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Donka Zhelyazkova[1]
Nevena Petrova[2]

POSSIBILITIES FOR IMPROVEMENT OF THE SERVICE, PROVIDED BY ENERGO-PRO VARNA JSC TO END DOMESTIC CUSTOMERS IN THE CITY OF VARNA

The article has the aim to outline the specifics of the electric power market and on the basis of a survey of the consumer attitude to the satisfaction from the service and the quality of the delivered to domestic customers of Energo-Pro Varna JSC in the city of Varna services, to outline possibilities for improvement of the service, provided by the company. The basic method, applied in the course of the survey is the questionnaire, in view of the accumulation of information regarding the end consumers' assessment about different aspects of the process of electric power supply. Three main proposals for the improvement of the customer service have been systematized on this basis, connected with the outsourcing of the telephone services, the introduction of chatbots for the online services and the increase of service quality with the assistance of the so-called "seven quality instruments": Control list, Stratification method (differentiation), Histogram, Dispersion diagram, Ishikawa diagram, Pareto diagram and the Control chart.
JEL: O13; O14; Q43

Introduction

The search of opportunities for improvement of the customer service is at the basis of every corporate policy, aimed at an adequate competitive positioning. Satisfied and loyal customers are a long-term investment, which leads to return of the investments made, based on the high levels of turnover, financial revenues and security in a long-term prospective.

The aim of the present elaboration is to outline the specifics of the electric power market and based on a survey of the consumer attitudes to the satisfaction from the service and the quality of rendered to domestic customers of Energo-Pro Varna JSC services, to outline possibilities for improvement of the service, provided by the company.

The achievement of this goal supposes the solving of fundamental tasks, connected with:

[1] *Donka Zhelyazkova is Assoc. Prof. Phd, Economics and Management of Commerce Department, Varna University of Economics, tel.: 0882/164-684; e-mail: d_zhelyazkova@ue-varna.bg.*
[2] *Nevena Petrova is Phd Candidate, Economics and Management of Commerce Department, Varna University of Economics, e-mail: nevena_petrova@ue-varna.bg.*

1. Theoretic summary of the nature and specifics of the electric power market.
2. Study of the consumer attitudes towards the satisfaction with the service and the quality of the provided services to domestic customers of Energo-Pro Varna JSLC in the city of Varna.
3. Revealing of opportunities for improvement of the customer service by Energo-Pro Varna JSC.

In the course of the study, methods of synthesis, a graphical method, as well as a survey for the accumulation of information regarding the assessment of end consumers of different aspects in the process of electric power provision by Energo-Pro Varna JSC are applied, divided into two blocks. The first block has the aim of determining the degree of overall satisfaction/ dissatisfaction with the customer attendance and the quality of the offered by Energo-Pro Varna JSC services, the degree of acquaintance with the services, offered by Energo-Pro Varna JSC, the problems which electric power consumers, subscribers of Energo-Pro Varna JSC at the territory of the city of Varna encounter. The obtained results, on grounds of the extracted information, will make possible the defining of conclusions and the formulation of proposals and adequate recommendations for quality management in the process of customer service. The second block is a demographic one. It has the aim to collect general information about the respondents and to trace how much the examined parameters are bound with the demographic groups.

A research object in the elaboration are end domestic customers, attended by Energo-Pro Varna JSC, at the territory of the city of Varna, who are profiled on the basis of questions, set in the demographic block, included in the survey list.

The subject, which is of interest to the researchers, could be reduced to the customer service in Varna region by Energo-Pro Varna JSC.

The electric power specifics create a basis for research of a theoretical and applicable significance, aimed at searching and determining of possibilities for improvement of the customer service in the energy sector.

1. Essence and specifics of the electric power market

The electric power market is an aggregation of legal, technical and economic norms, regulating the relations between the participating entities, as well as the means, assisting their activities during the purchase and sale of electric power and its derivatives. On the other hand, the electric power market includes the stage of development of the fundamental means – projecting, construction, building and exploitation of energetic sites, as well as commerce with electricity companies' assets.

Two kinds of markets are usually reviewed in the scientific literature: a perfect market and a monopolistic market to a certain degree (a pure monopoly, oligopoly, etc.) (Yakimova, et al., 2012, p. 239) and (Iliev, et al., 2001, pp. 92, 105). Some authors consider, that energy markets are essentially monopolies and are characterized by a high margin (Jumasseitova, 2016, p. 131), i.e. these are market structures, in which one producer of a product, which

has no close substitutes exist, and substantial barriers exist before the entry into the sector (Kovachev, et al., 1993, pp. 164-165). A counterpoint of this opinion is the European policy regarding energy markets development, which encourages loyal competition and the easy access of separate providers, as well as the support of capacities for new energy production, in order to allow consumers to use to a full extent the possibilities of the liberalized internal market of electric power (European Parliament and the Council). At these markets, energy is often bought and sold on a wholesale basis, before it reaches the end consumer and in view of guaranteeing the smooth operation of these markets and in order to avoid the manipulation of prices, the EU has introduced regulations, prohibiting the usage of internal information or the dissemination of incorrect information related to the supply, the demand and the prices (De Nicolò, Favara, Ratnovski, 2012, pp. 7-10).

Consequently, energy markets can be constructed as a monopolistic or competitive structure, which is defined depending on the barriers at sector entry and the real choice, which the customer faces, as simultaneously a broad range of tools is applied, with the purpose of definite informational dimensions from their functioning to be publicly accessible, on the condition "that no information is divulged, constituting a trade secret, or information, protected by virtue of law" (Energetics Act, 2019).

The electric power market is a complex economic structure with its specifics and participants not typical of other markets, nevertheless subject to the general principle of resources redistribution. The specifics of the market is to a great extent, determined by the specifics of electric power and a lack of a uniform opinion on its definition as a product or a service.

A number of characteristics have been systematized in theory, which accompany the provision of services and they can be reduced to the following more significant ones (Mirotin, 2002, pp. 81-90):

- The service has a creative character.
- In the service sector, the relative share of individuality during the realization of the labour process is high, and the quality level depends on the individual employee's qualities.
- The variety of customer requirements makes the unification and standardization of customer service difficult.
- The processes of providing and consumption of services coincide in time and place.
- The end assessment of the service level is obtained at the stage of immediate contact between the consumer and the provider of the service.
- The realization of transporting and storing of the service is impossible.

The creative character is rather not present in the offering of electric power, as well as no individuality is observed, and to a bigger extent standardization in the process of service provision, in view of the strict requirements regarding the quality characteristics of the electric power, set within the Bulgarian state standard, which has as an object: determining and description of the feeding voltage, relating to the frequency, size, form of the wave and

the symmetry of three-phase voltages. In this relation we must note, that electricity is perceived as a not-differentiated product, which differs from the remaining merchandises with the following characteristics: seasonality of demand, high prices changeability, inelasticity of demand, limited transportation possibility (Chatnani, 2010, p. 260). This means, that independently from the fact whether it is produced by a heat power station (HPS), nuclear power station (NPS) or another type of a production station, energy remains with the same qualities and characteristics, i.e. it is impossible that a NPS delivers to the market electric power with different characteristics such as higher voltage or a bigger electricity power (Georgiev, 2014, p. 45). In this respect, the energy market establishes itself as a market with relatively resistant characteristics regarding the product offered, which can deviate within the framework of established and allowable norms for the indicators of the electric power quality only.

Simultaneously, the processes of supply and consumption of electric power coincide in regard to time and place, as an impossibility for its storing is present. Consequently, we support the conclusions of J. Bielecki and M. G. Desta, who define electricity as a „special product in view of its physical characteristics, since, unlike other products, it usually cannot be stored and is supplied along special chains, which connect all participants in the value-added chain“ (Bielecki, J., M. G. Desta, 2004, p. 6). In this context, the defining of electric power in the sense of Bulgarian legislation is of interest, where it is perceived as a product also according to art. 13, item 2, from the Law on Excises and Tax Warehouses, which is taxed with an excise, according to art. 2, item 3, from the same normative act (Law on Excises and Tax Warehouses, 2019).

