

System of Economic and Social Efficiency Evaluation Indicators of Housing and Communal Services

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Abstract: This article analyzes the state of housing and communal services in Uzbekistan. Based on the analysis, a new methodology for evaluating the socio-economic efficiency of this sector is recommended.

Keywords: housing and communal service system, service provider, separate indicators, homeowners, interrelationship of services, consumer preference, market segmentation.

The economic essence of the concepts of housing and communal services and market relations is related to the problems related to the development of market relations in the direction of increasing the level of security of consumers in the field of these services, rational differentiation of quantitative and qualitative levels of services to different socio-demographic groups of the population, and the formation of the necessary social and engineering infrastructures in populated areas. required a multilateral approach. Based on this condition, it is extremely important to clearly define the principles and characteristics of the development of market relations in the housing and communal economy.

The formation and development of market relations in the housing and communal economy occurs on the basis of the following basic principles (Table 1):

1. Freedom of choice.
2. Competition.
3. Free formation of prices.
4. Contractual relations.
5. Management by the state.
6. Market segmentation.
7. Interrelationship of services (jobs).
8. Obligation of payments.
9. Addressability of benefits and subsidies.
10. Mandatory existence of different norms.
11. Consumer preference.

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Each principle has its own characteristics based on the nature of relations in the field, and special attention should be paid to this aspect in the implementation of the principles.

When studying the problem of the methodological basis of the analysis of the efficiency of the housing and communal economy, it can be said that most economists pay attention to the following aspects of the analysis of efficiency (criteria of efficiency)¹:

1. Dynamics of changes in the cost of providing housing and communal services;
2. The amount of financing of the housing and communal economy;
3. Changes in the volume of payables and receivables, as well as losses of housing and communal enterprises for the current year (absolute and relative values);
4. Analysis of tariffs and prices for housing and communal services;
5. Share of population payments in housing and communal services payments;
6. The number of families receiving subsidies and the amount of budget funds allocated for their provision;

Table 1. The main principles of the formation and development of market relations in the field of housing and communal services and their characteristics²

Principles	Features
Freedom of choice	The right of the entities of the housing and communal services market to independently purchase products (services), use and sell resources, independently organize the production (service) process and provide services to consumers within the framework of current legislation, based on their capabilities.
Competition	A large number of sellers and buyers of housing and communal services (products and works).
Free formation of prices	The result of a direct relationship between solvent demand and supply in the housing and communal services market
Contractual relations	Relations based on an agreement between economic entities with equal rights, which provide for measures to ensure the rights of consumers of housing and communal services
Management by the state	Ensuring that the participants of the market of housing and communal services comply with the existing legislation and ensure the constitutional rights and freedoms of consumers
Market segmentation	Dividing the market of housing and communal services into customer groups, dividing the market into segments
Interrelationship of services (jobs).	Possibility of provision of provided housing and communal services by enterprises of other branches or sectors of the system
Obligation of payments	Timely and complete payment for services rendered by consumers (inhabitants and enterprises). Payment of payments to certain categories of consumers in the form of compensation by the state in the prescribed manner and volume.
Addressability of benefits and	Application of the state-addressed social protection mechanism in

¹Kameneva E.A., Barulin S.V. Financial district-communal economy. -M.: Os-89, 2003. -S.37

² Developed by the author.

subsidies	the implementation of payments for housing and communal services to low-income categories of the population
Mandatory existence of different standards	Consumers choose the housing in the best condition (house area, design, quality of utility systems, interior design, location, etc.) at the cheapest prices for them.
Consumer preference	Responsibilities of service providers to consumers

7. The number of citizens receiving benefits and the amount of budget funds allocated from energy saving for their provision;
8. The ratio of the number of accidents in the current year to the previous ones;
9. Turnover level of engineering supply systems;
10. The size of the housing stock that underwent capital repairs and reconstruction compared to the previous year, etc.

These indicators can reasonably be considered as criteria for the efficiency of the housing and communal services system. It is these indicators that make it possible to assess the state of the housing and communal economy and draw conclusions about its changes. But we believe that these criteria should be supplemented by the following indicators:

1. The level of satisfaction of the population with housing and communal services (the number of complaints and applications of the population on housing and communal services, the possibility of free use of housing rights and freedoms of the population, etc.);
2. Indicators of business activity in the field;
3. Level of investment activity in housing and communal economy;
4. Ensuring compliance of state services in the field of housing and communal services with state social standards;
5. Reducing the costs of providing housing and communal services to the population under comparable conditions;
6. Reducing the consumption of fuel and energy resources in industry (saving resources), etc.

