

Supply Chain Management for Enhancing Telecommunications Company Customer Loyalty Index

Quang Dang Nguyen^{#1}, Khoa Van Nguyen^{#2}, Olga Kolosova^{‡3,*3}

[#]*Section of Post and Telecommunications, Faculty of Transport Economics, University of Transport and Communications, Hanoi, Vietnam*

[‡]*Department of Sociology and psychology of management, State University of Management, Moscow, Russian Federation*

^{*}*Russian State University named by A.N. Kosygina (Technology. Design. Art), Moscow, Russia*

¹ndquang@utc.edu.vn

²nvkhoa@utc.edu.vn

³oa_kolosova@guu.ru

Abstract—The purpose of the study is to compare the effectiveness of supply chain management for assessing telecommunications company customer loyalty index in Russia and Vietnam. The research methodology includes a qualitative and quantitative analysis of online survey data conducted by the call centers of telecommunications companies in Russia and Vietnam in order to identify factors determining customer loyalty for these companies. A comparative analysis of the customer loyalty assessment methods showed that the use of the most popular NPS method and the supply chain management for determining factors of customer loyalty as a multidimensional construct produces similar results; however, when repeating the study with other respondents, the NPS method results may differ due to the low stability of a single determinant. The practical significance of the research is the possibility of telecommunications companies to use the data obtained in order to increase customer loyalty and strengthen customer relationships by adjusting their marketing strategies. The development of new multidimensional customer loyalty concepts, as well as the improvement of the existing ones to be adapted to a number of foreign markets, can be a promising direction for applying the supply chain management in the telecommunications company customer loyalty index. According to the results of regression analysis between the satisfaction variable and supply chain management variables, it can be understood that the variables of delivery, information sharing and cost should be more considered, because they have a greater impact on customer loyalty index.

Keywords— customer loyalty, supply chain management, Net Promoter Score index, customer satisfaction, telecommunications industry, multidimensional customer.

1. Introduction

Supply Chain Management synchronizes the efforts of all parties-particularly suppliers, manufacturers, retailers, dealers, customers-involved in achieving customer's needs. Despite much research, the relationship between customer loyalty and the supply chain strategy remains insufficiently explored and understood by practitioners and academics, while the theme has been extensively developed within marketing literature. The telecommunications industry has been rapidly growing over recent years; in particular, this relates to the Internet and mobile services.

The growth of the average disposable personal income, the rapid expansion of the private economy sector and the growth of the young population (especially in developing countries) have led to a sharp increase in the demand for telecommunications services, both in cities and in rural areas. This trend is expected to continue, especially given the geographic expansion of networks, the range of services, and lower costs.

The telecommunication markets of Russia and Vietnam are considered highly competitive; they are characterized by a large number of subscribers and new network operators that constantly enter the market [1-3]. For example, in the near future, the demand for telecommunications services in rural areas will be determined by the quality of their provision. The majority of the population living in the countryside does not have the same access to telecommunications

services as people residing in large cities. However, along with the improvement of services associated with increased customer satisfaction and loyalty for telecommunications companies, the demand will rapidly grow in rural areas.

The Russian science of marketing defines a loyal customer as a consumer that purchases products or services from a certain company several times, participates in cross-selling while constantly interacting with the company, and has a tendency to increase consumption of services by this brand. This marketing phenomenon is defined as *behavioral loyalty* [4].

One of the first customer loyalty studies was conducted by George Brown. The editors of *Advertising Age* (a magazine devoted to advertising), who doubted the existence of consumer loyalty and considered it to be a figment of the imagination of marketers, proposed the research topic. Brown deduced the behavioral characteristics of customers from the perspective of loyalty by analyzing the sales of two brands - *A* and *B*. Brown's articles were published back in 1952. The study proved the existence of brand loyalty and its correlation with customer behavior [5].

However, at the moment there is a lack of research on the methods for assessing customer loyalty for telecommunications companies in Russia and Vietnam, which makes the research topic relevant.

