightfully belongs to the most important criteria for evaluating the activities of any enterprise, because the degree of survival in market conditions, the pace of scientific and technological progress, the growth of production efficiency, the economy of all types of resources used in the enterprise depends on it. Housing and communal services is a complex sphere of economy that is subdivided into housing and communal services. Enterprises of housing and communal services ensure proper maintenance and operation of housing stock, and communal services - a set of services, organizations, technical means to serve the population with water, heat, electricity, etc.

From the consumer's point of view, the quality of housing and communal services is determined by providing comfortable conditions for living and staying in residential and non-residential premises. There is a direct correlation between the level of development of society and the comfort of housing: the wider the technical and economic opportunities, the more equipped a building is with engineering systems. A modern urban building is unthinkable without plumbing and sewage systems, electricity, and heating. Cable television, telephone lines, automatic security systems for entrances and apartments, etc. are developing, which leads to an increase in the consumption of energy resources. Safety conditions are referred to as comfort because a building cannot be psychologically comfortable for a person if it represents a potential hazard. Durability, fire resistance, explosion-proofness are the main safety criteria of comfort. Another indicator of the quality of housing from the point of view of the consumer is repairability, the ability to provide repair work that ensures its constant operational reliability. Housing and communal services, which ensure the comfort of residence and stay of a person in the building, must be provided comprehensively, promptly,

in a timely manner and be guaranteed. From the producer's point of view, the quality of services is determined by normative indicators in separate directions. Thus, the quality of operation of the heating system supplying consumers with heat and hot water is characterized by such indicators: uninterrupted heat supply during the entire heating season, ensuring air temperature in residential premises (subject to measures to insulate window and door fills by tenants).

The hot water supply system shall operate for the time specified in the contract (except for scheduled repairs and preventive maintenance), providing the normal temperature of hot water. The water supply, wastewater disposal, power supply and elevator systems are subject to requirements

for uninterrupted and regular operation. The result of the enterprise are such indicators as profit and profitability, so the quality of the enterprise is determined by the high values of these indicators. As can be seen, the concept of "quality of housing and communal services" is complex. It affects not only the result of service - creation of comfortable conditions of life, but also assumes a system of technological processes, each of which must meet the criteria of quality. Studies of quality of housing and communal services have shown that in the process of production and consumption of services there is a need to harmonize subjective quality requirements of the consumer, the standard level of service and its real characteristics (Fig. 1).

