

N. Kosar

PhD in Economics, Associate Professor

N. Kuzo

PhD in Economics, Associate Professor
Lviv Polytechnic National University

INCREASING THE LEVEL OF CUSTOMERS SERVICE AT SERVICE CENTRES AS A FACTOR OF MOBILE OPERATORS COMPETITIVE POSITION STRENGTHENING

Abstract. It has been established that despite the global trends, in Ukraine, the number of subscribers to services of mobile operators reduced. In order to strengthen the competitive position of mobile operators it is proposed to increase the level of the services provided in customer service centers, based on the evaluation of their current level. The research proved that special attention should be given firstly to the reduction of the waiting time of customers, to the increase of the speed of service provision as well as professionalism of the employees, providing consultation services.

Keywords: mobile communication, market of services, mobile connections, customer service centers, level of service.

Formulation of the problem. The modern stage of socio-economic development of any country is characterized by the growing importance of service industries in providing comfortable living conditions for the population. The share of services in the economies of developed countries is about 70 % and tends towards further growth [1]. Significant role in human life and the economy is played by communication services, including the critical importance of telecommunication services, especially telephone and mobile communications. The increasing complexity of customer requirements to the activities of mobile operators makes the market of these services continuously develop. Recently, however, mobile operators are faced with the decrease of the number of customers, hence the need to find areas where they can strengthen their competitive advantage in the market.

Analysis of recent research and publications. In [2] there are considered the

problems of customer service from the perspective of performing the major logistics functions by manufacturing enterprises. [3] presents different approaches to the definition of a service, its features and standards, directions of its improvement, but specificity of services provided by enterprises of different industries is not taken into account. A large number of publications are devoted to improving the quality of services in tourism [4, 5] and banking [6, 7]. However, the problems of the services provided by mobile operators remain beyond the attention of scholars. In [8, 9] the results of the research of the Ukrainian mobile communications market, consumer motivations at the choice of operators on it and the results of analyzing the competitiveness of services are presented. The choice of mobile operator and customer retention, besides the high quality and cost of communication services, are also influenced by the level of services in the customer service centers, it being also beyond the attention of researchers.

The purpose of the research is to study trends in the development of the market of mobile communications services, to determine the directions of increasing the level of customer service by service centers of mobile operators.

Materials and results. In modern conditions, mobile communications play an important role in the exchange of information between people and entities both within the country and globally. The cost of communication services, which in a foreign country can significantly grow or be free (when taking an incoming call or when communicating in Skype and social networks) is often a limiting

factor [10]. This choice is made by subscribers, who compare advantages and disadvantages of different types of communication.

The rapid development of mobile communication in Ukraine until recently was due to the global trend of growth and increase in the number of middle class people. This process and the successful marketing activity of mobile operators in Ukraine have contributed to this. However, the specific feature of this market is its significant dependence on world telecommunication standards and their development. All technologies in the field of mobile communication in Ukraine have been developed outside of Ukraine and implemented here with significant lag [11].

The current development of communication is determined by the presence of four generations (1G, 2G, 3G, 4G), the evolution of which has contributed to the introduction of new services that have radically influenced the demand for mobile services and its speed. At the same time, mobile communication (1G) was characterized only by the offer of voice calls to subscribers and the lack of the ability to call between different networks. Each new generation of mobile communication was associated with the further development of the Internet, the development of SMS and MMS services, a significant increase in the speed of information transmission, which greatly simplified communication between subscribers and provided them with the opportunity to receive additional functions: watching videos, playing games etc.

It is expected that 5G will contribute to satisfaction of fundamentally new market needs through the emergence of “smart” cities, remote surgery, cars without drivers, and significant improvement of online commerce. The speed of mobile communication will grow significantly. Today, engineers are already able to transfer information at a rate of 940 MB / s, and in a moving car – up to 150 MB / s. Equipment manufacturers are trying to implement the fifth generation of communication in a timely manner, in particular [12]:

- in South Korea, Samsung wants to launch a test 5G network prior to the 2018 Winter Olympics;
- Chinese manufacturer Huawei plans to expand the 5G network before the World Cup 2018.

Major mobile operators in Ukraine, including such companies as Lifecell, Huawei and Ericsson, have signed an agreement to promote 5G in Ukraine, which is a prerequisite that this generation of mobile communication will be introduced here synchronously with its launch on a global scale in 2019–2020 [13].