2. Literature review

The theoretical framework of the research is based on the studies by both foreign [6-8] and domestic [4],[9] marketers. At the same time, in scientific literature, special attention is given to the factors determining customer loyalty [10-12], its assessment methods and research on their effectiveness [13-16]. Some studies are devoted to customer loyalty for foreign telecommunications companies [17-19], including the Russian [3],[20] and Vietnamese ones [21-24].

In scientific literature among foreign and domestic scientists that have been conducting marketing research since the introduction of the concepts of "customer loyalty" and "behavioral loyalty", various approaches to these phenomena and their determining factors have been formed.

In [25], in particular, defines behavioral loyalty as "a strong commitment to re-buy or re-patronise a preferred brand, product or service in the future, despite the influence and marketing efforts that can drive brand change. Meanwhile, behavioral loyalty is determined by the purchase intention, the

willingness to pay a premium price for the brand, and endorse the favorite brand with positive word-of-mouth (WOM).".

In [26] believe that customer loyalty is one of the main tools that provides long-term interaction with the consumer, establishes a certain relationship with the contact audience, thereby providing some kind of impact on the existing or potential client.

According to the Vietnamese researchers Nguyen et al. [27], the customer loyalty indicator allows determining whether a customer is ready to continue cooperation with the existing company and recommend its services to other customers.

Based on the review of customer loyalty assessment methods, [9] has distinguished empirical and mathematical methods: the first group of methods is used to assess the overall loyalty by measuring it, the second one involves an in-depth study of customer loyalty in a particular industry or company in order to improve the marketing strategy taking into account the level of loyalty.

The empirical method often includes descriptive statistics methods. The mathematical approach is based on various methods of mathematical statistics.

Having analyzed customer loyalty assessment methods described in scientific literature, [15], offered the following classification of the most famous ones:

- 1) needs-based segmentation; this is the most famous method, which suggests that customer loyalty can be estimated with numerical expressions;
- 2) traditional loyalty assessment method based on the concept of "intention to purchase" (the higher the intention, the more loyal the customer is);
- 3) conversion model TM. An interesting approach within the conversion loyalty model is the method proposed by David A. Aaker;
- 4) Loyalty assessment based on the customer commitment index (the NPS-method). According to [15], the number of companies assessing customer loyalty based on the NPS method is growing steadily. At the same time, Net Promoter Score is often the sum of the indices of various factors (indicators) multiplied by the corresponding parameters that reflect the significance of the indicator.

To determine customer loyalty factors, in particular customer satisfaction, a survey method based on the five-point SERVQUAL scale to measure customer service perception that consists of 20 items is also used [28]. Some researchers combine the perception items into five components: tangibles (material benefits from services); reliability (the reliability of the company); responsiveness (the quality of feedback); assurance (quality assurance), empathy (empathy for the client).

The information collected to assess customer loyalty

was processed with the use of mathematical statistics methods and statistical analysis software (for example, SPSS 16.0 software). Next, the reliability of the research scale was evaluated by calculating Cronbach's alpha coefficient [25]. In order to verify the reliability of the customer loyalty research in supply chain model, exploratory (research) factor analysis (EFA), regression analysis, and variance correlation analysis [19] can also be used.

2.2 Problem Statement

The literature review showed that the availability of a number of different approaches to assessing loyalty in marketing research requires a critical reflection on the supply chain presented, especially in the context of their use in the telecommunications industry.

There are different approaches to researching the quality of services and methods for assessing various indicators, including consumer loyalty in the telecommunications industry through the supply chain in different countries. As a rule, scientists use a ten-point NPS scale and the loyalty indicator for analysis, which explains the great number of identified shortcomings and gaps in such studies. It is also interesting to simultaneously study and compare consumer loyalty for two telecommunications companies in different countries. Therefore, in modern marketing research, the problem of studying and selecting effective unified methods for assessing customer loyalty in the context of their satisfaction becomes urgent. The use of the NPS-method for measuring customer loyalty and planning further marketing strategies cannot guarantee the high accuracy of the assessment in the near future and will isolate telecommunications companies from the realities of interacting with customers. A qualitative assessment of customer loyalty can be carried with the use of the adapted methods based on the existing ones.