In view of the lack of categorical arguments, which to define electric power as a product or service we can join the opinion of P. Pineau, who considers, that “energy and electric products have the peculiar characteristic, which classifies them as products and as services as well” (Pineau, 2004, Vol. 12: Iss. 2, Article 9), since production and consumption of electric power, on the one hand, coincide in time and this gives it the characteristic of a service, and on the other hand, electric power is a product of electricity production, which qualifies it as a merchandise. The fact should be taken into consideration here, that electricity supply on its side is defined as a public service from a general economic interest, such as the post, the railways etc. (Andreeva, 2012, p. 93), or these are services, which could be provided by the private sector, as well as jointly between the private sector and the state authorities of the separate states.

Consequently, we accept the concept for a specific differentiation of the merchandise “electric power” from the service “electric power”, based on its delivery at the desired by the customer time, place, quantity etc. characteristics, which is set in the conceptual realization for the distinction of the end product in components during the pricing.

On the grounds of the conducted theoretical survey, the following summaries can be deducted:

1. The electric power market can be constructed and functioning as a monopolistic or a competitive structure, characterized with many peculiarities and participants, not characteristic of other markets, at which not-differentiated products are offered, possessing specifics, inherent to merchandises as well as services.

2. Electric power is defined on one side as a service, since the production and consumption coincide in time, which imparts the characteristics of a service to it, and on the other side electric power is a result from electricity production and this defines it as a product.

After the clarification of theoretical formulations, connected with the essence and peculiarity of the electric power market and of the electric power as a product and service, the elaboration focuses on the assessment and analysis of the domestic customer satisfaction at the electric power market in Varna region.

2. Survey of consumer attitudes towards the satisfaction from the attendance and the quality of the provided by Energo-Pro Varna JSC services to domestic customers in the city of Varna.

In the contemporary dynamic and competitive environment, market surveys play an important role for the development of each market. They provide opportunities for research of the state of the electric power market, and the attitudes of electric power consumers. Market researches are one of the instruments, which could be used for obtaining of information, giving answers to questions, connected with the electric power market, with whose assistance satisfaction of all participants in this process to be reached, but mostly an increase of the living standard of the population, which is unthinkable without the availability of energy sources and a reliable access to them.

The questionnaire method will be used in the present work, for the electric power market survey in the city of Varna. The aim of the performed survey is, that the respondents' attitudes are examined and their opinions are analyzed, their attitude to the offered by Energo-Pro Varna JSC services and their probable preferences. The limitation for the city of Varna originates from the big range of the license territory of Electrodistribution North AD and Energo-Pro Sales AD, which has a size of approximately 30,000 sq. km and covers nine administrative regions in North-Eastern Bulgaria – Varna, Veliko Tarnovo, Gabrovo, Dobrich, Razgrad, Ruse, Silistra, Targovishte and Shumen.

The necessary empirical information is secured by means of a special organized survey of consumers at the territory of the city of Varna. An inquiry was performed among the adult population of the city of Varna during the period October 1st, 2019 – October 31st, 2019.

The questionnaire is divided into two main blocks. The first block has the aim to determine the degree of the overall satisfaction/dissatisfaction with the attendance and the quality of the offered by Energo-Pro Varna JSC services, the degree of acquaintance with the services, offered by Energo-Pro Varna JSC, the problems which electric power consumers – subscribers to Energo-Pro Varna JSC encounter at the territory of the city of Varna. The obtained results, grounded on the extracted information, will make possible the defining of conclusions and formulation of proposals and adequate recommendations for the quality management of operations in the process of customer service.

The second block is a demographic one. It has the aim of collecting general information about the respondents and tracing to what extent the studied indicators are bound with the demographic groups.

The survey was performed among 430 respondents from the city of Varna (see Table 1).

Table 1

Distribution of the respondents according to their age and gender

Age	Men	Women
18-29	39	39
30-39	39	39
40-49	47	47
50-59	38	38
60-69	30	30
70+	21	23

Two hundred and sixteen from them are women, and men – 214. They are proportionally distributed and are from five Varna sections: Odesos, Primorski, Mladost, Vladislav Varnenchik, Asparuhovo (see Table 2).

Table 2

Distribution of the respondents according to their age, gender, section

Section	Odesos		Primorski		Mladost		Asparuhovo		Vl. Varnenchik	
Gender/Age	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
18-29	8	8	9	9	9	9	6	6	6	7
30-39	8	8	9	9	9	9	7	8	7	7
40-49	9	9	10	10	11	11	7	8	8	8
50-59	9	9	8	8	9	9	6	6	5	6
60-69	8	8	7	7	6	7	4	5	4	5
70+	5	6	4	5	5	5	3	3	4	5
Total:	47	48	47	48	49	49	34	34	37	37

Their age is from 19 to 88 years. Different social groups were included: unemployed, housewives, students and retired people, as the number of employed persons dominates – 280, followed by retired persons – 86, unemployed – 23, housewives – 22 and students – 19 (see Table 3).

Table 3

Distribution of respondents according to social status

Unemployed	Housewife, Maternity	Retired person	Employed	Pupil/Student
7	5	-	47	18
4	6	1	70	-
3	7	3	77	1
5	3	4	63	-
2	1	36	22	-
2	-	42	1	-

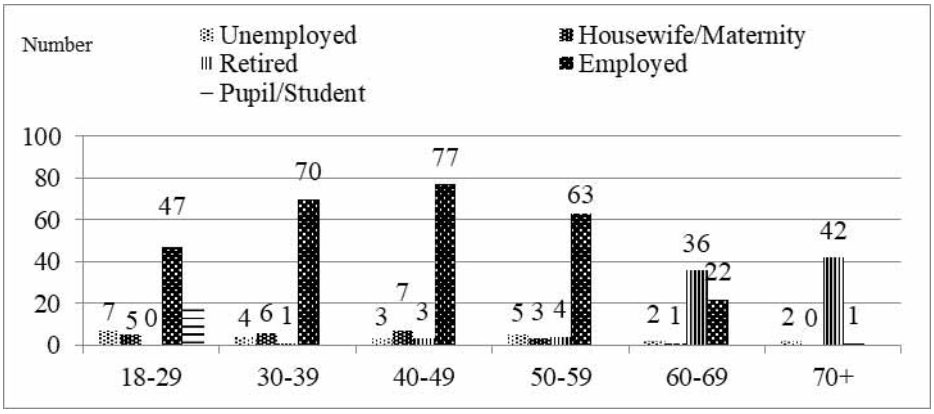
The participants in the survey were asked 50 questions, which they answered after being informed about the aims of the performed survey and gave their permission for usage of their personal data.

Like for any enterprise, the leading aim for Energo-Pro Varna JSC, besides the end financial results, is the increase of consumer trust and satisfaction by the merchandise and services offered, the minimizing of problems and defining of ways for their resolving with the assistance of an even broader in scope informing of consumers in relation to prices, terms, necessary documents, etc.

In the course of the survey, the social appurtenance of the different age groups is traced (see Figure 1). The biggest number is of the employed persons at the age of 40-49, and the smallest number is of the inquired persons aged over 70 years. The biggest number of unemployed is found in the group of 18 to 29 years old, and the least number of unemployed is between 60 and 69 years. The inquired students are between 18 and 29 years old, and housewives are from all age categories.

Figure 1

Distribution of the groups according to age groups and social appurtenance



The territorial location of the interviewed persons according to sections and their gender appurtenance are visualized in Figure 2. The biggest share amounting to 23% belongs to section Mladost, where the respondents are as follows: 49% men and 51% women. Ninety-five respondents were included in the survey for each of the sections Odesos and Primorski, including 51% women and 49% men. The participants in the survey in section Vladislav Varnenchik are 72, or 17% from the total number, from which 47% are men, and 53% women.

The least number of respondents were inquired in section Asparuhovo – 69 people, i.e. 16%, including 48% men and 52% women.