However, the acceleration of the scientific and technological progress leads to the fact that scientists are also developing 6 G and 7 G systems. It is planned that the 6 G system will provide ultra-fast Internet access; the data transfer rate will reach 10-11 Gbit. The 7G system is designed to provide uninterrupted wireless access to information anytime and anywhere with the best quality performance at high speed, increased bandwidth of communication networks and reduced cost [14].

The emergence of various mobile communication systems not only had a positive impact on living standards, satisfying various needs, but also affected the economies of particular countries and the world economy as a whole, as evidenced by the following data of secondary marketing information [15]:

- mobile communications provide contribution to the global economy at a rate of 3.6 % of total world GDP; investment in this sector in 2015 amounted to 336 billion dollars, in this area there appeared 10.5 million jobs;
- the emergence of additional bandwidths in the development of communications systems in the United States will contribute to the creation of 150 thousand jobs; and by 2021, it will supplement the budget by \$ 4.5 billion, through the tax system;
- mobile communication promotes active development of mobile advertising and changes organizational structures of many companies. In 2015 revenues from mobile advertising reached almost 24 billion dollars.

According to the predictions of experts, in 2019 mobile penetration worldwide will grow from 96.4 % to 125 % due to increased demand for smart phones and tablets, availability of several cards for subscribers to the Internet [16]. The number of mobile connections in the world will increase from 6.9 billion in 2014 to 9.5 billion in 2019.

Today, major operators in the mobile market of Ukraine are such companies as “Kyivstar”, Vodafone / MTS Ukraine and lifecell, which in total account for more than 97.5 % of the market.

Increasing the Level of Customers Service at Service Centres as a Factor...

As of April 2016, the number of subscribers of “Kyivstar” amounted to 25.3 million cards, of MTS Ukraine / Vodafone – to 20.7 million cards, of lifecell – to 9.7 million cards [17].

The first two mobile operators, which are leaders in the Ukrainian market, have gradually mastered various technologies, and at the time of creating Lifecell, SMS, MMS, the Internet and their various tariff features have already been tested and should only be copied. The company lifecell began to pay considerable attention to social work. Initially, it worked with social networks, helping subscribers with natural disasters.

Mobile communication leaders, in particular, such companies as Kyivstar, Vodafone / MTS Ukraine and lifecell, receive competitive advantages on the market first of all due to the wide availability of their services for subscribers and their proper service through the creation of appropriate centers in all regions of Ukraine.

Despite significant advantages and prospects, in 2016, the number of mobile subscribers in Ukraine declined because consumers began to use less mobile communication. The smaller number of subscribers uses several SIM-cards. In particular, this is due to the fact that fewer subscribers use several SIM-cards.

The number of subscribers of all mobile operators is shrinking. Particularly, at the beginning of 2016, the largest mobile operator “Kyivstar” observed decrease in the customer base, in the first quarter of 2016 – from 800 thousand to

25.3 million. However, the company Vodafone in the first quarter of 2016 reached a minor increase in the number of subscribers, it being 400 thousand (20.7 million SIM cards), which is partly due to the purchase of this operator's SIM cards for resale in Europe due to its profitable pricing policy in the field of international calls [18].

As a result of reduced incomes, the subscribers do not want to pay for services of two mobile operators, the prices of which increase slightly, when all services can be obtained from one operator. In particular, the mobile operator lifecell average subscriber’s check in the second quarter of 2016 increased by 11 % – to 38.2 UAH. By the results of the first quarter of 2016, the average subscriber’s check of “Kyivstar” increased by 16 % – to 41.7 UAH.

However, the rejection of the second SIM-card was caused not only by economic reasons, but also by the lack of memory.

Reduction of the number of mobile subscribers in Ukraine is confirmed by official statistics. According to the results of the second half of 2016, 56.7 million SIM-cards were used in Ukraine (Table 1), while for the same period in 2015 there were 60.7 million of them, that is, the decrease was 6.59 %.

To describe the trends that prevailed there were used linear, quadratic, and exponential functions. The highest coefficient of determination (0.875) was defined for the quadratic model. This model best describes the trend that prevailed. Table 2 shows the main results of this trend.