The purpose of the study is to compare the effectiveness of methods for assessing telecommunications company customer loyalty index in Russia and Vietnam. The following tasks have been set in order to achieve the goal of the study:

- to reveal the theoretical and methodological background of the research on customer loyalty through the supply chain, including for the telecommunications services markets;
- to identify the impact of customer loyalty on the promotion of telecommunications services;
- to study customer loyalty assessment methods used in the telecommunications industry;

- to carry out a comparative analysis of methods for assessing customer loyalty for telecommunications companies in Russia and Vietnam.

3. Methods and materials

The supply chain management as the moderate in exploring the dimension of customer loyalty in the challenging supplier and customer context. The research methodology was selected based on the research purpose and objectives. The qualitative and quantitative methods were used in the study:

a) the qualitative study was carried out by collecting expert information related to telecommunications marketing in order to identify factors affecting customer satisfaction and loyalty (users of mobile operators). Preliminary studies were conducted based on this method in order to evaluate questionnaire questions by reviewing the experimental data. This approach was used to adjust and clarify the scope of the study on customer loyalty assessment methods;

b) the quantitative study involved collecting data from surveys consisting of closed-ended questions, as well as customer opinions on the quality of mobile services based on a ten-point scale. Descriptive statistics methods were used to process complete response data.

Most foreign [10],[11],[17] and Russian [4],[29] scientists agree that in the telecommunications industry, to effectively assess the multidimensional concept of consumer loyalty, it is reasonable to use three out of seven factors proposed by some researchers [14]:

- a) willingness to recommend company services (*intention*);
- b) willingness to pay more for the services (*opinions*);
- c) a low customer interest in the advantages of other brands (*emotions*).

The study is based on the online survey via mobile tools that was conducted by the call-centre operators of telecommunications companies. The study is focused on the statistical data from Russia and Vietnam. The countries have recently joined the WTO (Vietnam five years earlier than Russia) and, according to the organization requirements, telecommunications companies have followed a similar development path. Two large companies that have been on the market for a long time (Russian VimpelCom and Vietnamese Viettel) have been selected for the comparative analysis of customer loyalty assessment methods.

The research methodology includes a qualitative and quantitative analysis of online survey data conducted by the call centers of telecommunications companies in Russia and Vietnam in order to identify factors determining customer loyalty for these companies.

Two Russian and Vietnamese companies (VimpelCom

and Viettel, respectively) were selected for the study. The random sampling technique was used in order to conduct the questionnaire survey; there was no statistical dispersion of the general population and the respondents did not belong to any particular socio-economic group. The operators of call centers and feedback services of the telecommunications companies (VimpelCom and Viettel) randomly contacted the respondents through their mobile applications and asked to answer several questions, which included the information about the gender, age, number of additional operators used, and attitude to the company services.

At the same time, the survey of VimpelCom clients was conducted based on the most popular NPS method in Russia - the loyalty unit of the questionnaire contained only one closed-ended question: "Will you recommend VimpelCom to your friends and acquaintances?"; the respondents did not have only to answer, but also to give an assessment on a ten-point scale.

Next, according to the instructions to the NPS method compiled by [20], all respondents were divided into three groups by the assessments they gave: "promoters" (9-10), "neutrals" (7-8), and "critics" (1-6). The Net Promoter Score was defined as the difference between the number of "promoters" and "critics" expressed as unit fractions. At the same time, a higher indicator of customer loyalty for the company is ensured by a higher number of "promoters" and a low number of "critics". More positive reviews enter the market (the word-of-mouth model); thus, more potential customers choose this brand [30].

Three customer loyalty factors were determined for the Vietnamese company Viettel, namely intentions, opinions and emotions. Accordingly, the questionnaire contained three closed-ended questions from the loyalty unit:

- "I will continue using the services provided by the company in any case";
- "I will recommend the service provider";
- "Even if I am recommended another service provider, my preferences for the service provider will not change."

For the convenience of further analysis, all answers were integrated and the average values of indicators were calculated; the results were expressed as a percentage (fractions of a unit).

The demographic data of the sample by company are given in Table. 1.