Figure 2

Distribution of the respondents according to geographic and gender indicators

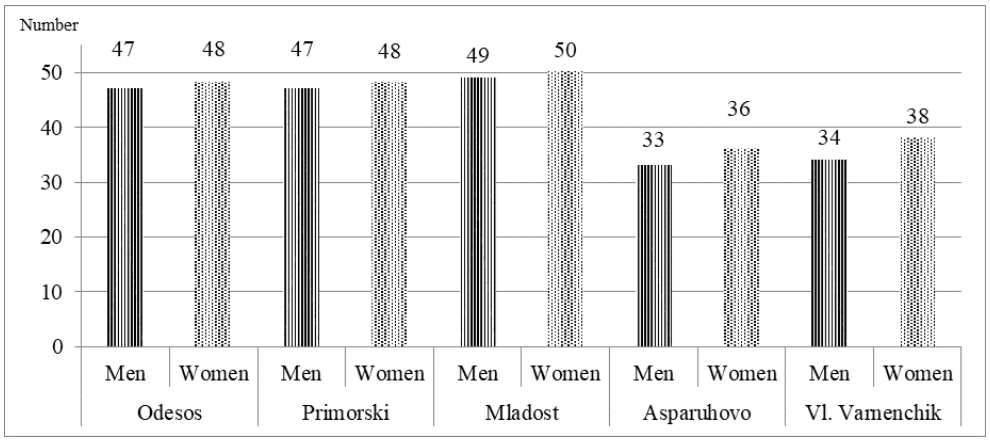
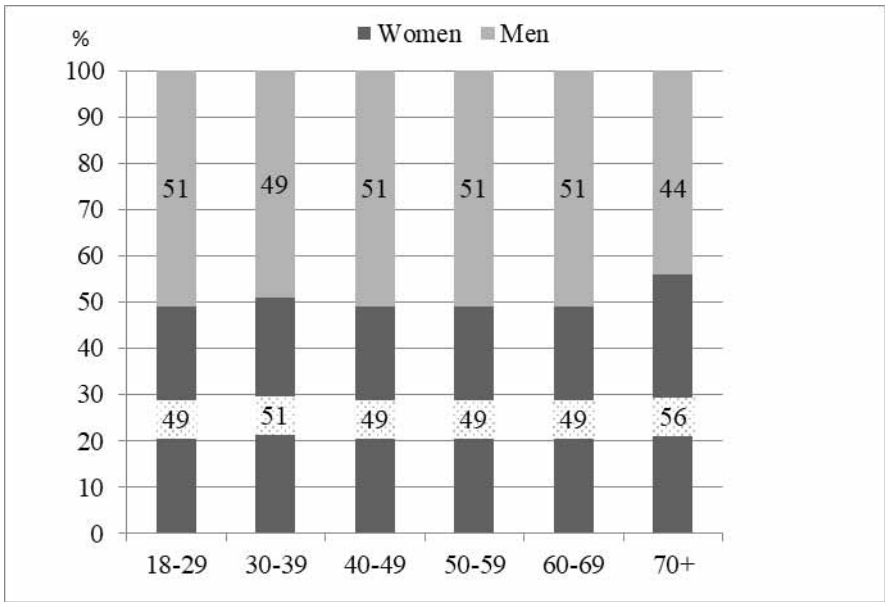


Figure 3

Structure of the respondents according to age and gender appurtenance



Fifty-one percent from the inquiry participants between 18 and 29 years old are men, and 49 – women. The situation within the borders of the ranges: 40-49, 50-59 and 60-69 years of age is analogous. From the interviewed aged 70+ 44% men and 56% women have participated in the survey. The ratio of the inquired persons aged 30-39 is different, where 49% are men, and 51% are women. The share of men in the total number of participants in

the survey is 49.8% and that of women – 50.2%, i.e. the distribution of men and women according to sections corresponds to the general trend in the survey.

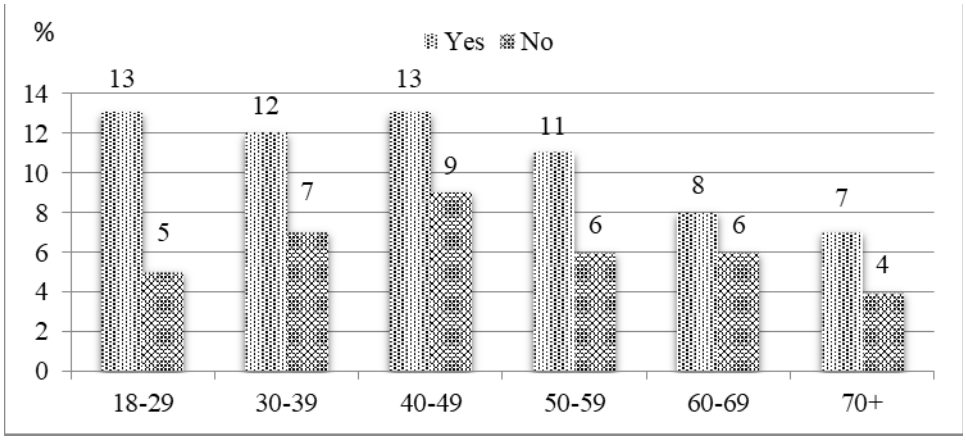
One of the most valuable achievements of each company is connected with the increase of confidence, which its customers have, regarding the provided products and services and their quality, as well as regarding the way, in which these products and services are offered, that is, the way of servicing, responsiveness, competence, etc. Confidence is "trust in somebody's good intentions, in his/her benevolence, in his/her prudence, conscientiousness, professionalism". In this sense, the higher degree of users' confidence in the company's products and services is a reflection and result from the high professional qualification of the company's employees, as well as from the company's policies, grounded as clearly defined principles.

In the concreteness of energy products and services, one of the most important indicators of domestic consumers' confidence is the security of the exact measurement of the consumed by them electric power, that is how much they believe, that the means for commercial measurement indicates exactly the amount, consumed by them (see Figure 4 and 5).

Figure 4 reveals the positive attitude and the degree of confidence of the different age groups.

Figure 4

Structure of the confidence/mistrust of different age groups in commercial measuring instruments



From 430 participants in the survey, 64% have declared, that they have confidence in the exactness of the measuring device, and the share of the ones, who have no confidence is 36%.

The respondents between 18 and 49 years are approximately 60% from the ones, having confidence in the reported consumption. A trend is observed, that with the increase of the age limit, the consumer confidence decreases. This could be explained with the declared by them incomes (see Table 4), since 64% from 60-69 years old persons and the ones aged

70+ have shared, that their incomes are up to 1000 BGN and less, whereas with 30-39 years old ones such incomes are 20%, with 40-49 years old persons – 22% and 50-59 years old ones – 31%.

Figure 5

Structure of the confidence/mistrust of the different age groups in the means for commercial measurement

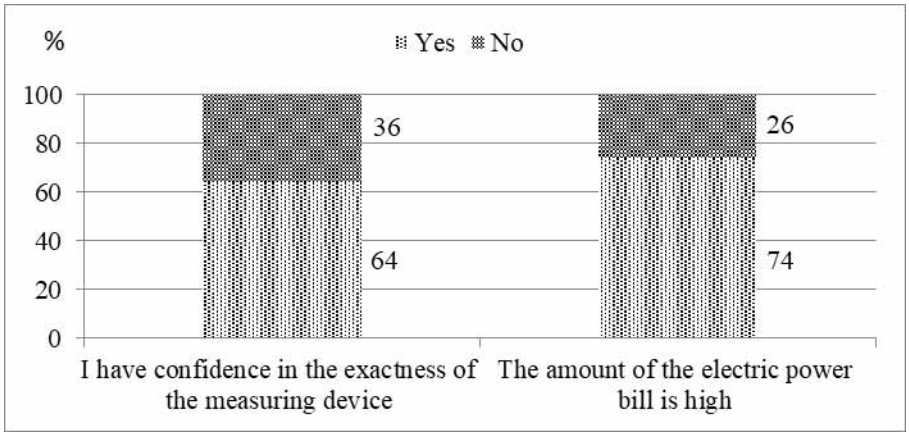


Table 4

Declared monthly income of the respondents

Monthly income	Number					
	18-29	30-39	40-49	50-59	60-69	70+
0 lv.	12	-	-	1	1	1
1001-1500 lv.	9	21	27	17	9	2
501-1000 lv.	12	9	8	11	25	21
0-500 lv.	-	-	2	2	3	7
1500 lv.+	22	27	27	19	6	3
No information	22	24	27	25	17	11

These conclusions are confirmed by the data, which Figure 6 reveals, namely the most unemployed housewives and retired persons do not declare confidence in the measuring device, and working persons' confidence is at higher levels.

Confidence is a long term investment, since the increase of customer loyalty is a key factor for strategic development in the conditions of a competitive environment. Practically such relations are built upon the fundamentals of a high degree of customer satisfaction, a result of the quality of products as well as services, included in the company's portfolio.