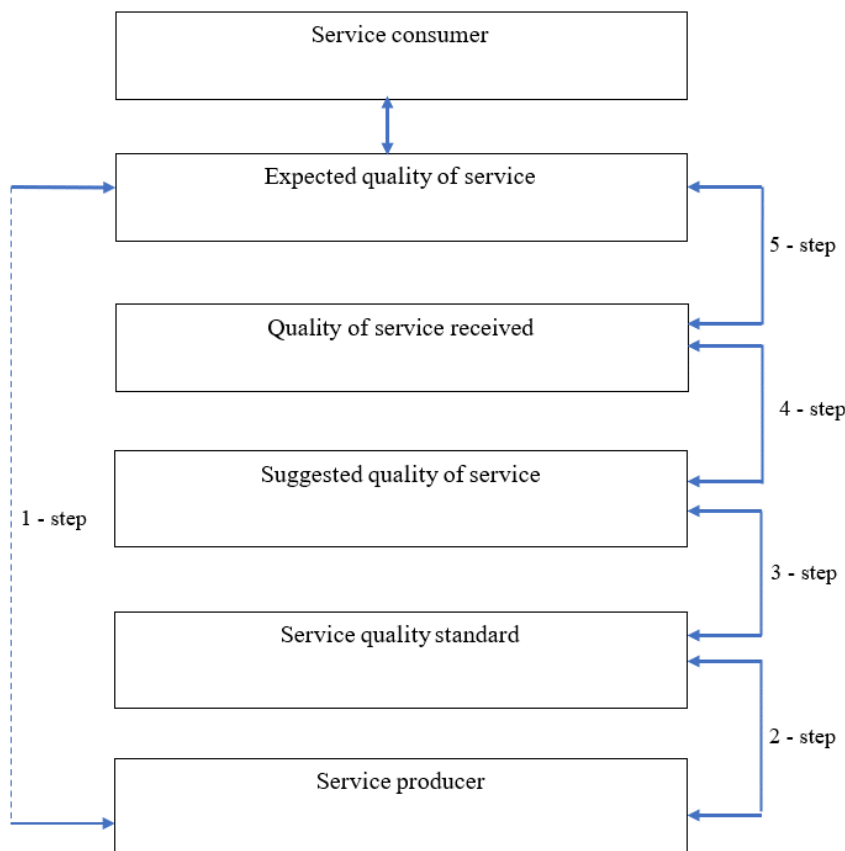


Figure 1. System of coordination of the quality of services in the housing and communal services of Ukraine

**Source: personal contribution of the authors.*

The first stage. Consumers form the expected quality of service under the influence of individual knowledge needs and previous experience, which is perceived by the management of housing and communal services company as information about the required quality of service.

Second stage. Producer, when he wishes to produce housing and communal services, defines possible requirements of the consumers to the quality of his production. At the same time, the quality standards and consumption norms are set for the services. At this stage, it is necessary to adjust the deviation of standards from the level of quality of services expected by the consumer.

The third stage. At this stage, there may be a discrepancy between the standard for services and the proposed level of service quality. This situation is due to insufficient quality and quantity of resources, low qualification level of personnel, etc.

At the fourth stage, the proposed level of quality of service does not correspond to that received due to violations of technological discipline.

Fifth stage. The inconsistency between the expected and received level of quality of service is determined by the sum of deviations from the required quality of service at all stages of approval.

The criterion of optimality of the level of service quality is an indicator that reflects the ratio of the useful total effect of service consumption and the total cost of its creation.

In a formalized form it can be presented, using the formula proposed in

$$IIP = CVP/CP,$$

where IIP is an integral index of product quality.

CVP - consumer value of products (services).

CP- cost of products (services) (Diederichs, 2021).

One of the tools to coordinate the expected and received quality of services can be the introduction of energy-saving technologies, which lead to a decrease in the consumption of energy resources, which in turn leads to a reduction in the cost of services. In this case, the consumer value of the service

remains constant and often increases. Consequently, the integral quality indicator increases.

The gap between the expected and received quality of service is smaller, the more there was consistency in the previous stages (Rosenberger, 2021). The complexity of ensuring the quality of housing and communal services is that:

- the country's housing stock and engineering communications are heterogeneous in terms of physical deterioration. As of 2021 the depreciation of fixed assets is 70%;

- there is a big differentiation of requirements of consumers of housing and communal services to the level of their quality (for example, unequal requirements of different layers of the population);

- many services in the housing and communal services are provided by private enterprises, whose major goal is profit, while housing and communal services are socially significant;

- there is no quantitative assessment of the quality of services provided;

- there is low interchangeability of some services with others.

The housing stock in Ukraine uses up to one third of all electricity, heat and water produced in the country. In recent years, there has been a decrease in the consumption of resources. But it is impossible to say that a decrease in water, heat or electricity consumption leads to a decrease in the quality of services, because Ukraine has long been wasteful of resources. The quality of housing and communal services consists of several components. It must be noted that specifics of housing and communal services are that quality of consumed services depends on quality of technological process. So, quality of heat supply of residential buildings is determined by technological process of heat carrier production. At heat production the quality criteria are energy characteristics of fuel, observance of technological requirements, at transportation of a heat carrier - losses in heat pipelines, etc. However, the consumer will not get a quality service (comfortable microclimate in a room) if the