Table 1. The demographic data

	VimpelCom (Russia)		Viettel (Vietnam)	
	Number of responden ts	%	Number of responden ts	%
Total number	363	100	337	100
Gender				
male	149	41	172	51
female	214	59	165	49
Age				
<18	62	17	34	10
18 – 21	98	27	64	19
22 – 25	105	29	108	32
26 – 29	69	19	84	25
>30	29	8	47	14
Number of mobile operators used by responden ts				
1	225	62	229	68
>1	138	38	108	32

4. Results

In the context of the growth of modern technologies, the development of the telecommunications industry (Internet and mobile services) is now becoming an important and indispensable factor of daily life. One of the most important ways to communicate with customers is using electronic tools in doing matters related to supply chain management. Implementation electronic supply chain management has different advantages for the companies and the customers. In the current study will be tried to examine the effect of electronic supply chain management on customer's loyalty.

Both Russia and Vietnam have recently introduced 3G and 4G Internet; nevertheless, they have demonstrated a significant growth in the telecommunications services sector over several years. After becoming WTO members (Russia in 2012 and Vietnam in 2007), the countries gained a lot advantages to stimulate their economy by creating new conditions for attracting significant foreign direct investment, including in the telecommunications industry. Accession to the WTO can be regarded as the beginning of a new comprehensive reform in the Russian and Vietnamese telecommunications industry.

At the same time, the widespread use of advanced technologies resulted in high competition in the

telecommunications industry of both countries, not only between domestic but also foreign companies. When a telecommunications company provides services that do not satisfy its customers and switching costs are lower than the cost of such services, the company loses its market share. The aforementioned problem often occurs in the mobile services industry, where there is fierce competition between both giant companies such as MTS, Megafon, Rostelecom, Vimpelcom (in Russia), and those that are partners, for example, VNPT - Vinaphone, MobiFone (in Vietnam).

According to GSMA Intelligence and Global Web Index [29-31], there are 5.19 billion mobile services users (the prevalence rate is 67%) and 4.54 billion Internet users (the prevalence rate is 59%) out of 7.75 billion people. The growth of the mobile telecommunications industry increased by 2.4% in 2020 compared to 2019, while the growth of the Internet sector was as much as 7% [32]. At the same time, in Russia, 237 million people out of 145.9 million are users of mobile services (the prevalence rate is 163%); this means that many of them use two or more mobile operators. There are 118 million Internet users in the country (the prevalence rate is 81%). In 2020, compared to 2019, both the mobile sector of the telecommunications market and the Internet sector in Russia fell by 3.9% and 0.4%, respectively [33]. As of 2019, the five largest telecommunications companies in Russia were MTS, MegaFon, Rostelecom, VimpelCom (Beeline) and T2 Mobile [34].

According to GSMA Intelligence and Global Web Index [31], Vietnam is one of the most important emerging markets in the ASEAN region characterized by a fast pace of economic development and consumer demand. As of 2020, the population of the country is 96.9 million people. The number of mobile users is 145.8 million and the prevalence rate is 150%, which, like in Russia, indicates simultaneous use of several operators by subscribers. The number of Internet users in Vietnam increased to 68.17 million by 2020. The prevalence rate of Internet services is still lower than in Russia (70%). However, in 2020 there was a growth in the telecommunications industry compared to 2019: the mobile sector grew by 1.9%; the Internet sector - by as much as 10% [31].

According to KPMG analysis and Capital IQ, in Vietnam, the telecommunications industry has a relatively small market share (2% of all transactions) [1]. The three largest Internet service providers (ISP) are VNPT, which controls 44.8% of the market, Viettel (35.7%) and private FPT (19.2%). Although

any company can legally become an Internet service provider, unofficial barriers do not allow new companies that do not have political leverage or economic influence to enter this market. In the mobile services sector, Viettel has 49.5% of users; MobiFone and Vinaphone rank second and third having 25% and 16% of users, respectively. Smaller companies that lack the infrastructure to provide quality service and coverage, such as Vietnamobile and Gmobile, are struggling to compete [35].

The results indicate that customer trust and customer satisfaction both are significant predictors of customer loyalty through the supply chain management. The survey results showed that the respondents aged 22–25 actively and regularly use mobile services (“surf” the Internet or make calls): 105 (29%) prefer VimpelCom and 108 (32%) are Viettel clients. Mobile services are rarely used by the respondents under 18 and over 30 (they use the Internet or call only to solve business issues), respectively, 62 (17%) and 29 (8%) - VimpelCom, 34 (10%) and 47 (14%) - Viettel.

