

The issues of sustainable development of regional public utility market

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Abstract — Current condition of Russian public utility activities indicates the necessity for implementing market tools, primarily marketing as the technology addressing interests of all stakeholders involved. The research demonstrates that implementation of marketing in this area is on its initial stage. There are few scientific studies on this topic, especially dissertations, as well as examples of adapting marketing approaches by public utility companies. It is clear that development and application of marketing technologies will be influenced by parameters and specifics of public utility market, customer demands and satisfaction and involvement in development of this segment. This article defines the type and configuration of regional public utility market, its subject and object, static and dynamic parameters and reveals main supply and demand problems on macro- and microlevels.

Keywords — *public utility service, target segments, relationship marketing, natural marketing, competitive mechanism.*

I. INTRODUCTION

The relevance of this study is determined by the fact that national public utility services, despite years of reformations, are still subject to high socioeconomic risks. Housing and public utility services remain on a low level and customers complain of numerous violations by managing companies, thus increasing public disparagement of existing situation in this area. In order to address these problems, it is necessary to approach the regional market of public utilities as a system of marketing relations between managing subjects aimed at providing services of high quality that meet modern demands.

The aim of this research is to analyze external environment of marketing relations on Volgograd public utility market on macro- and microlevel, to study the subject and object structure and relations between public utility market stakeholders as a system of marketing relations subjects.

II. MATERIALS AND METHODS (MODEL)

Theoretical arguments provided in this article are based on general scientific approaches: dialectical, historical and logical, structural and functional. Practical recommendations were developed basing on traditional (segmentation, prioritization) and modern marketing methods such as

situational analysis, observation, experts' estimation, graphic interpretation, content analysis, etc.

III. RESULTS AND DISCUSSION

Nowadays, public utility service of Volgograd Oblast is a diverse complex involving provider companies and customers including all urban and countryside residents, social objects and other market subjects. The condition of this complex, responsible for supply on public utility market, directly influences the relations between providers and consumers that have a demand for public utility services.

The main activities in public utility segment are provision of resources, water discharge and sewage treatment, solid waste management (approximately 307 various organizations).

The housing sphere of the city is represented by the housing fund (12.6 thousand apartment houses) managed by 180 managing companies and 495 homeowner associations, real estate owner associations, building cooperatives [1]. Figure 1 demonstrates main quantitative indicators of the region.

The most relevant problem of the regional public utility complex is depreciation of almost all its objects. The majority of housing fund was built in the 1960s-1970s and its depreciation exceeds 50% and thus demanding increasing costs to address this issue [2]. The depreciation of public utility infrastructure is even higher – 70-80% [3]. Due to this depreciation, there is a constant risk of emergency or critical situation on regional and local utility objects. This is why one of the most important objectives is providing budget money for capital renovation of municipal engineering objects as well as attracting private investors and budget funds of all levels for upgrading existing public utility objects.

Another significant issue is capital renovation of regional apartment housing, which terms and quality are drastically below expectations. For example, in 2017, among 476 houses planned for renovation only 262 were renovated (224.6 thousand m²), where 7.4 thousand people lived. Only 5 elevators were replaced out of 141 planned for renovation. Meanwhile, the collectability of capital renovation payments is 88.4%. nowadays there are 1301 special accounts for capital

renovation payments, residents of other houses pay their bills to a common fund.

The analysis of regional market macroenvironment concluded that main problems of Volgograd public utility market are almost identical to ones all over the country. This indicates there's a national crisis of public utility market. The regional macrosituation is characterized by multiple threats for public utility market subjects caused by multiple economic, political, technological and social factors. Let us specify them.

Economic problems include lack of financial resources in utility and housing market segments, staff deficit, insufficient competition, permanent pricing problems.

Lack of financing became an almost insurmountable obstacle to housing and utility development. Public utility segment needs large-scale modernization because its customers have to pay for its low efficiency – all technological losses are included in payment bills. As D. Medvedev said in an interview, nowadays public utility complex needs approximately 2-2.5 billion rubles of investments, with necessary annual investments of approximately 500 million rubles [4].