heat supply system of the building is not adjusted if the quality of the enclosing structures does not allow to keep heat. Therefore, one of the key issues of achievement of quality of housing and communal services is definition and coordination of requirements to quality of housing and communal services on the part of consumer and possibilities of producer of these services to provide them in full. Quality of housing and communal services is determined by a set of its properties and characteristics reflecting its ability to meet the needs of owners and tenants of housing. Since the assessment of quality, as a rule, always takes into account the needs and requirements of its specific consumers, the choice of evaluation indicators of quality must be based on a thorough study of all its essential properties. The form in which the quality of housing and communal services is assessed is determined by its goals and objectives. At estimation of quality of housing and communal services the following task is usually solved - for a certain period of time it is necessary to define the most qualitative from a number of considered housing and communal services depending on a set of its functional properties and characteristics, using a suitable mathematical device and acceptable methodological toolkit for that.

In accordance with the main functional properties and characteristics of housing and communal services, their quality is usually evaluated taking into account different indicators: single (to characterize private quality); defining (dominating in quality evaluation); generalized (taking into account simultaneously several qualitative indicators); integral (evaluating practically simultaneously the whole totality of functional properties and characteristics). From the position of assessing the quality of housing and communal services it is most preferable to have integral indicators at the output, but it is not always possible to do it, as many functional properties and characteristics of these services are still undisclosed. Since assessment of quality of

housing and communal services at the present time is a topical issue, it is important to have existing or develop new methodological tools of assessment considering peculiarities of housing and communal services and their functional properties and characteristics to solve it.

The process of evaluation of quality of housing and communal services can be conditionally divided into three stages:

- 1) system estimation that includes formation of degrees of identified quality with obligatory determination of numerical values of functional properties and characteristics of housing and communal services;
- 2) Expert assessment that includes ranking of the identified quality degrees of housing and communal services according to their weight value;
- 3) computational evaluation that helps to calculate the degrees of quality and conduct field or bench tests of quality characteristics of specific housing and communal services.

At the stage of system evaluation the main subject of consideration is the definition of such degrees of quality that have numerical measures, obtained by calculations or measurements, and objectively characterize the quality of a particular housing and communal service. The system assessment of quality of housing and communal services is considered as a system, the totality of degrees of quality of which allows to objectively judge about the achieved level of quality. The notion of the integrity of the evaluation system is based on the necessary and sufficient number of system-forming degrees of quality. In this case, some quality degrees can be formed, but in the process of its identification it may turn out that not quite satisfactory results will be obtained. The database of quality degrees is an open system, and the system of evaluating the quality of housing and communal services can be regarded as multidimensional and multi-connected. At the stage of expert evaluation of housing and communal services quality, a group of 5 - 7 narrow specialists, familiar with the services of this type, is formed. Having the formed base of quality degrees at their

disposal, they rank them according to their significance, i.e. by weight values. The proposed method of evaluation uses a binary numerical measure, so the rank of significance is nothing else but a weighting coefficient. The result of the expert stage of quality assessment of housing and communal services is an expert opinion. At the stage of the estimated assessment of the quality of housing and communal services the estimated values of the degrees of quality are defined. Based on numerical measures for all degrees of quality obtained at the previous stage, assessments of quality of housing and communal services are formed in binary notation system. The resulting binary measure is converted into a decimal one and assigned to a particular housing and communal services assessment in the decimal notation system. Thus, it is possible to assert that the higher the numerical estimation, the higher the level of quality has a concrete housing and communal service. These features require their consideration in

the development of directions to improve the quality of housing and communal services. Housing and communal services (HCS) are the most important part of the system of life support of the population, so improving the quality of these services is one of the most important tasks at the present stage. Currently, the housing fund of Ukraine is not sufficiently provided with the basic amenities, not to mention that it is not comparable with the quantity and quality of housing and communal services provided in the developed countries. Quality of services is a set of properties and characteristics of service ensuring satisfaction of conditional or expected needs. In other words, quality is the ability of goods and services to meet the needs of the consumer. From this definition, it follows that in practice housing and communal services enterprises must strive to ensure that the quality of services provided is consistent with the consumers' perception of this quality (Fig. 2).