Field scientists have shown their relationship to the term economic and social efficiency of the service sector. Economic efficiency is characterized by the ratio between the results achieved and the costs of various resources available to society. Social efficiency means full satisfaction of the population's need for services.

Based on the above points, it is worth noting that the level of profitability should not be the main principle and goal of the activities of enterprises in the housing and communal sector. Social and economic efficiency will occur only in conditions where the low standard of living, lack of technical equipment and deterioration of housing and communal services for the majority of the population are eliminated. Undoubtedly, in today's conditions and in the near future, the quality of services provided based on reasonable prices for consumers should be an indicator of social efficiency in this area.

In the process of providing housing and communal services, it is important to ensure that the quality of services offered by enterprises meets the requirements of consumers. The inconsistency between the relatively high level of service quality expected by consumers and the low level of service quality

provided by the providers of these services in practice leads to a low level of satisfaction and sometimes dissatisfaction of consumers with the purchased services.

In this regard, we considered it expedient to gradually mutually agree on the subjective demands placed by the consumer on the quality of services, its defined level and real characteristics of services during the production and consumption of services between service providers and consumers. In this process, we present our author's concept in the following form (Fig. 1).

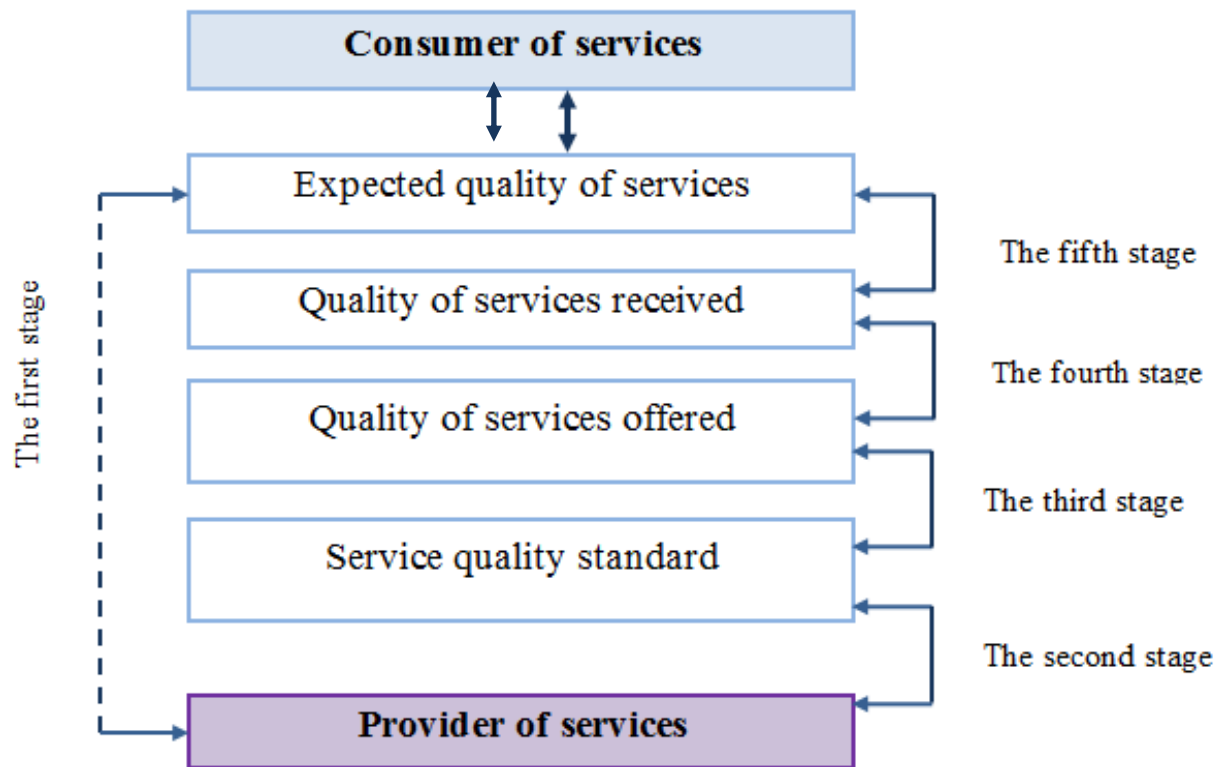


Figure 1. Housing and communal services quality agreement system³

Usually, the consumer does not have enough information about the standards set for the quality of the service he is buying. If he had enough information about it, the market would be in efficient equilibrium. Therefore, the price in the service market is determined based on the average quality of the service based on Akerlof's law of quality distribution.⁴

Thus, it is impossible to ensure the sustainable development of the sector without ensuring the equal functioning of housing and communal services throughout the entire area of operation. Based on this situation, it is urgent to comprehensively objectively assess the activities of industry enterprises and identify the main problems in the industry.