Table 1

The number of subscribers and profitability of mobile communication in Ukraine

Period	Number of mobile subscribers/ millions cards	Deviation (to the previous six months), %	Revenues from providing mobile services	
			Total mln. UAH	To population mln. UAH
1 st half of 2013	61.7	–	15268.9	12006.2
2 nd half of 2013	62.5	1.30	16136.9	12307.7
1 st half of 2014	59.4	-4.96	15147.6	11753.2
2 nd half of 2014	61.2	3.03	16418.7	11243
1 st half of 2015	61.7	0.82	16369	10674.8
2 nd half of 2015	60.7	-1.62	16836.6	10998
1 st half of 2016	56.7	-6.59	17174.5	10533.5
2 nd half of 2016	56.7	0.00	16902.6	10495.2

Compiled from [19]

Fig. 1 shows the trend models built for forecasting revenues from providing mobile communication services in Ukraine.

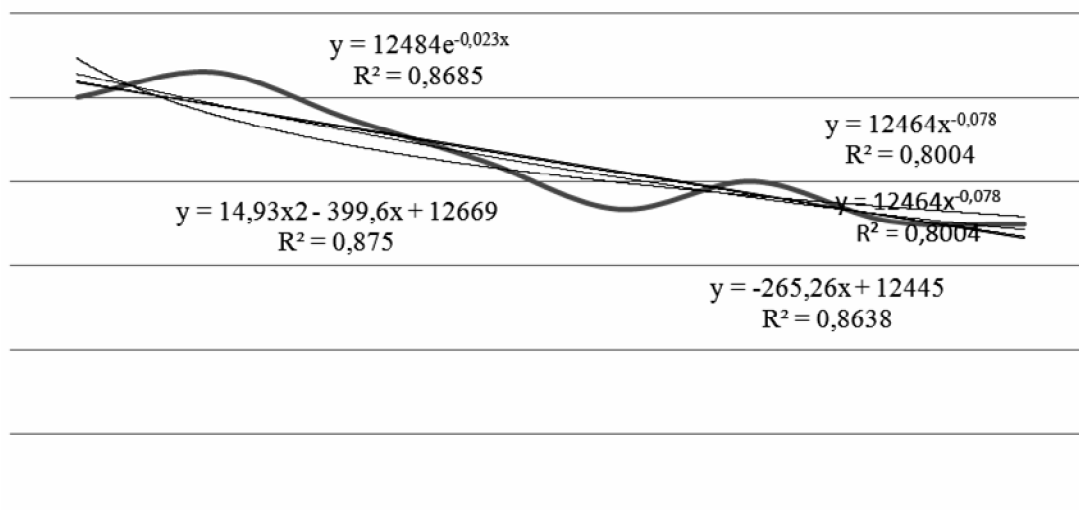


Fig. 1. Trend models for forecasting revenues from providing mobile communication services to the population (million UAH)

Note: Compiled by the authors

Table 2

Results of the quadratic trend study

Indexes	Quadratic model	Result
The coefficient of determination	0.875	There is a significant relationship
Criterion of Fisher	17.5	As the determined value of the Fisher's criterion is more than the critical value, it can be concluded that the relevant model is adequate
The critical value of the Fisher's criterion	5.79	
Forecast for the 1st half of 2017, mln. UAH.	10281.65	
Lower limit of the confidence interval for the forecast for the 1st half of 2017, mln. UAH.	9797.2	With a probability of 0.95 in the first half of 2017 the predicted value of revenues from mobile services will be from 9797.2 to 10766.1 million UAH.
Upper limit of the confidence interval for the forecast for the 1st half of 2017, mln. UAH.	10766.1	
Forecast for the 2nd half of 2017, mln. UAH.	10165.7	
Lower limit of the confidence interval for the forecast for the 2nd half of 2017, mln. UAH.	9681.25	With a probability of 0.95 in the second half of 2017 the predicted value of revenues from mobile services will be from 9 681.25 to 10 650.15 million UAH.
Upper limit of the confidence interval for the forecast for the 2nd half of 2017, mln. UAH.	10650.15	

Note: Compiled by the authors on the basis of the research conducted

So, given the results of the study, we can conclude that revenues from mobile services in the 1st and 2nd half of 2017 will be reduced provided that the trends in the market persist.

The number of SIM-cards in the mobile market of Ukraine continues to decline, despite the growing number of smartphones with support for two SIM-cards. Specifically, in the second quarter

of 2016 in the target market there were sold 1.1 million mobiles that are 43 % more than during the same period in 2015. Mobile phones with two SIM-cards account for 93 % of sales [18].