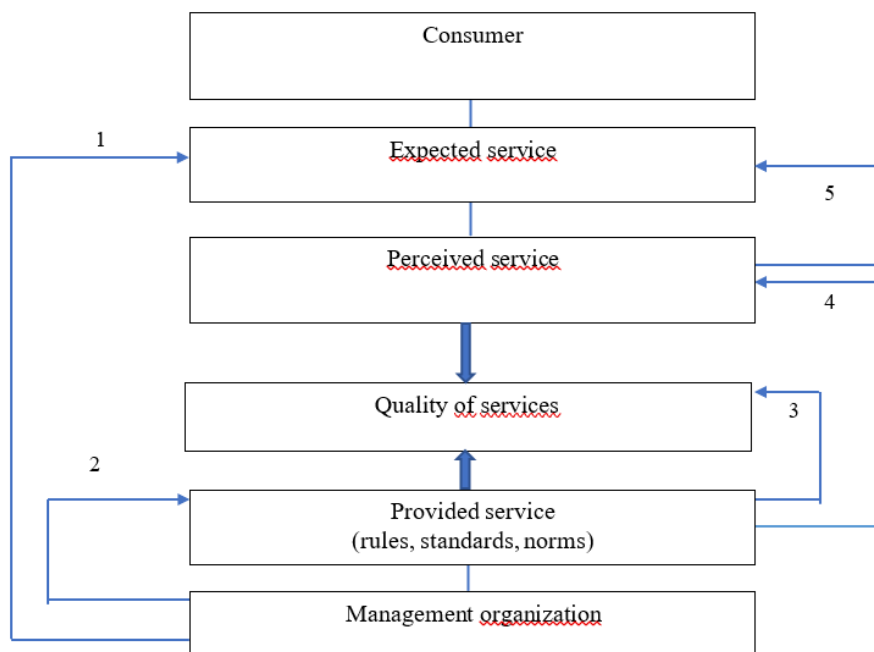


Figure 2. Model of service quality in housing and communal services in Ukraine (1-5 - possible inconsistencies)

**Source: Authors' personal contribution.*

Based on the model presented in Figure 2, it is possible to identify several emerging discrepancies, the solution of which will allow to influence the improvement of quality of housing and communal services.

The first mismatch is related to the fact that managers of management organizations do not know what quality of services residents of apartment buildings would like to get. In this regard, there is a contradiction between the expectations of residents and managers' representation of these expectations. The reasons for such a discrepancy may be superficially conducted marketing research.

The second discrepancy can arise from the establishment of underestimated standards and norms of service quality. This occurs because managing organizations often underestimate their ability to achieve high quality services.

The third discrepancy is since the service provided is in fact of poor quality. There may be many reasons for this: inappropriate technology, mismatch between employees and their jobs, lack of control and motivation, poor work organization, etc.

The fourth discrepancy occurs when the service provided is perceived by the consumer as of poor quality.

The fifth discrepancy occurs when the perception of the service provided does not meet the expectations of the consumer.

The main role in improving the quality of housing services belongs to management companies. Management company is a commercial organization authorized by the owner of the housing stock to manage the housing stock for its optimal use and maintenance. The main task of the management company is to define expectations of consumers related to quality of housing and communal services and organize work in such a way as to achieve satisfaction of these expectations.

In many respects the most important point when improving quality of housing and communal services is correlation of perceptions of management companies of

housing and communal services (HCS) and expectations of housing and communal services (HCS) consumers. In this case it is implied that various "discrepancies" in perceptions and expectations are possible (Walliser, 2018). That is a mismatch of perceptions of the staff of the managing organization and expectations of consumers of housing and communal services. Accordingly, we can say that housing and communal service is qualitative if there is no "mismatch".