To solve this task, it is necessary to develop appropriate methodological tools. Based on the study of the theoretical and practical aspects of the issue, a system of indicators was formed that fully reflects the current state of the housing and communal services sector in the region (Table 2).

Bringing indicators to an integrated state is carried out in the following sequence:

³ Developed by the author.

⁴ Zakharova E.V. District-communal service kak obshchestvennoe blago: osobennosti realizatsii v Rossiyskoy ekonomie. Autoreferat na soiskanie uchenoy stepi kandida ekonomicheskikh nauk. -Moscow: 2010. -S. 14.

Stage 1. Separate indicators for the results of each group

(R_j) value is determined:

$$R_j = \frac{\sum_{i=1}^n k_i}{n} \quad (1)$$

where - k_i - standardized coefficient;

n is the number of results in the group.

The standardized coefficient of indicators with a positive correlation is calculated by formula (2), standardized coefficients of indicators with an inverse correlation are calculated by formula (3)⁵:

Table 2. System of indicators describing the state of housing and communal services in the region⁶

Indicator name	Indicator description
Group 1. Indicators of the housing fund	
1.1. The share of the housing fund that does not fall into the category of old and damaged housing in the area of the total housing fund of the region, in %	The aging of the housing stock leads to an increase in inefficient losses of resources (heat, electricity, etc.) and generally reduces the comfort of living. In addition, the existence of the housing fund, which falls into the category of old and damaged, reflects the inefficient operation of the enterprise.
1.2. Provision of housing stock with all types of living conditions (water supply, sewage, heating system, natural gas, etc.), in % of the total area	One of the main directions of the state's policy in the field of housing and communal services is to provide the population with all types of communal services of standard quality. In this regard, indicators of provision of necessary conditions show the general level of development of housing and communal services.
1.3. Multi-apartment buildings under the management of MUJMSH, in % of the total amount	In today's market reforms, reduction of state monopoly is one of the priorities of structural changes in the sector. In turn, the introduction of modern forms of management of the housing fund, strengthening of competition between enterprises providing services to multi-family houses is not only an increase in the quality of the offered services, but also a factor in the development of enterprises.
Group 2. Indicators of utility services (resource supply networks).	
2.1. The share of utilities that do not require replacement, in % of the total length	This indicator shows the technical condition of the communal infrastructure of the area. Existence of out-of-date networks leads to a high level of accidents, as well as a decrease in the quality of services.
2.2. The rate of loss of resources in	A large amount of resource loss in networks indicates outdated

⁵ Kozhevnikov S.A. Kompleksnaya otsenka sostoyaniya zhilishchno-communalnogo hozyaystva v municipalnykh obrazovaniyakh regiona/ Economic and social changes: facts, trends, forecast. 6 (30) 2013. – 227.

⁶ Developed by the author.

networks, in %	engineering infrastructure, technological backwardness, and the presence of illegal connections to the network. In developed countries, these losses do not exceed 3-4% in enterprises where modern technologies are used in the supply of communal resources.
2.3. The volume of utility resources supplied on the basis of meters is in % compared to the total consumption volume	Modern legislation provides for control of consumed resources on the basis of meters. The installation of meters, on the one hand, reduces the costs of consumers for services, and on the other hand, supports the improvement of production productivity and efficiency of enterprises.
Group 3. Improvement indicators of the area	
3.1. Illumination level of streets in % of total length	This indicator shows the level of provision of lighting services to consumers.
3.2. The percentage of landfills where solid waste disposal is established, in % of the total amount	It allows to assess the quality of activities related to waste disposal.
Group 4. Financial processes in housing and communal services enterprises	
4.1. The rate of collection of payments for housing and communal services, in %	The full collection of payments for the provided services is a necessary condition for the stable operation of industry enterprises and the implementation of production and investment programs by them.
4.2. The share of financially stable enterprises in the field of housing and communal services, in % compared to the total amount	It is a general indicator showing the service efficiency of housing and communal services enterprises.
4.3. The ratio of receivables of enterprises to the value of rendered services, in %	The increase in receivables in housing and communal services enterprises limits their ability to attract credit resources and investments, creates high-level risks. It is recommended that the upper limit of receivables does not exceed 5%.

$$k_i = \frac{x_i}{x_3} \quad (2)$$

$$k_i = \frac{x_3}{x_i} \quad (3)$$

where - x_i – the value of the i-indicator by region;

x_3 - benchmark value of i-indicator.