National Commission of Communications and Information is the regulator on the Ukrainian telecommunications market. Further reduction of the number of SIM-cards in the market was caused by its policies as well. In 2015 the National Commission for Communications Regulation has reduced the rate of access to networks of mobile and fixed operators from 0.36 UAH. to 0.23 UAH per minute. In the future there is a possibility of another reduction of this rate in order to reduce it to zero. This will allow subscribers not to block traffic within the networks of the main operators, they will be able to call any networks at no extra cost and they will simply not need the second SIM-card.

However, mobile operators do not reduce the price of calls in the network of competitors. In the “Kyivstar” network, in the “Calls +” tariff plan, a minute of talk with a subscriber of another network costs 0.6 UAH, the standard cost of talking to other numbers in the lifecell is 50 kopecks per minute. Cheaper minutes to other networks need to be purchased separately (10 UAH for 50 minutes).

Another reason for the decrease in the number of SIM-cards is the active use by subscribers of Internet services, through which people can communicate without restrictions.

Overcoming the negative effects of reduced demand in the mobile communication market of Ukraine provides for its further development through the introduction of innovative technologies of future generations while simultaneously optimizing the pricing policy by operators and increasing service quality in customer service centers to meet the requirements of different market segments.

Increasing the level of service of subscribers in service centers of mobile operators will allow them to keep existing customers and attract new ones. Today, almost 50 % of all claims and claims of clients concern the services provided.

To develop substantiated recommendations for improving the level of customer service in service centers, it is necessary to analyze its existing level. For such an analysis, we use the methods of determining the relative competitiveness assessment for individual indicators, presented in [20] and expert assessments. According to [21], depending on the specificity and subject of the study and the method used to handle the

expert data, estimates may have different measurement scale: from 0 to 1, from 0 to 10, and from 0 to 100. There is no fundamental difference in these scales, the choice of that or the other is largely determined by the convenience of obtaining and processing evaluations, as well as the choice of the researcher.

The research was conducted for consumers, for whom personal service in mobile communication is important, first of all, they are senior citizens and persons for whom it is important to have a personal contact with the manager.

To conduct the research, there is used the qualitative evaluation scale, which is presented in Table 3.

Table 3

The service quality evaluation scale

Service quality	Points
High level	50
Sufficient level	40
Average level	30
Low level	20
Very low level	10

Note: developed by the authors

The choice of the evaluation scale is due to the sufficient differentiation of the ratings and the convenience of processing the results.

We determine the level of service at the service centers of the mobile operator of “Kyivstar”. To evaluate, we will use specifications and their basic values given in Table 4.

Table 4

Specifications for determining the customer service level in “Kyivstar” service centers

No	Specifications for determining the quality of service	Basic score
1	Service waiting time, min.	5
2	Consultation expertise, points	50
3	Assessment of customer needs satisfaction, points	50
4	Ability of quick self-service, points	50
5	Wide range of optional accessories or services, points	50
6	Politeness of personnel, points	50
7	Competence of personnel, points	50

Note: developed by the authors

In order to receive the ratings, we monitored customer service at the Kyivstar service centers during December 2016 – January 2017 and March – April 2017. The results of the survey were summarized by means of methods of processing expert assessments.

A random sample was used for the study, the size of which was determined by the formula given in [22]. The observation was carried out on 68

people, the errors made in the results, obtained during the formation of the sample, amounted to 0.05. In this case, the maximum value of the dispersion of 0.25 is taken into consideration. The reliability of the research results is 0.90.

Let's compare the obtained characteristics as a result of observing the level of service in three Kyivstar service and sales centers in the city of Lviv and the base values (Table 5).

Table 5

**Results of customer service survey
in Kyivstar service and sales centers in the city of Lviv**

No	Specifications for determination of the level of service	Average value	Baseline value	The coefficient of variation, %	Relative evaluation
1	The waiting time for service, min.	10.00	5	29.75	0.500
2	Consultation expertise, points	40.12	50	12.28	0.802
3	Assessment of customer needs satisfaction, points	36.18	50	17.21	0.724
4	Ability of quickly self-service, points	37.88	50	13.35	0.758
5	Wide range of optional accessories or services, points	40.53	50	11.58	0.811
6	Politeness of personnel, points	39.82	50	14.34	0.796
7	Competence of personnel, points	40.74	50	14.16	0.815

Note: developed by the authors

According to the calculated data, we can make the following conclusions:

- the level of the service provided is above the baseline, if all relative ratings are greater than 1;
- the level of the service provided is basic, if all relative assessment is equal to 1;
- the level of the service provided is below the baseline, if all the relative ratings are less than 1.