The confidence of domestic customers of Energo-Pro Varna JSC can be traced in Figure 7, by several indicators such as satisfaction with: the responsiveness of the employees of Energo-Pro Varna JSC towards the inquiries, the employees' competence towards the inquiries, the ways of communication with Energo-Pro Varna JSC, the quality of the services, connected with customer service.

Figure 6

Structure of the confidence/mistrust in the exactness of the means for commercial measurement of the different social groups

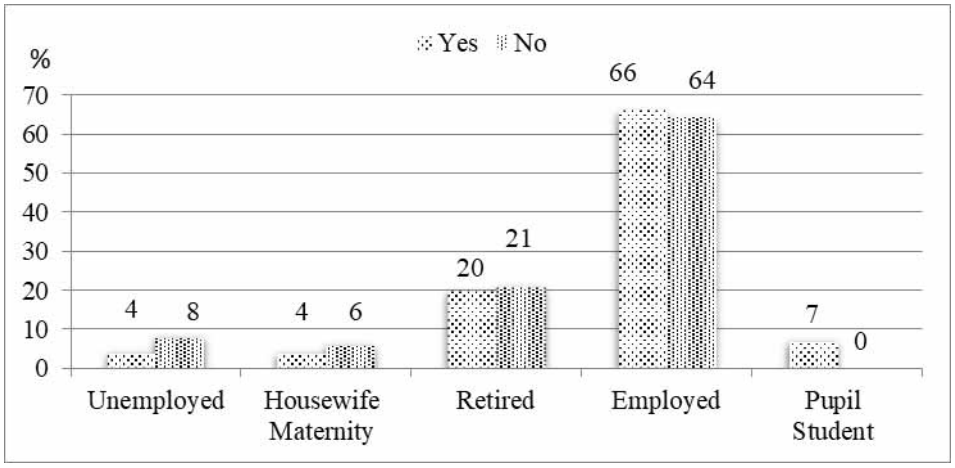
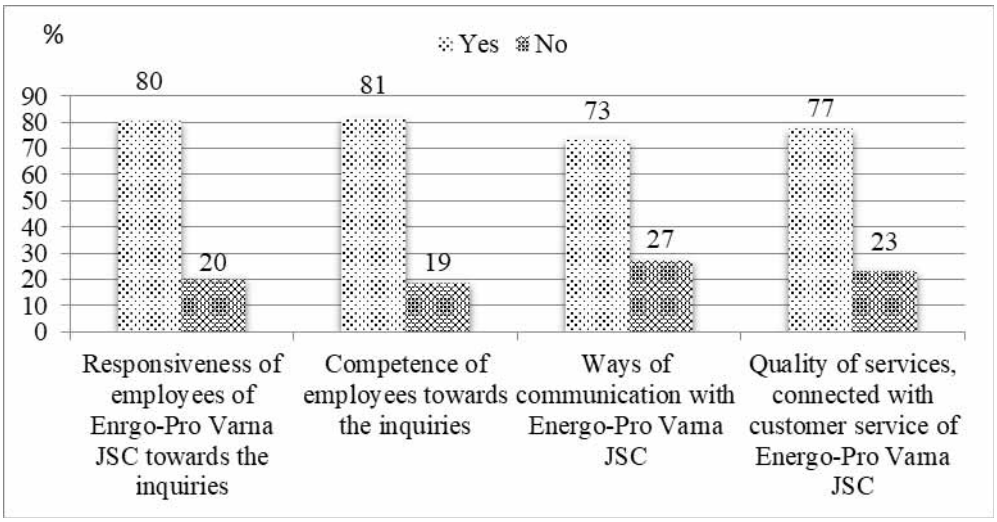


Figure 7

Structure of the satisfaction of domestic consumers – customers of Energo-Pro Varna JSC



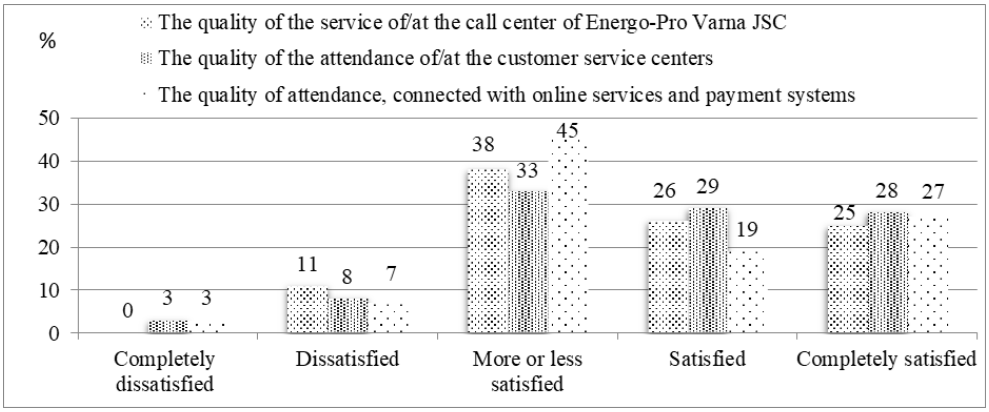
The percentage of consumers, who are satisfied with the employees' responsiveness is 80, the ones satisfied with employees' competence are 81%, and with the quality of services, connected with customer attendance are 77%.

In their greater part, domestic consumers are pleased with the way of offering of services and the communication channels to employees of the company.

The degrees of satisfaction have been studied of Energo-Pro Varna JSC customers, from the quality of the service (see Figure 8), which the call centre, the customer service centres and the online services, provided by the company offer.

Figure 8

Structure of the satisfaction degree of domestic consumers – customers of Energo-Pro Varna JSC

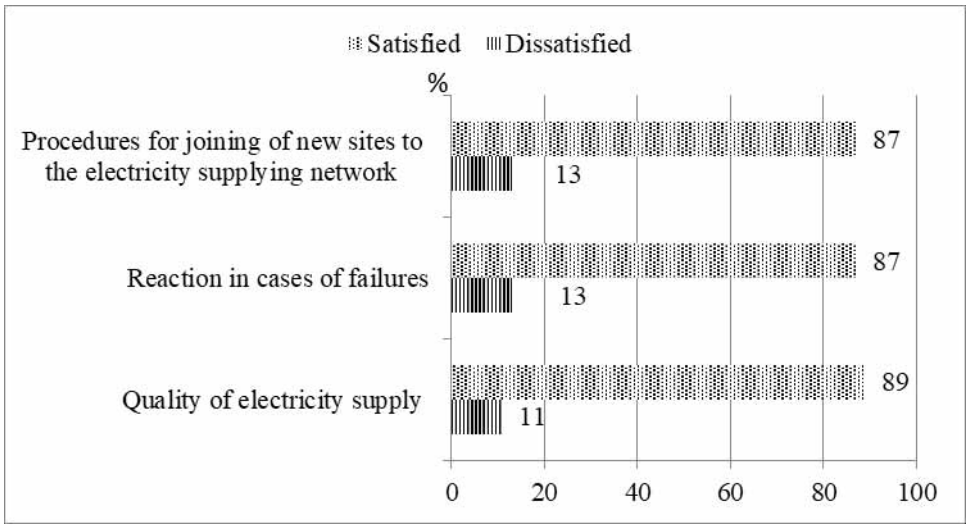


It is important that the fact is taken into consideration, that the share of the completely dissatisfied persons from these services is not more than 3%. This is a sign, that the company has fulfilled a big part of the expectations of its customers regarding the activities, connected with telephone contacts, "face to face" contacts and the online service. In this connection, it has to be noted, that the biggest satisfaction is the declared one in relation to the work, performed at the customer service centres – 28% are completely satisfied, 25% are completely satisfied with the service quality, offered by the call centre and 27% with the services, connected with online services and payment systems. Still, the biggest share of domestic consumers falls into the group of the more or less satisfied from 33 to 43%, which is an indicator, that the company has still got opportunities for improvement of its service, so that the number of the completely satisfied customers to be increased.

Satisfaction should be sought in connection with the quality of domestic consumers' electric power supply, the speed of reaction and the results in cases of failures, as well as during procedures of new subscribers' joining the electroconductive network (see Figure 9).

The satisfied with the quality of the electric power supply persons are 89% from the participants in the survey, and the dissatisfied ones are 11%. The relative share of customers, who are dissatisfied is considerable, which imposes that the company's priorities are reoriented to the undertaking of measures, aimed at the increase of the levels of satisfaction, as a consequence of the improvement of the quality parameters of the offered service.