The results of the analysis of the questionnaire and loyalty assessment are presented in Table 2 and Figure 2.

Table 2. Customer loyalty assessment

	VimpelCom (Russia) based on the NPS method	
	Number of respondents	% (in fractions of a unit)
Total number	363	1.0
The average level of "promoters"	244	0.67
The average level of "neutrals"	78	0.21
The average level of "critics"	41	0.11
Loyalty indicator		0.56
	Viettel (Vietnam) based on the three-factor concept of customer loyalty	
	Number of respondents	% (in fractions of a unit)
Total number	337	1.0
Intentions	274	0.812
Opinions	222	0.659
Emotions	110	0.326
Loyalty indicator		0.59

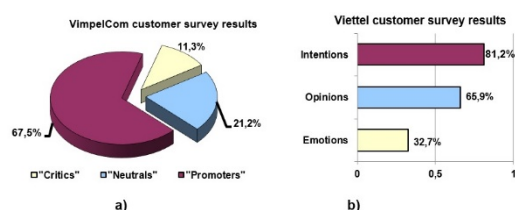


Figure 2. The assessment of the customer loyalty for: a) VimpelCom; b) Viettel

VimpelCom customer loyalty L_1 measured based on the NPS method shows the difference between the shares of “promoters” and “critics”, which is:

$$L_1 = 0.67 - 0.11 = 0.56.$$

Next, according to the formula proposed by Reznik and Vlaskina (2019), let us measure the customer loyalty for Viettel L_2 .

$$L_x = (k_1 \cdot b_1 + k_2 \cdot b_2 + \dots + k_n \cdot b_n) / k$$

To simplify the calculation of the general indicator of customer loyalty, let us assume that each factor in the three-dimensional concept is equivalent to the other two and its weight is 0.33 (in total, three factors will be equal to 1). The respondent can affirmatively answer to the first question and negatively to the following two (for example, the client is firmly confident in the company, but does not have money to pay a higher price for its services, or the client can be easily convinced by competitors).

Viettel customer loyalty L_2 is:

$$L_2 = (274 * 0.33 + 222 * 0.33 + 110 * 0.33) / 337 = 0.59.$$

The analysis of statistical and empirical data from the telecommunications industry in Russia and Vietnam showed that it is preferable to use the method of determining factors of the customer loyalty as a multidimensional construct for a more accurate customer loyalty assessment. Despite a rather high average level of “promoters”, the loyalty for the Russian company VimpelCom was lower (0.56) compared to the Vietnamese company Viettel (0.59). The results can be a consequence of the current stagflation in the telecommunications services market in Russia, as well as the inaccuracy of the NPS method in comparison with the multidimensional construct method. However, the loyalty level for both companies is above 0.5, which determines their high market positions.

5. Discussion

The exponential growth of mobile telecommunication service market in context of cellular service users has heightened the need for investigation of customer satisfaction, trust, and

switching cost to model customer loyalty. Additionally, the competitive mobile telecommunication service market is heading for maturity stage; where a cellular phone service firm not only has to satisfy its customers better with a competitive advantage as well as it has to retain its customers. In [19] pay attention to customer satisfaction when evaluating the loyalty of consumers of telecommunications services. In particular, based on the results of their empirical study, they note that “customer satisfaction positively affects their loyalty”.

When exploring various scientific approaches to the definition of “consumer loyalty,” [3], who studies the features of evaluating customer loyalty for telecommunications companies based on the example of the Russian company MegaFon, argues that “for decades, the telecommunications industry has relied on a simple business model: creation of the largest network and consumption-based charging. However, against the background of the industry changes, telecommunications companies are forced to take a fresh look at business; today, customer satisfaction and loyalty are becoming increasingly important. That is why the calculation of the LTV indicator is coming to the fore” [3]. Thus, according to Vakin [3], LTV is a key parameter that shows how much profit one client can bring for the period of using the services of the company. Based on the LTV growth rate, the financial stability and prospects of the mobile operator can be judged” [3].