Mismatch 1 - between the managers' and consumers' perceptions of the quality of housing and utility services. It occurs if the managing organization has no clear ideas about the consumer's expectations, preferences, behavior stereotypes. The managers of the management organization cannot know in advance what the consumer of housing and utility services wants to get. Therefore, to meet the needs of consumers, it is necessary to know their preferences, and this should be in the first place of any enterprise of the sphere of services. The reasons for the appearance of this mismatch are:

- absence or low efficiency of market research conducted;
- lack of feedback between consumers and managers of managing organizations;
- complex multilevel management structure in the provision of housing and communal services;
- lack of research on the degree of consumer satisfaction with the quality of housing and communal services provided in a particular apartment building serviced by a particular management organization.

Mismatch 2 - between managers' perceptions of the quality of housing and utility services and the transformation of this perception in normative documents, rules, procedures, and internal documentation. It occurs if managers' perceptions of consumers' expectations are not considered in the norms, regulations, standards, and rules of provision of housing and utility services that are being developed. This can be caused by unclear

organizational goals in the management of the quality of housing and utility services by housing and utility management organizations and a lack of sufficient resources allocated for this purpose.

The reasons for this inconsistency may include:

- inconsistency in the qualifications of the employees of management, contracting organizations;
- inadequate technologies used for the tasks at hand;
- imperfect communication and control systems;
- inconsistency in the actions of the staff of housing and utility companies;
- unclear understanding by the staff of the functions they perform.

Inconsistency 3 - between the provided housing and utility services and the consumer's perception of housing and utility services. Can be caused by the fact that the management organization deliberately or accidentally forms a false perception of the offered housing and utility services among consumers. The emergence of this mismatch is based on the gap between the real offers of the management organization and what the consumer understands as the quality of services offered based on the information disseminated. The sources of its emergence can be attributed to ineffective communication between the staff in contact with consumers and the staff that forms the advertising policy, exaggerated promises of the managing organization.

Mismatch 4 - between the perceived and expected by the consumer of housing and utility services. This mismatch occurs when at least one of the first three mismatches is present.

Thus, we can conclude that it is necessary to develop a mechanism aimed at eliminating the first, second and third discrepancies. To eliminate the first discrepancy, it is proposed to integrate quality management processes into the strategic management of the managing organization. In this case the following processes are supporting introduction of innovations, risk management, attraction of investments, quality assessment of housing and communal services

by consumers. Increase of quality of provided housing and communal services is possible including at the expense of introduction of innovations in the sphere of housing and communal services. Innovations are changes that increase management efficiency in the sphere of provision of housing and communal services, determine development, strengthen positions, and increase competitiveness of organizations of housing and communal services as well as improve performance of organizations of housing and communal services. The study of foreign experience in the introduction of innovations in the sphere of housing and communal services also allows us to conclude on the positive effect of the implemented measures. In particular, the need for utility resources is reduced after the modernization of individual heating systems, insulation of pipelines of heating and hot water supply using the latest materials, etc. It is important to note that the payback period of these measures is 3-4 years on average, which is achieved by the willingness of businesses to cooperate with state authorities and the mentality of citizens interested in the effective management of the housing stock. In general, all innovative activities can be divided into two components:

- innovations in the field of housing services (maintenance and repair of housing facilities, security in housing facilities);
- innovations in the sphere of public services (water, heat, energy supply, water disposal, as well as control of consumption and supply of resources).

The process of development and implementation of innovations must necessarily be based on the following principles:

- implementation of innovations must be profitable for the state, housing and utility organizations and consumers of housing and utility services;
- the state must support housing and utility organizations implementing innovations by offering preferential tax treatment.

In general, measures aimed at improving the quality in the provision of housing and utility services based on innovations will allow to:

- raise the quality of housing and utility services;
- increase the satisfaction of consumers with the quality of housing and utility services;
- replace completely depreciated equipment at the housing and utility enterprises;
- increase the safety of the housing and utilities infrastructure;
- control the consumption and supply of communal resources;
- reduce the number of harmful emissions into the environment;
- reduce losses of communal resources in the networks;
- improve the quality of tap water;
- apply alternative energy sources;
- reduce specific energy consumption, increase energy efficiency.