Figure 9
Structure of domestic consumers' satisfaction degree – customers of Energo-Pro Varna JSC



The respondents express an analogous opinion in relation to the company's reactions in cases of emerged failure situations. Eighty-seven per cent are satisfied, and 13% are dissatisfied. Consequently, the obtained results are an indication of problems of Energo-Pro Varna JSC, having in mind the comparatively high level of dissatisfaction, which its customer mass declares.

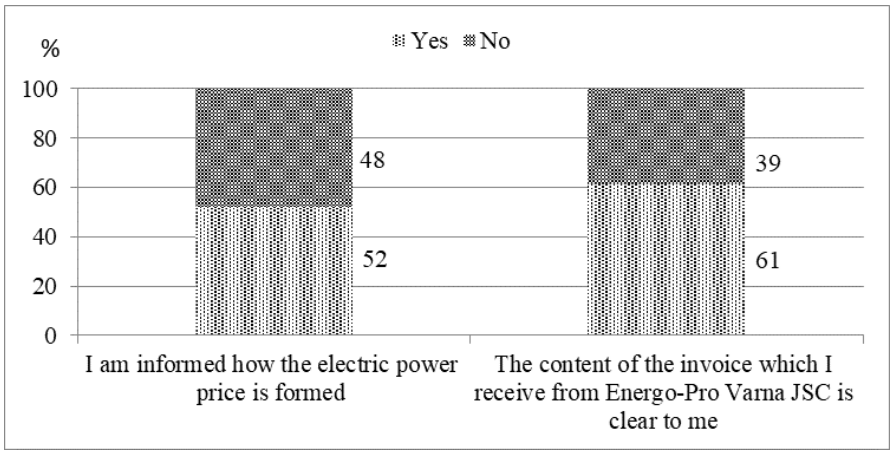
The performed survey provides the opportunity to trace the degree of satisfaction of Energo-Pro Varna JSC consumers with the realization of the procedures for the joining of new sites to the electroconducting network. An impression is made, that the most surveyed persons are satisfied, as the percentage ratio is again 87% satisfied and 13% dissatisfied. These results demonstrate, that the company has at its disposal a potential for the increase of the satisfaction, based upon the decrease of the documents turnover, the shortening of deadlines for investigation, documents processing, the preparation of statements, etc.

A bigger degree of customer confidence and satisfaction could be achieved not only by an improvement of the service quality of the rendered services, but by an increase of the consumer level of information – information regarding prices, services, normative basis, documents, etc. It is natural that each customer of Energo-Pro Varna JSC is interested mostly in the prices of electric power, at which he/she has to pay his/her consumption, but at the same time information is important what the monthly invoice includes for everyone of them. The company, as a conscientious supplier, has attached to its site a file with an explanation of a cash bill and an invoice for domestic customers, from where every consumer could get informed about everything, connected with the end amount of the invoice.

Questions have been asked in our inquiry, through which the degree of familiarity of the company's domestic customers to be determined, regarding the formation of electric power price and regarding the content of the received by them monthly invoices for the consumed by them electric power (see Figure 10).

Figure 10

Structure of the degree of domestic consumers' familiarity – customers of Energo-Pro Varna JSC

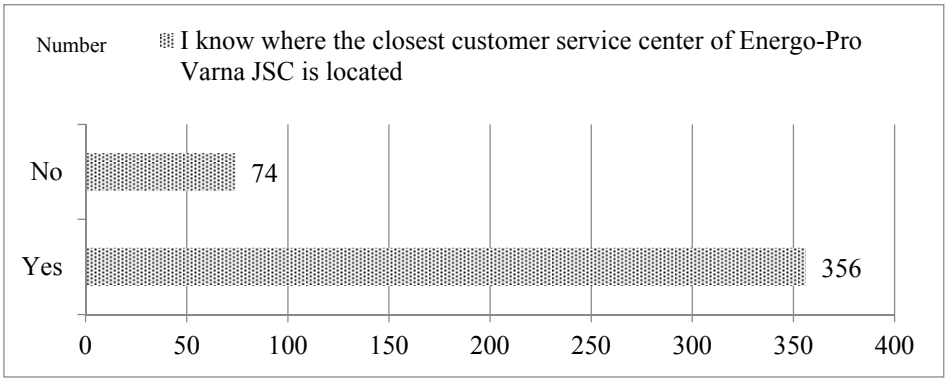


In their bigger part – 61% from the respondents have confirmed, that the content of the invoice which they receive from Energo-Pro Varna JSC is clear to them. The share of the persons, who are familiar with the methods for pricing of the electric power is bigger – 52%, and 48% need additional information, regarding the formation of the end prices.

The familiarity of consumers was studied in connection with their knowledge where the location of the closest customer service centre is (see Figure 11).

Figure 11

Familiarity with the location of the closest customer service centre

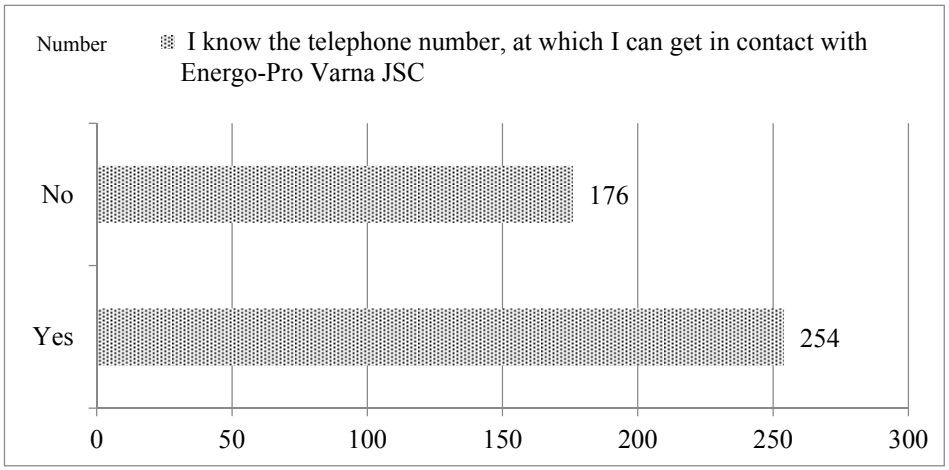


The results show, that 83% know the address at which they could be attended to by the employees of Energo-Pro Varna JSC and 17% only are not informed on this matter.

The answers to a question, connected with consumer knowledge regarding the telephone number, through which they could, at any moment, enter into contact with the company's call centre arises interest (see Figure 12).

Figure 12

Familiarity with the telephone number of Energo-Pro Varna JSC

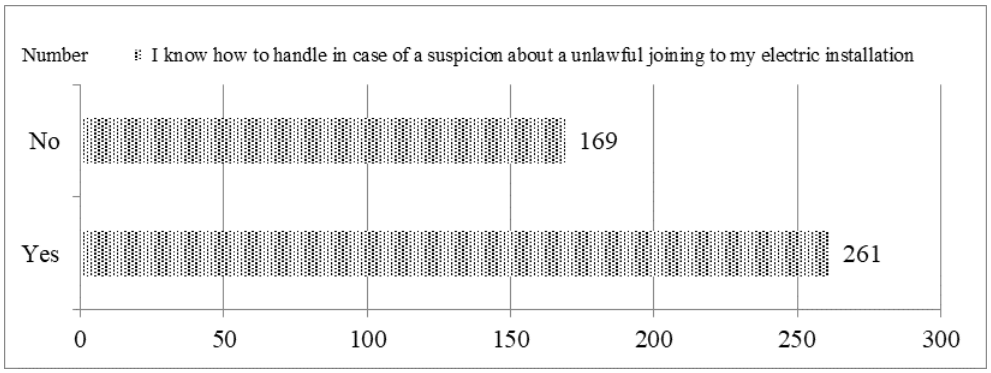


Just 59% dispose of this information, and the remaining 41% have no idea.

At the same time, the fact is intriguing, that 61% from the inquired persons know what steps they should take in case of suspicion of unlawful joining to their electric installation (see Figure 13).