Another deteriorating factor is high indebtedness level in utility area as well as lack of leverages for non-reliable customers. These problems undermine the trust of people in utility subjects, promote negative stereotypes against utility operators and social conflicts.

The lack of qualified personnel reduces efficiency of emergency and dispatcher services, managing organizations maintaining and repairing utility networks, service centers and contractors, thus damaging the whole system of utility management. Staff problems include:

- lack of qualified top management and specializing lawyers;
- deficit of technical workers: welders, electricians, plumbers, cleaners;
- disbalance between demand for utility personnel and supply provided by educational institutions;
- aging of workforce, young people find manual work in utility area unattractive;
- lack of specialized marketing experts.

Economic barriers are related to poorly developed competition on utility market. Meanwhile, scientific literature on this matter provides several approaches. Some researchers point out an objective necessity for demonopolization of utility market, similar to foreign markets [5, 6], while others outline negative consequences of such transition [7, 8, 9], believing that these processes are the cause of lack of finances and crisis in this industry.

The main obstacle to competitive development is existence of two segments: utility service market taken by natural monopolies – resource providers and housing service market, with supply provided by managing companies.

Utility service market features and configuration exclude the possibility of competition in this segment, so demonopolization of market of resource providers that are economically natural monopolies cannot improve economic situation. It seems reasonable to assume that evolution of utility service market should be based on both market and monopoly relations, meanwhile competitive mechanisms should be developed on housing service market and monopoly should function in utility segment.

Among economic problems, special attention must be given to pricing problems:

- lack of transparency of resource provision tariffing;
- growth of costs for utility services in the structure of public expenses;
- disbalance between level of payments for maintaining housing fund and actual expenses leading to increased load on managing companies;
- insufficient housing services tariffing order and lack of transparency of current activities of utility managing companies [8, 10, 11, 12].

The prices for housing services and utility tariffs are the most powerful cause of public disapproval. Authorities, resource providers and managing companies will need much effort to compensate social conflicts through various means: media, company websites, increase of public awareness (providing information on message boards in houses, on payment bills, on homeowner meetings, etc.).

Other economic problems include unattractive investment climate. The main reasons for this are high resource intensity, high expenses in public utility segment, inconsistency and unpredictability of regional administrative policy leading to high risks of investment losses, ineffective tariffing, informational asymmetry (lack of informational transparency concerning activities of most utility market subjects) [9, 13, 14].

State public utility informational system was launched in 2016 to address transparency problems. Its launch was postponed several times and its final implementation on the national level is scheduled to be completed in July 2019. With its help, the government want to improve its control over activities of utility subjects and improve quality of their services. However, this objective is very complicated and demanding so it will hardly be achieved in the nearest future.

Let us move on to discussing technological problems.

Technological issues of utility services include depreciation of main utility funds, outdated technologies of utility network operating, ineffective technological solutions and methods of providing utility services.

Transition to energy-saving technologies is a standalone issue. Nowadays in Russia over 80% of total utility payments are charged for electricity, heating, gas, cold and hot water supply. The rest is charged for property management, waste disposal and territorial service. Over 70% of national energy preservation potential is spent on public utilities. That means

power consumption of utility service provision is at least 4 times higher than in other countries with similar climatic conditions [15].

Even the most common technologies such as energy-saving lamps, movement and light sensors, metering devices, automated metering systems are rarely used by managing companies. Energy audit of houses is a costly event and it is problematic to explain its necessity to people.

Another technological problem is public utility digitalization. Nowadays there are many innovative digital solutions for utility industry but legal and economic mechanisms of their implementation are not fully developed. Besides, their implementation is costly and this could be a problem for small managing companies and one-house homeowner associations. However, digital innovations are the future [16], so marketing relations in the housing segment need events aimed at involving people in mass usage of digital technologies: reporting metering data online, including through accounts on providers' websites, online payment of utility bills, installation of "smart meters", emergency cutoff systems, energy-saving lamps and appliances, etc.

The analysis of social and demographic factors such as customers' characteristics and satisfaction with utilities, their involvement in utility development also revealed several negative tendencies.