Development of market relations in the sphere of housing and communal services gradually leads to the need for risk management in this area. Objective necessity of such regulation relates to high social importance of housing and communal services, their continuity and irreplaceability by other types of services. Risk is understood as uncertainty connected with the cost of housing maintenance or probability of unfavorable outcome for enterprises of the housing and communal services sphere as well as for consumers of housing and communal services in connection with housing maintenance and communal services. All risks that arise at the housing and utility sector enterprises can be subdivided into internal and external. External risks can also be divided into direct and indirect.

Indirect risks should include:

- inflationary (the possibility of depreciation of money as well as the real value of assets as a result of rising prices);
- political (decisions of government bodies leading to losses or profit reduction);
- regulatory (legal regulation of tariffs for some types of housing and utility services;

introduction of standards, rules, and norms of servicing).

Direct risks include:

- sectoral (presence of administrative barriers, low awareness of the population, difficulty in making decisions on the choice of the method of management of an apartment building);
- social (high social significance of housing and utility services due to meeting basic human needs)
- regional (social, economic, and political peculiarities of each separate administrative and geographic region)
- legal (imperfection of the legislative basis for regulation of the provision of housing and utility services)
- cultural (mentality of consumers of housing and utility services)
- financial (imperfection of the tariff policy)
- natural and climatic (possible damages from natural disasters).

Internal risks include the following:

- entrepreneurial (losses, losses associated with improper conduct of business);
- personnel (lack of staff with the necessary qualifications);
- strategic (loss of clients due to reluctance to prolong the contract for apartment building management, emergence of competitors);
- financial (low collection rate of payments; concealment or incorrect provision of information on the use of funds by the heads of condominiums and management companies);
- regulatory (non-compliance of the organization's internal documentation with the current legislation);
- reputational (deterioration of the rating of the management company in connection with the low quality of services provided or incorrect calculations with consumers);
- investment (failure to obtain the expected rate of return on the invested capital);

- professional (emergence of necessity to compensate harm to life, health, property of third parties, caused due to drawbacks of implementation of the complex of works on management of residential buildings).

To manage risks, it is necessary to develop an algorithm of risk management in the management organizations of housing and communal services, which will allow a timely response to risks. In the modern world, the practice of assessing the quality of various services is quite widespread. However, study of the Ukrainian experience of assessing the quality of housing and communal services suggests the conclusion that in most cases there is a general rating assessment of management companies, organizations, but not the quality of services provided, as a result there is no common methodology for quality assessment of housing and communal services. It can be concluded that managing organizations do not realize that assessment of the quality of housing and utility services is an important aspect on the way to improve the quality of services and competitiveness of the managing organizations. Therefore, many management organizations are characterized by low information transparency, lack of desire to work more closely with consumers, violation of norms, standards, and rules of provision of housing and utility services. In this connection it is necessary to develop a methodology for assessing the quality of housing and communal services by consumers themselves, which should consist of the essence of the concept of “quality assessment of housing and communal services”, purpose, objectives, principles, functions, and algorithm of quality assessment of housing and communal services.

The algorithm of quality assessment of housing and communal services consists of the following steps:

- choice of a method of assessing the quality of housing and utility services;
- determining the number of participants in the survey;
- definition of the directions of quality assessment, as well as indicators included in each direction and frequency of assessment;

- work with consumers of housing and communal services;

- collection and processing of quantitative and qualitative indicators of quality of housing and communal services;

- determination of a complex index of quality.

The second inconsistency arising in the process of providing housing and communal services is the inconsistency between developed norms, standards, rules, and the process of their implementation in practice. This inconsistency arises from the fact that developed documents in the field of quality assurance of housing and communal services are never communicated to the staff of managing organizations. Improving the effectiveness and efficiency of the managing organization, including the quality management system, is possible only through the involvement of all employees and their support (Bogenstätter, 2018). This process consists of the following stages.

At the first stage the policy with a set of goals, objectives, and principles in the field of quality of housing and communal services provision is developed.