We agree with Vakin [3] that it is important to consider the period of using services to assess the financial stability of a telecommunications company; we believe that shifting focus to the profit factor in the study on customer loyalty is not effective as this leads to excessive complication of the concept of loyalty and, accordingly, distortion of the assessment.

When exploring various scientific approaches to the definition of “consumer loyalty”, [4] notes the research by [36], who consider the cognitive, affective, and conative components as factors forming the so-called relative attitude, which later becomes repeat patronage. Transformation of the mutual relationship between the client and the company into repeat patronage requires the impact of social standards and situational indicators. According to [36], loyalty is the interdependence of two phenomena: “the relationship between the customer and the company” and “repeat patronage”. The scientists also developed a grid model of complex loyalty, which includes the following categories: *true loyalty* (absolute loyalty), *latent loyalty* (hidden loyalty), *spurious loyalty* (false loyalty), and *no loyalty* (lack of loyalty).

At the same time, [29] came to the conclusion that the theoretical complication of the customer loyalty concept does not correspond to the results of empirical research described in the scientific literature.

In [8], who founded the NPS methodology, criticizes customer loyalty assessment that is based on consumer satisfaction metrics obtained through conducting traditional “questionnaires”. He argues that they all do not allow “measuring the pulse” of consumers and evaluating how happy they are [8]. As a result, in 2003, Reichheld introduced a simple method for assessing customer loyalty based on a single indicator - willingness to recommend goods or services to other consumers. At the same time, [5] does not share the position of [36] and notes that marketing researchers have criticized the simplification of the concept to the NPS consisting of the willingness criterion to recommend products to other consumers. In fact, Reichheld’s theory was actually refuted in 2007 by an independent study. The two-year restudy on the Reichheld’s analysis conducted by other researchers based on a survey of consumer attitudes towards the 21st brand of companies operating in different industries showed that the intention to recommend the brand is not statistically significant for predicting consumer behavior [5].

The Russian researchers, [20], conducted their own research based on the NPS method and noted its significant shortcomings (sampling design, the narrowness of the method, low stability of the indicator based on one subjective assessment). At the same time, they discovered and emphasized the advantages of the method: survey simplicity (loyalty assessment based on one question), minimal cost, and easy data processing.

6. Conclusions

Customer Loyalty and Supply Chain Management is the result of years of work by the authors on different projects concerning the overlapping areas of supply chains, logistics and marketing, drawing a connection between the literature to provide a holistic picture of the customer loyalty framework. The results of the present study provide additional information on the methods for assessing the loyalty of customers of telecommunications companies through supply chain strategies; the willingness to recommend a company which is directly related to the expected quality of services is a key indicator influencing other factors (willingness to pay a higher price and low sensitivity to the competitor offers), and accordingly, loyalty in general.

Based on the review of scientific sources, various qualitative and quantitative methods for assessing consumer loyalty were studied, namely the traditional

method that determines the “purchase intent”, the needs-based segmentation, the NPS method (Net Promoter Score), the WOM model (Word-of-Mouth), the Conversion Model TM, the method for determining factors of customer loyalty as a multidimensional construct, as well as the LTV method.

The analysis of the supply chain practices for assessing customer loyalty for telecommunications companies in Russia and Vietnam showed that the use of the most popular NPS method (Reichheld’s one-dimensional concept of loyalty) and the method for determining factors of customer loyalty as a multidimensional construct produces similar results; however, when repeating the study with other respondents, the NPS method results may differ due to the low stability of a single determinant. The results of the empirical study on the customer loyalty for telecommunications companies in Russia and Vietnam allowed us to conclude that “intention” (the expected quality of company services) is a variable that increases customer satisfaction and loyalty in the telecommunications industry of Russia and Vietnam. The analysis of the empirical data expands the idea of the customer loyalty for telecommunications companies in the countries considered.

The study also showed that the supply chain strategy factor (the willingness to pay a higher price for services) affects the overall customer loyalty indicator and mediates between the expected quality and customer satisfaction. The practical significance of the research is the possibility of telecommunications companies to use the data obtained in order to increase customer loyalty and strengthen customer relationships by adjusting their marketing strategies. Thus, customer satisfaction and the expected quality help telecommunications companies achieve customer loyalty.