So, given all the relative ratings obtained are less than 1, it can be concluded that the level of services provided at the service and sales centers of “Kyivstar”, which have been observed, requires significant improvement.

The greatest improvement is the reduction in customer waiting time. It is necessary to improve the possibility of quick service and professional advice of staff that will significantly increase the number of re-purchases. It is also important to constantly increase the competence of the staff.

An increase in the level of service in mobile service providers’ customer service centers can be achieved by the following measures:

- continuous training of employees as to studying the needs of clients and maximizing their satisfaction;

- specialization of personnel in the sale of certain products and services;

- improvement of the system of personnel motivation for achievement of high performance.

Improvement of the final results of the staff of the customer service centers can be achieved through the proper system of their motivation using the following elements: a 2 % bonus based on the sales volume; a system of points that will allow the employees to form their own social package; allowances for seniority (5 % increase to the received points for each year of work). This will facilitate simultaneous implementation of the elements of internal marketing in the mobile communication service and sales centers and will encourage its staff to work more efficiently.

Conclusions. Despite the fact that in the world there is a forecast for the increase of the level of penetration of mobile communication on a global scale to 125 % in 2019, in Ukraine during the last year the number of cards that subscribers have reduced.

The growth of prices for mobile communications, the active use of the Internet for

communication between subscribers, has led to the fact that lately the incomes of mobile operators are increasing, but the number of SIM-cards is decreasing. This affects the number of subscribers of mobile operators.

Today, the main operators in the Ukrainian mobile communications market are companies such as Kyivstar, Vodafone / MTS Ukraine and lifecell, whose market share is 97.5 %. These mobile operators create subscriber service centers to maintain appropriate positions. In order to maintain existing customers and attract new ones, it is recommended to increase the level of service in such centers based on the assessment of the existing level.

In the future, it is advisable to conduct research on the needs of mobile operators' clients with the collection of primary marketing information and, on this basis, develop standards for their servicing at relevant service centers, bringing this information to the clients themselves.

References

1. Yuriy, Yu. M. (2010). *Rol' ta znachennia sfery posluh v ekonomitsi derzhavy [The role and importance of the service sector in the economy]*. Retrieved from http://www.rusnauka.com/34_NIEK_2010/Economics/75523.doc.htm. [in Ukrainian].
2. Chukhraj, N. I. (2006). *Lohistychne obsluhovuvannia [Logistics service]*. Lviv: NU "Lvivska politekhnika". [in Ukrainian].
3. Lahuta, Ya. M. & Koval'chuk, O. A. (2015). *Improving the customer service company*. Visnyk ZhDTU "Ekonomichni nauky". [Bulletin ZSTU "Economics"], 4(74), 130–138. [in Ukrainian].
4. Nezveschuk-Kohut, T.S. (2015). *Problemy ta napriamy pidvyschennia efektyvnosti upravlinnia iakistiu obsluhovuvannia na turystychnykh pidpriemstvakh [Problems and efficiency rise trends of quality management services at tourism sector enterprises]*. *Efektivna ekonomika [Effective economy]*, 4. Retrieved from <http://www.economy.nayka.com.ua/?op=1&z=3995> [in Ukrainian].
5. Kozlov's'kyj, Ye. V. (2014). *Kul'tura obsluhovuvannia ta zakhyt prav spozhyvachiv u sferi turyzmu [Culture of service and consumer protection in the tourism sector]*. *Pytannia kul'turolohii: Zbirnyk naukovykh prats' Kyivs'koho natsional'noho universytetu kul'tury i mystetstv. [Issues of Cultural Studies: Proceedings of the Kyiv National University of Culture and Arts]*, 30. Retrieved from <http://knukim.edu.ua/wp-content/uploads/2016/06/111.pdf>. [in Ukrainian].
6. Biloshapka, V. S. & Korchan, A. V. (2013). *Bazovi osnovy protsesu rozrobky i vprovadzhennia standartiv iakosti obsluhovuvannia kliientiv banku [The basic foundations of developing and implementing quality standards for customer service bank]*. *Stratehiia rozvytku Ukrainy. Ekonomika, sotsiologhiia, pravo. [Strategy of Ukraine. Economics, sociology, law]*, 2. Retrieved from jrnل.nau.edu.ua/index.php/SR/article/download/6217/6936. [in Ukrainian].
7. Kubiv, S. I., Krykavskij, Ye. V. & Kosar, N. S. (2006). *Marketynhova kontseptsiiia formuvannia pryvablyvosti komertsijnoho banku [Marketing concept formation attractiveness of commercial banks]*. Lviv: NU "Lvivska politekhnika". [in Ukrainian].
8. Yaremenko, S. S. (2015). *Researching of the competitiveness of mobile communications. Yevropejs'kyj vektor ekonomichnoho rozvytku [The European vector of economic development]*, 1(18), 227–235. [in Ukrainian].
9. Hranaturov, V. M., Lytovchenko, I. V. & Korablinova, I. A. (2013). *Upravlinnia konkurentospromozhnistiu operatora telekomunikatsij [Management of competitive telecommunications operator]*. Kyiv: Kafedra. [in Ukrainian].
10. Priamukhina, N. V. (2013). *Place of communications services in the financial market of Ukraine. Innovatsijna ekonomika.. [Innovative Economy]*, 2 (40), 204–209. [in Ukrainian].
11. Mamchyn, R. O., Isakovych, I. I. & Markhevska, I. I. (2012). *Features of the development of the mobile market in Ukraine. IX Mizhnarodna naukovopraktychna konferentsiia "Marketynh ta lohistyka v systemi menedzhmentu". [Abstracts of Papers: Ninth International Scientific Conference "Marketing and logistics management system"]*. (pp. 267–269). Lviv: NU "Lvivska politekhnika". [in Ukrainian].
12. *Yak zv'iazok 5G zminyt' svit [How do connection 5G will change the world]*. internetua.com. Retrieved from <http://internetua.com/yak-zv-yazok-5G-zm-nit-sv-t>. [in Ukrainian].
13. *V Ukraini do 2020 roku z'iavyt'sia mobil'nyj zv'iazok 5G [Mobile communication 5G will be in Ukraine in 2020]*. ipress.ua. Retrieved from http://ipress.ua/news/v_ukraini_menshe_anizh_za_try_roky_zyavytsya_5g_190677.html. [in Ukrainian].