Figure 13

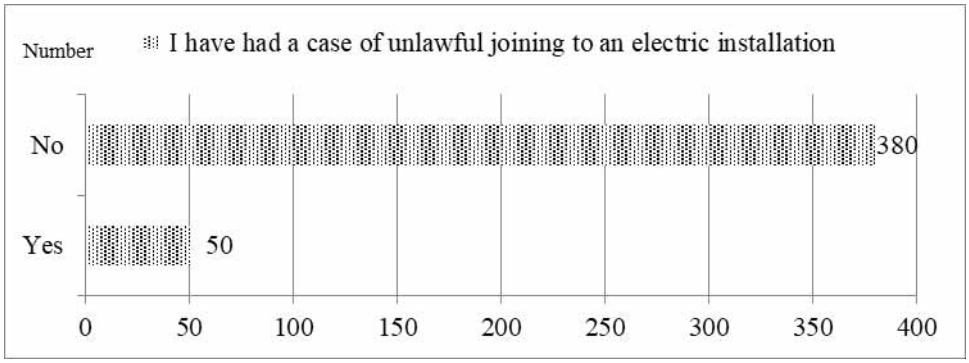
Familiarity at a suspicion of unlawful joining



At the same time, maybe as a result of the reliable familiarity, 12% only from the participants in the survey have encountered in reality an unlawful joining to their electric installation (see Figure 14).

Figure 14

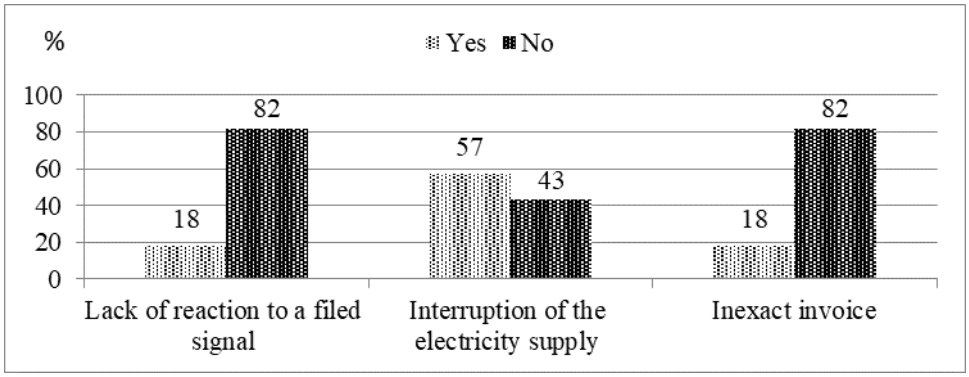
Problems with an unlawful joining to an electric installation



In the survey, the respondents had the opportunity to share, if they had encountered general problems such as energy supply interruption, an inexact invoice or a lack of reaction to a filed by them signal (see Figure 15).

Figure 15

Structure of the satisfaction degree of the domestic consumers – customers of Energo-Pro Varna JSC during the resolving of problems

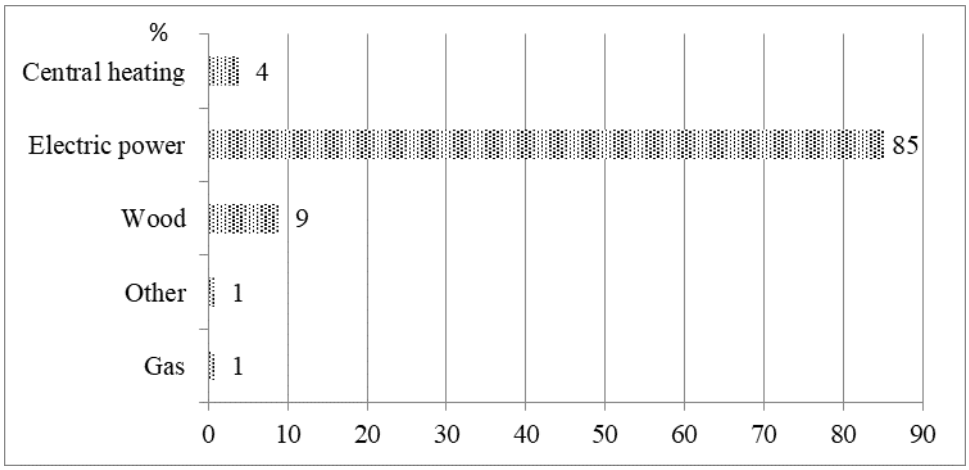


The results from the answers of the question, connected with the accuracy of the received by the domestic consumers' invoices are analogous.

We have established, during the performed survey the percentage ratios as well, of the used electric power sources for heating among the inquired persons for the needs of their households (see Figure 16).

Figure 16

Used source of heating energy



Electric power is a main source for heating, used by 85% of the respondents, 9% use wood, 4% central heating, and gas or some other source – 1%.

In this context, our survey divulges, that the homes of 51% from the participants are heat-isolated (see Figure 17), and 83% from them have a positive attitude to the purchase of energy-saving appliances for their households (see Figure 18).

Figure 17

Availability of heat isolation of the home

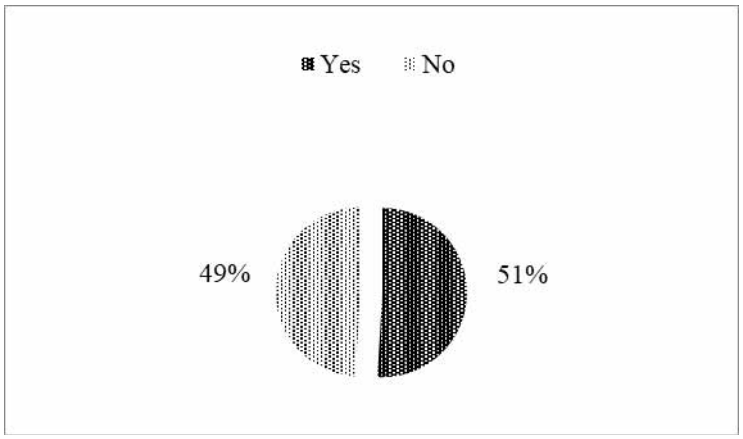
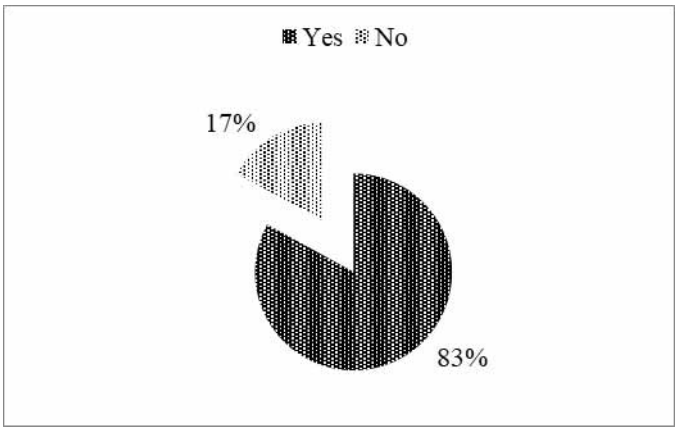


Figure 18

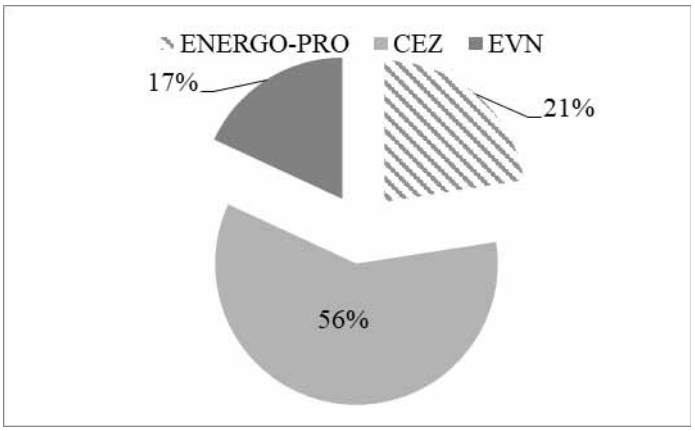
Attitude towards the purchase of energy saving appliances



The need to take such measures is judged by the Energy and Water Regulatory Commission (EWRC) report to the European Commission in 2019, which reflects the main causes of complaints (see Figure 19) (EWRC, 2019, pp. 54-55).