At the second stage, the developed policy is implemented in the processes of quality management system, and the quality management system continuously interacts with the strategic management of the managing organization and the life cycle of housing and communal services.

At the third stage, the quality management policy of the organization in the form of regulations, standards, rules, implementation mechanisms is provided to the managing organization personnel of all levels.

The fourth stage determines the competence of the organization staff, since to perform tasks of quality assurance, each employee must have certain knowledge, skills, and abilities, thus, a system of improving the quality of the staff of management organizations must be created.

At the fifth stage it is necessary to create an interconnected system between the goals of the organization and the goals of the staff, so that the staff of managing organizations would understand what goals should be achieved, so

that eventually the organization could achieve its goals in the field of quality management of housing and communal services.

At the sixth stage, it is necessary to develop and implement a system of personnel motivation, which will encourage staff to achieve their goals based on the developed key performance indicators.

To eliminate the third inconsistency, it is necessary to build a competent information policy in relation to consumers of housing and communal services. The article considers a model that allows you to identify inconsistencies that are the causes of poor quality of housing and communal services. To improve the quality of services it is necessary to develop a mechanism to eliminate these inconsistencies. The first inconsistency is eliminated by incorporating quality management into strategic management of the managing organization. The second one can be eliminated by communicating the quality policy to the staff. The third one can be eliminated through the development and implementation of the correct information policy in relation to consumers of housing and communal services. Thus, the proposed measures will contribute to the elimination of inconsistencies, and thus improve the quality of housing and communal services.

Conclusions

The effective functioning of the housing and utilities sector in Ukraine in the modern conditions is impossible without an accelerated modernization of its communal infrastructure and improvement of the quality of housing and utility services. Implementation of the mentioned transformations in this sphere should be based on the maximum consideration of economic, financial, and other interests of its institutional agents as producers of housing and utility services, as well as homeowners as direct consumers of these services. For this purpose, the analysis of the current state of the sphere of housing and utilities was carried out, as well as several factors was named that determine the

feasibility of modernization of its communal infrastructure and improvement of the quality of housing and utility services. Based on the studies performed, we can conclude that:

- the quality of housing and communal services is a set of characteristics that allow to establish a measure of satisfaction of the needs for comfortable living conditions and stay in the buildings, taking into account the socially necessary costs of their production;

- in the process of production and consumption of services, there is a need for simultaneous coordination of subjective requirements for quality, presented by the consumer, as well as compliance with the design level of the service as a standard and its real characteristics;

- criterion of optimality of the level of quality of services is an indicator that reflects the ratio of the useful total effect of the consumption of services to its cost;

- energy saving should become source of improvement the quality of housing and communal services as a factor reducing its cost.

- Despite the dynamic growth of financial turnover in the housing and utilities sector in recent years, the process of its reform is not proceeding at a fast enough pace. Most of the goals set have not been achieved so far, and the positive results available cannot convince anyone of the success of market reforms in the housing and utilities sector.

- Determined the economic content of the category "quality of housing and utility services", which means a certain degree of correspondence of the features and characteristics of a particular service to the needs of the owners and tenants of housing, expressed through appropriate indicators set out in normative documents.

- The economic essence of some approaches to solving the problem of improving the quality of housing and communal services abroad by the example of such countries as Sweden and Finland was revealed. Summarizing the approaches used

abroad, it can be concluded that to solve the problem of increasing the quality of housing services owners and tenants of housing units in nonprofit consumer organizations that manage and operate the housing stock while monitoring the quality of housing services.

The obtained results are intended for the practical work of managers of management companies and associations of housing owners during their main activities to improve the quality of housing and communal services rendered to the population. The proposals and

methodological recommendations made in the work for improving the organizational structures of housing and communal services are of practical importance for determining future directions for increasing the efficiency and quality of the functioning of communal enterprises. Further research should be aimed at developing a model to improve the quality of housing and communal services, considering the reduction of energy consumption, which should provide energy-saving technologies.

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