14. *Evolution of Mobile Communication from 1(G) to 4G, 5G, 6G, 7G ...* linkedin.com. Retrieved from <https://www.linkedin.com/pulse/evolution-mobile-communication-from-1g-4g-5g-6g-7g-pmp-cfps>
15. *Shyrokosmuhovi systemy bezdrotovoho dostupu: vid tekhniky do ekonomiky [Broadband wireless access systems from engineering to economics]*. portaltele.com.ua. Retrieved from <http://portaltele.com.ua/news/technology/shyrokosmugovi-sistemi-bezdrotovogo.html>. [in Ukrainian].
16. *Do 2019 roku pronyknennia mobil'noho zv'iazku v sviti dosiahne 125 % [Mobile penetration worldwide will reach 125 %in 2019]*. cikavosti.com. Retrieved from [http://cikavosti.com/do-2019-roku-proniknennya -mobilnogo-zv-yazku-v-sviti-dosyagne-125](http://cikavosti.com/do-2019-roku-proniknennya-mobilnogo-zv-yazku-v-sviti-dosyagne-125). [in Ukrainian].
17. *Kil'kist' abonentiv mobil'noho zv'iazku rizko zmenshylasia [The number of mobile subscribers has decreased dramatically]*. visnyk.lutsk.ua. Retrieved from <http://visnyk.lutsk.ua/news/ukraine/24184>. [in Ukrainian].
18. *Ukrayntsy postepenko otkazyvaiutsia ot lyshnykh SIM-kart [Gradually ukrainians refuse from extra SIM-cards]*. tc.ua. Retrieved from <http://www.tc.ua/news/ukrainsyi-postepenko-otkazyvayutsya-ot-lishnih-sim-kart>. [in Ukrainian].
19. *Informatsijne suspil'stvo [Information society]*. ukrstat.gov.ua. Retrieved from <http://www.ukrstat.gov.ua>. [in Ukrainian].
20. Illiashenko, S. M. (2005). *Marketynhova tovarna polityka [Marketing product policy]*. Sumy: VTD Universytets'ka knyha [in Ukrainian].
21. Holubkov, E. P. (2000). *Marketynhovye yssledovanyia: teoriya, metodolohyia y praktyka [Market Research: theory, methodology, practice]*. Moscow: "Fynpress". [in Russian].
22. Krykavskyj, Ye. V., Kosar, N. S., Mnykh, O. B. & Soroka, O. A. (2004). *Marketynhovi doslidzhennia [Market Research]*. Lviv: NU "Lvivska politekhnik", "Intelekt-Zakhid". [in Ukrainian].