Figure 19

Share of complaints against main electricity companies in 2018



The largest number of received complaints was in connection to the quality of the low voltage electricity supplied in the connection point, frequent power cuts and damage to electrical appliances. The inspections done in this regard showed that complaints were justified in a high percentage of the cases, which resulted in giving mandatory guidelines to the companies to envisage and realize measures to enhance the quality within short terms.

Second is electric energy readings and billing. This includes allegations of inaccurate readings or lack of real readings, improper operation of clock switches, billing errors in the reported quantities and network services charging.

Other causes of complaints and signals were as follows:

- adjustments to consumed electricity amounts, but inaccurately metered and measured, stipulated in the electricity metering rules, but found by customers as illegal;
- commercial metering devices – doubts about the accuracy of the devices, the remote place of installation, non-communication of planned or periodic replacements, absence of witnesses in the statement of facts document upon replacement;
- suspension of the power supply without reason and without notice;
- connection agreements of new users' and generators' sites – delays, unfair terms, unlawfully terminated contracts;
- electricity supply contracts – delays and problems with supplier switching;
- condition of electrical equipment – bad condition, dangerous installations, violated servitudes of energy sites;
- misapplication of EWRC pricing decisions;
- free electricity market – delay or non-issuance of documents for switching supplier;
- purchase and acquisition of equipment under para.4 of EA;
- connection of power plants using renewable energy to the electricity distribution networks;
- purchase of the electricity generated by RES power plants or cogeneration.

The data only confirms the strategic importance of the electric power sector and its exclusive role in contemporary people's life, as well as the necessity of creating prerequisites and conditions for the optimal usage of the available resources, for minimizing the losses and directing the efforts to an even broader usage of alternative electricity sources with the aim of environment protection and decreasing the changes in climate.

On the basis of the performed survey, five main conclusions can be systematized:

1. The company's customers declare comparatively high confidence levels regrading one of the most significant aspects of the relations with the company, connected with the preciseness of the means for commercial measurement and the attitude towards the amount of electricity bills.
2. The customers of Energo-Pro Varna JSC give high ratings to indicators as satisfaction from: responsiveness of Energo-Pro Varna JSC employees towards inquiries, employees' competence towards inquiries, ways of communication with Energo-Pro Varna JSC, quality of the services, connected with attendance of customers.

3. The degrees of satisfaction of customers of Energo-Pro Varna JSC with the quality of the services which the call center, the customer service centers and the online services of the company offer.
4. The customers of Energo-Pro Varna JSC are satisfied regarding the quality of electricity supply, the speed of reaction and results in cases of failures, as well as in regard to the procedures for joining of new subscribers to the power supply network.
5. The degree of domestic customers' familiarity of the company is high, regarding the formation of the electric power price and regarding the content of the received by them monthly invoices for consumed electric power.

The quality parameters of the process of service correspond to the greatest degree with the level of satisfaction of the customers multitude and are a prerequisite for the formation of loyalty, based on mutual trust. In their context, an objective necessity is outlined from measurement of the levels of satisfaction with the provided attendance before all market agents, with scientifically grounded approaches, which to localize the problematic areas and to outline directions, on the one hand, for achieving a balance between quality of the offered service and the price, and on the other hand for increasing the economic efficiency of the company.

3. Possibilities for improvement of customer service of Energo-Pro Varna JSC

The possibilities for improvement of customer service by Energo-Pro Varna JSC at this stage can be localized in several main directions, connected with:

- Changes in the long-term strategy of the company regarding the attendance to customers on the phone, which can be redirected to external companies, specialized in this activity.
- Considering of an option for the introduction of chatbots in the online service to customers.
- During the quality management of the service to customers by Energo-Pro Varna JSC the so-called "seven instruments of quality" can be adapted and used.

The first opportunity, which Energo-Pro Varna JSC could consider, with the aim of improvement of the parameters of the offered service to end domestic customers is connected with the outsourcing of the performance of services which the call centre offers.

In the course of the analysis, the company should investigate the advantages of the self-dependent execution and of outsourcing in the field of services (see Table 5).

Contemporary centres for telephone services, called the call centre, offer a high-quality customer service in compliance with the standards of the best practices with the purpose of customers being better informed at maximum speed and competence, which on its part is a prerequisite for the creation of a reputation before the customers and recognition of the company as a partner, which creates additional benefits.

Table 5

Advantages of self-dependent execution and the outsourcing

Advantages of self-dependent execution (insourcing)	Advantages of outsourcing
• maintenance of key competences; • diminishing of operative costs; • limiting the indefiniteness (the high risk) during the provision of services; • usage of the superfluous available staff; • maintenance of the desired quality level of the service; • the prevention of an accord between service providers; • protection of the personnel against discharge (creation of workplaces); • protection of the property rights of unique projects (technologies); • increasing or maintenance of the company's size.	• concentration of the management staff on the main activity of the company; (key competences); • decrease of the costs for basic funds; • keeping of the obligations of service providers; • possibilities for the application of new technological or managerial solutions; • absence of adequate capacities for operations fulfillment; • securing of alternative service sources; • ignoring inadequate technological and management resources; • cooperation with suppliers.

Source: Adapted from Dyibskaya, et al, 2008, p. 515.

A fundamental factor, which imposes that Energo-Pro Varna JSC directs the focus of its attention to new technologies and more concretely to chatbots is the fact, that "the world has changed and more specifically the way, in which people communicate has changed" (Dale, 2016, pp. 811-817). In this regard, we should note, that changes in communication processes concern a number of spheres and precisely chatbots are one of the instruments which finds a broad application. They could serve a number of purposes, one of which we connect with customer service (Brandtzaeg, Følstad, 2017).

The characteristics of chatbots can be systematized and connected more concretely with the unlimited possibilities of this technology, which Energo-Pro Varna JSC could apply in view of the improvement of the online service, regarding the permeable capacity, a 24/7 working schedule, redirection of inquiries, absence of discrimination in the attitude towards the customer, etc. (see Table 6).

The key characteristics of chatbots practically underline their main advantages, which could contribute for the achievement of the necessary level of service at reasonable costs.

In the management of the service quality of the customers by Energo-Pro Varna JSC, some methods could be adapted and used, called "seven quality instruments" (Mirotin, L. B. et al., 2002, p.39): Control list, Stratification method, Histogram, Dispersing diagram, Ishikawa diagram, Pareto diagram and the Control chart.

The characteristics of these methods for quality control, as well as their advantages and disadvantages, can be systematized (see Table 7).

Table 6

Key characteristics of the Chatbots (CB)

Description
The CB relatively guarantees, that each potential customer, who has accomplished a contact with the information system, will be serviced, independently of his/her personal characteristics and the formulation of the inquiry.
The CB has an unlimited admission capacity and can simultaneously service a big number of customers and their simultaneous inquiries, which could have a different purpose. The CB can secure multilanguage maintenance and translation in real-time.
The chatbot can formulate brief and/or exhaustive answers, with options of additional information by customer demand.
The CB can work in a non-stop mode or 24 hours per day, 7 days per week and 365 days per year, which depends completely on the operation of the computer system, where the CB software is installed and its accessibility, including through computer networks.
The CB can redirect inquiries to a real company officer, at the emerging of an information vacuum, at the necessity of an assisting service by an employee, or at an express customer's demand.
The CB minimizes the risks, caused by incorrect interpretation or actuality of the information, as it has a continuous access to the constantly updated databases of the company.
The CB functions, as it stimulates the human communication, which is most frequently realized through applications for text messages, but it can be simultaneously equipped and even replaced by algorithms and technologies for the synthesizing of natural human speech, which is subject to an additional setting up by the user.

Source: Stojanov, 2019, pp. 10-16.