The development of new multidimensional supply chain strategy, as well as the improvement of the existing ones to be adapted to a number of foreign markets, can be a promising direction for applying the results of the study on the telecommunications company customer loyalty index.

References

- [1] Cleine, W., Ai, N.C., & Stapley-Oh, R, Vietnam Market Entry – Make in Vietnam: 2019 and beyond, KPMG in Vietnam and Cambodia review, Hanoi, Vietnam, <https://assets.kpmg/content/dam/kpmg/vn/pdf/publication/2019/Make%20in%20Vietnam%202019.pdf>, Last access 2.08.2020.
- [2] Afanasiev, M., & Shash, N, “*Russian Federation cross-border investments and bank expansion*”,

- Public Administration Issues, Vol. 6, pp. 105-120, 2019.
- [3] Vakin, A. N., "Increasing customer loyalty for telecommunications companies in the digital age", Scientific Notes of Young Researchers, Vol. 4, pp. 62-73, 2019.
- [4] Kurochkina, A., "Consumer loyalty search: a review of approaches to the concept, metrics and factors", Economic relations, Vol. 9, No. 3, pp. 2001-2014, 2019.
- [5] Minin, A., Loyalty: an outdated concept or a working tool?, <https://marketing-course.ru/loyalnost-pokutateley/>, Last access 2.08.2020.
- [6] Aaker, D. A., *Building Strong Brands The Free Press*, New York, 1996.
- [7] Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E., "The American customer satisfaction index: nature, purpose, and findings", Journal of marketing, Vol 60, No. 4, pp. 7-18, 1996.
- [8] Reichheld, F. F., "The one number you need to grow", Harvard business review, Vol 82, No. 6, pp. 133-133, 2004.
- [9] Polzikova, N. S., "Customer loyalty: basic concepts, methodology, ways of developing loyalty", Economics and business: theory and practice, Vol. 2, pp. 61-63, 2017.
- [10] Deng, Z., Lu, Y., Wie, K.K., & Zhang, J., "Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China", International Journal of Information Management, Vol. 30, No. 4, pp. 289-300, 2010.
- [11] Qayyum, A., Ba Khang, D., & Krairit, D., "An analysis of the antecedents of loyalty and the moderating role of customer demographics in an emerging mobile phone industry", International Journal of Emerging Markets, 8(4), 373-391. Vol. 8, No. 4, pp. 373-391, 2013.
- [12] Picon, A., Castro, I., & Jose, L., "The relationship between satisfaction and loyalty: A mediator analysis", Journal of business research, Vol. 67, pp. 746-751, 2014.
- [13] Gera, R., "Modelling the service antecedents of favourable and unfavourable behaviour intentions in life insurance services in India: An SEM study", International Journal of Quality and Service Sciences, Vol. 3, pp. 225-242, 2011.
- [14] Rai, K. A., & Medha, S., "The Antecedents of Customer Loyalty: An Empirical Investigation in Life Insurance Context", Journal of Competitiveness, Vol. 5, pp. 139-163, 2013.
- [15] Velichko, N. Yu., & Bubenets, I. G., "Customer loyalty measurement in a competitive environment", Management and Economics in the 21st Century, Vol. 2, pp. 57-60, 2016.
- [16] Bondarenko, T., Borodin, A., Zholamanova, M., Panaedova, G., Belyanchikova, T., & Gurieva, L., "Investments to the petrochemical sector: the value of the competitiveness of petrochemical companies", Entrepreneurship and Sustainability Issues, Vol. 7, No. 3, pp. 2510-2525, 2020.
- [17] Lin, H. H., & Wang, Y. S., "An examination of the determinants of customer loyalty in mobile commerce contexts", Information & management, Vol. 43, No. 3, pp. 271-282, 2006.
- [18] Ali, A., "Service Quality and Customers' Satisfaction level in Telecommunication Sector: A Comparative Study of Kingdom of Saudi Arabia & India", International Journal of Applied Business and Economic Research, Vol. 15, No. 25, pp. 521-527, 2017.
- [19] Aslam, W., Arif, I., Farhat, K., & Khurshed, M., "The Role of Customer Trust, Service Quality and Value Dimensions in Determining Satisfaction and Loyalty: An Empirical Study of Mobile Telecommunication Industry in Pakistan", Market Trziste, Vol. 30, No. 2, pp. 177-194, 2018.
- [20] Sklyar, E. N., & Yashkina, P. V., "Consumer loyalty assessment in the telecommunications market", Scientific notes of the Orel State University of Economics and Trade, Vol. 1, pp. 17-26, 2011.
- [21] Ky, P. D. & Hung, B. N., "Researching the model of customer loyalty of mobile communication services in Vietnam", Post & Telecommunications & Information Technology, Vol. 2, No. 1, pp. 1-12, 2007.
- [22] Lien, N. Q., Li, L., & Gim, G. Y., "A Study On The Effect of Mobile Communication Service Quality On Customers Loyalty in Vietnam", Journal of Information Technology Services, Vol. 12, No. 3, pp. 55-71, 2013.
- [23] Hai, H. Th., Tan, Kh. S., & Yuen, Y. Y., "Factors influencing business of mobile telecommunication service providers in Vietnam", Management Science Letters, Vol. 8, pp. 393-404, 2018.
- [24] Thong, P. L., & Hao, N. T. T., "Cần Thơ customer loyalty for Vinaphone: time model", Cần Thơ University Journal, Vol. 33, pp. 58-64, 2014.
- [25] Hoang, D. P., "Explaining and Anticipating Customer Attitude Towards Brand Communication and Customer Loyalty: An Empirical Study in Vietnam's ATM Banking Service Context", International Econometric