First of all, social problems of public utility are related to the balance of interests during provision of social benefits and subsidies. Some researchers and experts note that the volume of social bonuses exceed budget possibilities. This is why activities on utilities maintenance and repairs are limited due to insufficient funds.

Secondly, the public involvement in utility activities various depending on different aspects. For example, according to Russian Public Opinion Research Center, in 2017 the most common forms of public involvement in utility reforms are installation of cold and hot water meters (74%), energy-saving lamps (75%) and property improvement (24%). The lowest involvement was demonstrated in the following activities [17]:

- choosing the way to form capital renovation fund (13 %),
- choosing a managing company and electing house council (7% each);
- formation of homeowner/ real property owner association (3 %);
- controlling management company's activities (4 %).

Satisfaction with utility service quality is low 0 only a quarter of people agree that public utility subject improved their activities. More than a half didn't notice any significant changes and 19% of Russians believe the situation with utility service provision is deteriorating.

In Volgograd region satisfaction with utility quality is below average Russian level. In November 2017 the Financial University under the Government of the Russian Federation

prepared a research based on a survey of residents of Russia's largest cities. The experts wanted to find out if people are satisfied with the condition of their house, public utility service and city in general. According to the results, Volgograd became the only city out of 38 that got 0% in "Public evaluation of utility services" category. This means people of Volgograd believe the quality of local utility system to be the worst in Russia [18].

Let us continue with the analysis of political factors. Utility market has been reformed since 1992. However, experts point out that reformation process is deteriorated by several violations: non-compliance with federal standards, overpricing of utility tariffs, unstable functioning of utility system, etc. Public utility system is "overregulated" with somewhat contradictory rules and regulations objectively impossible for smaller HOAs and managing companies to follow.

Taken into account regional legislation, there are even more regulations, many of which are amended every year. Many legislative initiatives gain large public disapproval, e.g. the initiative to make HOAs responsible for separate debts of their members. Such ideas do not help to reduce social tension in utility sphere.

Besides, many reasonable ideas are hard to adopt in practice. For instance, bringing order to regional management of apartment houses remains a relevant issue. Licensing of managing companies, launched in 2015, was supposed to become an effective tool promoting reliable organizations. However, it doesn't stimulate managing companies to improve quality of their services. In 2016 in Volgograd Oblast, a managing company's license was revoked for the first time in Russia and by the end of that year, two companies left the market (PallasStroyDom and MDM-KomServis). In 2019, 18 companies lost their licenses and there are court hearings in progress to revoke 13 more licenses [19]. Companies that lost their license get registered again and get new licenses while the housing fund situation continues to deteriorate.

From the marketing standpoint, microenvironment of utility service market organization includes all subjects it interacts with: suppliers of utility resources, raw materials and accessories, contractors performing specialized work for managing companies (they also provide services for managing companies but managing companies any perform their services themselves), competitors and mediators such as paying agents receiving payments for utility services and transferring them to providers and other recipients mentioned in agreements (Fig.2).

The main subjects managing regional public utilities are Volgograd Oblast administration and municipal administrations that have special departments for each management activity including public utility. For example, Oblast administration public utility departments include Public Utilities and Fuel and Energy Complex Committee and State Housing Inspectorate. Volgograd administration has Department of Public Utilities and Fuel and Energy Complex that has its divisions in administrations of each city district (for example, Krasnoarmeysky District Improvement and Landscaping Center municipal budget institution).

The analysis of utility service market subjects may reveal two organizational problems: multilevel and overcomplicated structure of regional market management and the fact that different state regulating bodies have the same functions thus reducing efficiency of management decisions and delaying their fulfillment.

The supply subjects are represented on the regional market by managing organizations: managing companies, HOAs, real estate owner association, building cooperatives, territorial self-governments.

The analysis demonstrated the main problems typical for all Volgograd public utilities managing companies and their relations with customers that can be divided in two groups: organizational and marketing.