Stage 2. Calculation of the integrated indicator (R) indicating the state of housing and communal services in the area:

$$R = \frac{R_1 + R_2 + R_3 + R_4}{4};$$

where - R_1 - the generalized value for the group of indicators showing the state of the housing stock of the region;

R_2 - the generalized value for the group of indicators of communal services (supply of resources) of the region;

R_3 - the generalized value for the group of indicators of improvement services of the territory;

R_4 - the aggregated value for the group of indicators of financial processes in communal service enterprises in the region.

Stage 3. Determining a group of areas with common housing and communal problems. The range of the possible limit of the value of the integral indicator lies in the range from 0 to 1, and it is recommended to divide the areas with an indicator within this range into 4 groups based on the value of the indicator (Table 3).

It is important to emphasize that in the regions belonging to the 4th group, the range of the integral indicator is quite wide, and the level of housing and communal services in these regions is in a bad state. In this case, the worse the condition in the area, the closer the integral indicator is to 0.

Table 3. Threshold values of the integral indicator describing the state of the housing and communal services sector by region⁷

Area group	General status of the group	Integral indicator limits ($0 \leq R \leq 1$)
Group 1	In good condition	($0.800 \leq R \leq 1.000$)
Group 2	In satisfactory condition	($0.600 \leq R \leq 0.799$)
Group 3	Unsatisfied	($0.400 \leq R \leq 0.599$)
Group 4	In bad condition	($0.000 \leq R \leq 0.399$)

It will be possible to determine the status of the regions grouped according to the limits of the proposed integral indicator according to the following characteristics.

In the regions belonging to group 1, the main part of the housing fund has been put into use relatively recently (put into use within the next 5 years) or has been perfectly repaired during this period, has all kinds of necessary amenities, the housing fund is fully under the management of the Public Housing Authority, utilities that need to be replaced share is very small, the level of loss of communal resources in the network is low, the distribution of communal resources is carried out entirely on the basis of meters, the streets and front areas are fully illuminated, the main part of the enterprises providing housing and communal services are profit-making enterprises and their receivables are at a low level.

In the regions belonging to group 2, the housing stock has been put into use for 5 to 10 years, or within this period, it has been completely renovated (about 5% of the part is old and in a state of disrepair), the level of provision of necessary amenities is higher than 90%, multi-apartment housing stock despite the high capacity of the service enterprises, losses in the process of distribution of communal resources due to

⁷Developed by the author.

the physical wear and tear of the main funds are up to 20%, the financial condition of the service enterprises is not stable, the share of receivables is up to 50% of the total value of the services rendered.

In the regions included in group 3, the level of deterioration of the housing stock is high (the part in a dilapidated and dilapidated condition is more than 10%), the level of provision of necessary amenities is lower than that of the general housing stock. 1/3 covering part of the country, an average of 30% of the engineering infrastructure is required to be replaced, the level of losses in the network during the distribution of utility resources is an average of 30% due to the obsolescence of the main funds and the technological backwardness of enterprises, the level of use of meters is relatively low due to the consumption lighting and waste utilization rate is on average around 65%, inefficiency of the financial situation of service enterprises, the share of receivables and payables is high, and the rate of introduction of market mechanisms is low.

The situation in the regions included in group 4 can be assessed as a critical situation. In the regions belonging to this group, the housing stock is in a very unsatisfactory technical condition, and the stock in a dilapidated and damaged condition makes up more than 20% of the total area. The level of centralized provision of necessary amenities is low (the majority of amenities (60-70 % i) are created individually by homeowners), most of the service enterprises have small capacity. The level of losses in the network in the process of resource allocation is several times higher than the established norms, most of the provided communal services are the cause of financial instability of these enterprises.

Today, in the process of reforms in the field of housing and communal services in our country, the use of the above methodology for assessing the state of this sector leads to focusing structural changes on areas where changes are required and addressed, and this, in turn, ensures the effectiveness of financial resources directed for structural changes, housing It allows for the correct determination of measures to increase the financial stability of utility service enterprises, to increase the level of provision of quality services to consumers, and to improve the level of improvement of managed areas.

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