Table 7

Characteristics of popular control methods

Control methods	Advantages of the method	Disadvantages of the method
1. The control list is an instrument for the collection of data and automatic processing with the aim of facilitation of the further usage of information collection.	Easy usage, systematizing of data for work with other control instruments, application of a uniform form of registration.	Preliminary determined categories of data which raises the possibility that events are discovered, which have not entered in the control list.
2. The stratification is a method of grouping of data, which have to be observed. During the stratification, the data are grouped according to the conditions of their obtaining and processing of each group separately is applied.	Possibility of processing separately the respective data groups. This method identifies interrelations, which cannot be found during mutual work and simplifies the analysis.	Necessity from preliminary examination of the stratification factors. This is necessary due to the fact that the inaccurately selected factors make the obtaining of the desired result and arises the necessity of repeated collection of data about new factors.
3. The histogram is a tool for statistical presentation, which allows a visual assessment of the law of statistical distribution of controlled status data.	There is an upper and lower allowable limit, which changes the value of the observed parameter in regard to the tolerance field.	Often a deviation from the normal distribution is observed, which is an indication of irregularities in the process and the necessity of applying of management

Control methods	Advantages of the method	Disadvantages of the method
		influence.
4 The diagram of dispersing is an instrument which allows you to define the type and the close connection between the parameters of the corresponding variables.	The clarity and easiness of the assessment of the connection between both variables.	The necessity of inclusion in the diagram an assessment of those factors, for which the necessary information about the studied object is available, which will prevent the wrong usage of this instrument.
5. The Ishikawa diagram is a diagram for visualization of cause and effect, which is used for a graphical presentation of the connection between the problem which has to be resolved and the causes which influence its origin.	Graphical visualization of the connection between the problem which is examined and the reasons, concerning this problem; the ability to perform a meaningful analysis of the chain of interconnected causes, concerning the problem; Convenience and ease of usage and understanding, which do not demand highly qualified staff.	Difficulty with the correct identification of the connection between the studied problem and the reasons which raise it in cases of a complex problem.
6. The Pareto diagram is a graphical instrument, which allows that the efforts for problem resolving of the management are distributed, that the main reasons for deviations from the set parameters are identified; it demands the setting of priorities for actions, necessary for overcoming the problem and separation of the important factors from the insignificant ones.	Opportunity for focusing of the efforts and resources for the solving of considerable problems and easiness of application and understanding of its operating mechanism by the personnel.	The possibility of wrong determining of the problems significance. Due to inadequate taking into consideration of the price of the possible negative consequences.
7. The control diagram is a ribbon graphic, which shows the dynamics of the changes in metrics, as it thus controls the process and creates the opportunity for it to be influenced and to prevent the deviation from certain requirements.	An ability for a visual determination of the moment, in which the process changes, they create a basis for perfection of the processes, casual and systematic interruptions of the process are identified.	High demands for training and the necessity of work in real time.

Source: Adapted from Vinichenko, 2016, pp. 27-28.

1. *The control list*, having as an aim to assess the quality of the offered customer service of Energo-Pro Varna JSC, has to envisage several main items, to which attention should be paid, namely (Institute for Public Administration, 2014):

1) The answer will provide information to the ones, who will use the assessment results.

2) The answer will generate new information and insights.

3) The answer will provide important information for decision making about the policy.

4) The issue is entered consecutively and understandable in the assessment range and complies with the selected assessment criteria.

5) The answer will have influence over the policy.

6) Is it feasible from an operative point of view (budget, staff, time, experience) for the question to be answered?

7) Is it possible to answer the question in the present policy context? (maturity of the policy, the availability of data accessibility, sensitivity, etc.)?

Consequently, the control list is developed, taking into account the company's experience and its policy regarding the quality and the possibility additional information to be accumulated, useful in the course of expected changes.

2. *Stratification (differentiation) method for analysis of the tasks in field of quality.* With this method, the general data about the problem can be arranged (grouped) into subgroups, as all of the data are combined in separate subgroups, based on the available common characteristics (see Table 8).

Table 8

Stratification of the knowledge in subject areas

Strata	Knowledge type	Character of the analyzed information
1	knowledge about what	Strategic analysis: aims, designation and functions of the system. Conceptual analysis: main concepts, conceptual structure.
2	knowledge about who	Organizational analysis: human resources.
3	knowledge how	Functional analysis: hypotheses and models of decisions taken.
4	knowledge where	Space analysis: surrounding environment, equipment, communications.
5	knowledge when	Temporal analysis: time parameters and limitations.
6	knowledge why	Cause and effect analysis: formation of subsystems of explanations.
7	knowledge how much	Economic analysis: resources, expenses, profits, payments.

Source: Gavrilova, 2008, p. 19.

For the purposes of Energo-Pro Varna JSC the criteria for stratification of the data can be connected with the service processes, with the place of the service, with the employees who took part in the service rendering, with the type of the provided services, with the customers, etc.

3. *Histogram for quality assessment*. The histogram is the most basic graphics for the visualization of a random variable. It demonstrates the distribution of values, which the variable could take (Balabanov, T. et al., 2019, p. 56). Within the range of the services,

offered by Energo-Pro Varna JSC, on the abscissa, the number of services, which the company offers or elements of service with which customers are satisfied or dissatisfied can be ranked, and on the ordinate, the number or the relative share of the satisfied/dissatisfied customers can be systematized.

4. *Diagram of the dispersal for manifestation of the dependencies between quality parameters and key factors of the external environment.* In the practice, it is very often from significance, how two random variables influence each other. In such a situation the diagram of dispersal is one extremely useful instrument. Each point from the diagram reflects one observation of the two variables. One variable is given along the X-axis, and the other variable is given along the Y-axis (Balabanov et al., 2019, p. 58). In the sphere of provision of services a big number of examples for the availability of interrelation between two changeable variables exist, such as: a number of customers attended to and filed customer complaints, number of failure situations and the expenses for the rendering of the service, etc.

5. *The Ishikawa diagram* is a cause and effect diagram for systematizing of the factors and conditions influencing the quality level. The Ishikawa diagram is one of the classic examples of the most broadly distributed tool for the solving of managerial tasks, connected with management. The cause and effect diagram helps not only to eliminate a given problem, but to undertake actions for its removal. The cause-and-effect Ishikawa diagram - type "fishbone" is called so, because of its structure, which resembles a fishbone (Tsvetkov et al., 2017). For the purposes of Energo-Pro Varna JSC an Ishikawa diagram, which could be used could divide the reasons, which characterize the problem into 3 categories: effectiveness, efficiency and quality.

6. *Pareto diagram for analysis of the reasons for the established disadvantages.* By means of the Pareto analysis events such as defects, failures, or other indicators are categorized and demonstrated by accumulation, so that different classes and types of problems can be identified. Furthermore, the obtained results are graphically revealed, so that the most significant problems emerge from the general background (Rahnev, Dimitrov).

The problems, which could be an object of study by Energo-Pro Varna JSC by means of the Pareto diagram, should be connected with the quality of the personnel, with the quality of electricity supply to domestic customers, with the processes of joining of new subscribers to the electricity distributing network, with the procedures for satisfying the complaints and in order for them to be assessed with a definite value expression, which will form the foundation for the grouping of problems in a 80:20 ratio on the basis of the cumulative total percentage or will specify the problems with the biggest relative weight.

7. *Shewhart control chart (GOST).* In production and business processes management, the Shewhart control chart is viewed as an instrument for visualization of the changes of chosen parameters with the purpose of securing of the statistical quality control.

Energo-Pro Varna JSC can apply this model for quality control, as they form a certainty corridor, which they will define on the basis of risk of a mistake, as a result of a deviation from the established in the company standards in relation to the attendance to customers, and will trace in time how the number of customers attended to or the value of paid services

change. On the grounds of the measurement means for dispersion, the average standardized value will be determined by them, with which all units of the observed aggregation deviate from the average value and respectively, the smaller the deviation as an absolute value is, the more stable the observed aggregation of customers is (Zhelyazkova, Tokusheva, 2016, pp. 292-342).

The application of one complex approach during the contemplation of possibilities for improvement of the customer service is within the reach of the company's potential of Energo-Pro Varna JSC and it should be optimally used in view of the achievement of a balance between price and quality, in order for the share of satisfied customers to be increased.

Conclusion

The attention to the customer can contribute to an adequate company positioning at balanced expenses and accumulate a number of advantages, having a financial as well as social expression, as long as harmony is established in the relations between the partners. Energo-Pro Varna JSC takes strategic positions in the market segment, in which it functions, and having in mind the specifics of electric power as a product and service, as well as its significance for the economic stability and vitality of the society, the company generates a substantial potential, with which to influence constructively the development of the geographic areas, in which it develops its activity. Based on these circumstances we consider, that the changes which can really happen in the relations with the end domestic customers on the basis of contemporary approaches for quality management of the offered service and the application of modern information technologies, will increase customer satisfaction and will strengthen the market positions of the company.

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