- Conference of Vietnam. Springer, Cham, pp. 377-401.
- [26] Reznik, G. A., & Vlaskina, M. V, “*Customer loyalty as an indicator of the effectiveness of a company marketing strategy*”, Bulletin of the Eurasian Science, Vol. 1, No. 11, pp. 1-11, 2019.
- [27] Nguyen, H. T., Nguyen, H., Nguyen, N. D., & Phan, A. C, “*Determinants of customer satisfaction and loyalty in Vietnamese life-insurance setting*”, Sustainability, Vol 10, No. 4, pp. 1151, 2018.
- [28] Parasuraman, A., Zeithaml, V. A., & Berry, L. L, “*Servqual: A multiple-item scale for measuring consumer perc*”, Journal of retailing, Vol. 64, No. 1, pp. 12, 1988.
- [29] Muravskaya, S. A., Golovacheva, K. S., Smirnova, M. M., Alkanova, O. N., & Muravsky, D. V, “*Consumer loyalty management approaches: A 3D Perspective*”, Bulletin of St. Petersburg University. Management, Vol 18, No. 1, pp. 70-93, 2019.
- [30] Afanas'ev, M. P., & Shash, N. N, “*Russian Investments in European Countries: Current State and Future Prospects*”, Studies on Russian Economic Development, Vol. 31, No. 3, pp. 327-334, 2020.
- [31] Kemp, S, Digital 2020: Vietnam, Data Reportal reports, <https://datareportal.com/reports/digital-2020-vietnam>, Last access 10.08.2020.
- [32] Kemp, S, Digital 2020: Global Digital Yearbook, <https://datareportal.com/reports/digital-2020-global-digital-yearbook>, Last access 08.08.2020.
- [33] Kemp, S, Digital 2020: The Russian Federation, Data Reportal reports, <https://datareportal.com/reports/digital-2020-russian-federation>, Last access 08.08.2020.
- [34] CNews Analytics, Ranking: CNews Telecom 2019: Largest telecommunications companies in Russia, https://www.cnews.ru/reviews/telekom_2019/review_table/04045ab90cf58b11e187f328a33d6001bbfd09a8, Last access 10.08.2020.
- [35] Freedom House, Freedom on the Net 2018. <https://www.refworld.org/docid/5be16aeb3.html>, Last access 10.08.2020.
- [36] Dick, A. S., & Basu, K, “*Customer loyalty: Toward an integrated conceptual framework*”, Journal of Academy Marketing Science, Vol. 22, pp. 99-113, 1994.