The problems from the first groups are insufficient quality of services, growing number of violations, lack of personnel, growing debts of customers, growing number of complaints to supervising authorities, absence of communication between market subjects, people's passivity, legal illiteracy and low involvement in housing management.

Marketing problems include total absence of marketing tools in managing companies' working practice, subsequent absence of marketing research and inability to understand target audience demands, negative public image of managing companies.

These problems cause conflicts that managing companies' leaders and specialists are unable to solve due to lack of management and marketing education. Solution of these problems is complicated by long-lasting negative public attitude to managing companies.

Figures

276	• heat supply, water supply and water treatment companies
180	• managing companies
495	• HOA and building co-ops
9	• gas supply and distribution companies
2	• guaranteed power suppliers
19	• power network companies
117	• boiler facilities with total capacity of 5985 GCal/h.
921	• water extraction facilities
40	• water treatment facilities with 1284,2 thousand m3/day capacity
2.1 thousand km	• municipal heating networks (two-pipe estimation)
12.2 thousand km	• water supply networks,
3.0 thousand km	• sewer networks
24.5 thousand km	• gas networks
50.0 thousand km	• power networks
33.9 thousand people	• public utility workers

Fig. 1. Main indicators of regional public utilities system in 2017.

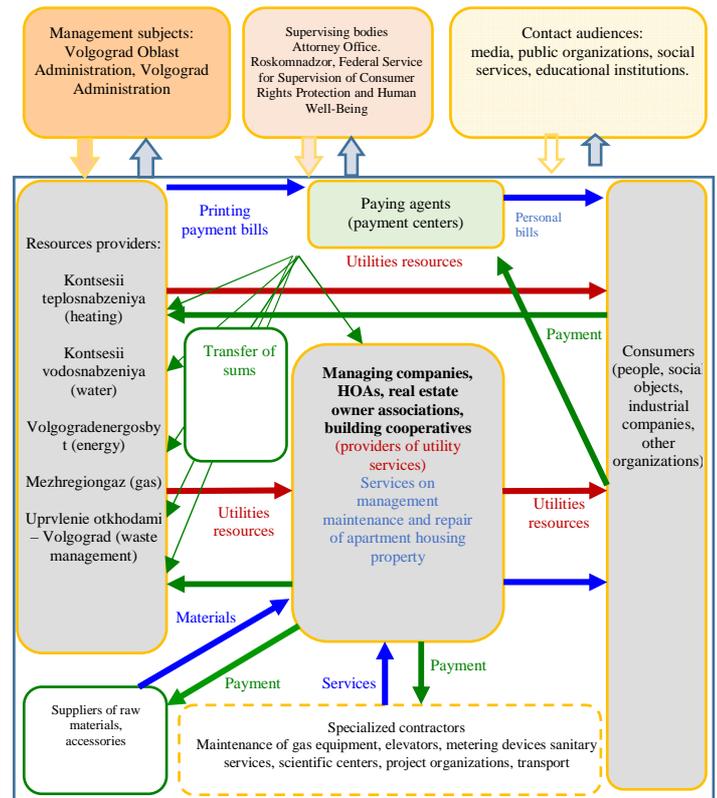


Fig. 2. Microenvironment of public utilities market.

IV. CONCLUSION

The research of regional public utilities market and marketing environment of its subjects revealed its main problems that are typical for all Russian regions. This indicates a systemic crisis in public utilities sphere. Within the framework of STEP analysis, almost all factors we have analyzed can be identified as threats to public utilities market subjects.

Marketing tools, such as STEP analysis and SWOT analysis and market segmentation, are fully applicable to public utilities market. However, a specific set of macro- and microenvironment factors needs to be applied.

The microenvironment analysis demonstrated that public utilities market has a complex structure with complex relations between its element, multiple levels and significant differentiation of both supply and demand subjects. Besides, this market belongs to a mixed type: it has monopoly and competition segments and requires different approaches to analysis and establishment of relations management system.

It is evident that due to its specifics, utility services market needs to adapt existing marketing tools and technologies to customers' demands in order to build long-term reliable relations. The tools that have to be applied will vary depending on a market subject.

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