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Methodology of the enterprise adaptation strategy determining

Abstract
This research paper reveals the step-by-step method of retail enterprises strategy adaptation determining. Alternatives of retail enterprise strategic goals achieving are substantiated in terms of adaptation to environmental factors effect for of retail trade enterprises, the purpose of which is survival; for enterprises that are interested in providing their sustainable position in the market; for enterprises that activities are focused on providing effective business development in the strategic perspective. Account that the critical limit of enterprise adaptive development corresponds to enterprise's strategic goal – survival providing under determining alternatives for retail enterprise strategic goals achieving in terms of adaptation to environmental factors. The main content characteristics of adaptation strategy main types are highlighted on the base of basics theory and methodology of enterprise adaptation strategic management generalization: preventive adaptation strategy, moderately preventive adaptation strategy, active adaptation strategy, moderately active adaptation strategy, passive adaptation strategy, moderately passive adaptation strategy. Trajectory concept was taken into account under retail enterprise adaptive potential level determining. Comprehensive assessment of adaptation potential was carried out according to the criteria of flexibility, mobility and stability. This assessment allows determining the enterprise readiness to successful implementation of adaptation strategy under dynamic changes, as well as assessing the effect degree of adaptation properties on the overall level of enterprise stability. The models' set is proposed for adaptation level of retail enterprise to the environmental factors action assessment. The "strategic adaptation space" matrix is proposed for enterprise adaptation strategy choice; it creates opportunity to combine the enterprise adaptive potential assessment and takes into account its ability to environmental factors action adapting. Retail enterprises positioning in the matrix field, according to adaptation potential assessment indices values and retail enterprise adaptation level to environmental factors action allows determining the optimal type of adaptation strategy for retail enterprises.

Keywords
strategy, adaptation, adaptive potential, adaptive opportunities, adaptability level, external environment, matrix, strategic adaptive spac

JEL: M21, L81

1 Statement of the problem

The current stage of economic development is accompanied by complex, multifaceted, multidirectional processes, including: economy globalization, new technological system formation, growing shortage of available resources, consumer demands and preferences changing. Empirical studies show important role of the trade industry operation efficiency in the sustainable economic

development of the country providing under economic system modern organization. Trade in general is considered as a channel for promoting products to consumers, as a special area of people activity of trade, goods purchase and sale implementation that are the trade essence (Chorna & Shumilo, 2015). The retail business operates successfully under the condition of dynamic interaction with the external environment. External environment separation leads to self-isolation with all the worst consequences, but external effects, "stimulants" can be such that it causes its disorganization. A weakened, disorganized enterprise reduces or loses the ability to withstand adverse external effects, and only those economic entities which are able to maintain controllability, potential and personnel, can survive (Vikhanskiy, 2014).

Recent economic development trends in Ukraine have been significantly complicated by economic and political conditions, national currency devaluation, instability and unpredictability of events in the country and especially in the retail segment. The consequences of these events effect on the population purchasing power reducing, which in turn effects on trade growth rate and changes in trends of retail trade enterprises development. Retail trade is the main indicator of the retail trade development. It is explained by the fact that the turnover indicator expresses the public recognition of the value and consumer value of the social product part which is directed to the consumption sphere. The retail trade dynamics shows the economic growth result in the trade sector and summarizes economic efficiency of retail trade enterprises adaptation processes to environmental conditions (Lepeiko & Kryvobok, 2015). During 2010 – 2018 periods the retail turnover of retail trade enterprises in Ukraine (table 1) increased on average by the presented in table 1 data.

TABLE 1 Retail turnover of retail trade enterprises in Ukraine for the period of 2010-2018

Period	Retail turnover of enterprises are engaged in retail trade of Ukraine, UAH mil.	Growth rate, %	Index of retail trade physical turnover, in comparative prices, %	Index of physical volume of enterprises retail turnover, in comparative prices, %	Inflation index
2010	274 599,60	–	107,60	110,10	109,10
2011	346 497,90	126,18	114,70	113,20	104,60
2012	404 862,60	116,84	115,90	112,30	99,80
2013	429 242,30	106,02	109,50	106,10	100,50
2014[1]	437 175,00	101,85	91,40	90,00	124,90
2015[1]	477,966,60	109,33	79,30	80,20	143,30
2016[1]	546 699,20	114,38	104,30	104,50	112,40
2017[1]	587,784,50	107,52	106,50	106,00	113,70
2018[1]	667 044,30	113,48	105,60	104,50	109,80
2019[1]	733,172,96	109,91	110,30	111,40	104,10

Source: compiled according to official data of the State Statistics Service of Ukraine (State Statistics)[1] without taking into account the temporarily occupied territory of the Autonomous Republic of Crimea and the city of Sevastopol, and part of the temporarily occupied territories in Donetsk and Luhansk regions.

Table 2 data show that the volume of satisfied consumer demand in Ukraine increases every year. In 2010-2019, the average annual increasing in retail trade turnover in actual prices was 11,72%. According to (State Statistics) the retail trade turnover volume of retail trade enterprises in actual prices in 2019 amounted 733 172,96 UAH million; it is by 9,91% higher than in the previous period. Analysis of the index dynamics of retail trade physical turnover and retail trade in comparative prices shows its sensitivity to political, economic and social factors. Thus, the retail trade decreasing and retail trade turnover during the period of 2014-2015 is grounded by consumer goods prices rising (inflation index in 2015 was 43,3%, which was by 42,58% more than in 2013), national currency devaluation (the dollar exchange rate on 31.12.2013 was 7,99 UAH, 31.12.2015 –24,006 UAH), political instability in the country and as a result – population economic capacity index decreasing. However, despite the political and economic instability in the country, starting from 2016, retail enterprises are gradually increasing their growth rates (the index of physical volume of enterprises retail turnover showed increasing of 53,39% in 2019 compared to 2015), the inflation index decreased and in 2019 amounted to 4,1%.

Today, it is difficult to list the «hailstorm» of problems which Ukrainian retailers face. Retailers solve a single problem – the problem of timely adaptation to environmental conditions, which over time become more complicated and rely only on their own potential.

Improving the overall economic efficiency of retail trade enterprises operation, as one of the

possible strategies for their development, depends on the objectivity of adaptation potential analysis and its development effectiveness assessment. One of the central problems in strategic direction determining of retail enterprises adaptive management is its ability to adapt to a changing environment in timely manner. Since the enterprise adaptive potential formation is carried out under a wide range of environmental factors (Grosul, Kruglova, & Rachkovan, 2017a). General trends of retail trade development significantly effect on the decision's effectiveness regarding to adaptation to environmental conditions which are made by business owners (Teslenok, Korotunova & Kosenko, 2019).

2 Latest scientific progress and publications review

In the work (Melnik, 2016) it states that under the market economy the sales growth rate should be provided mainly not by scale effect, but by the adaptive capabilities development. The potential is one of the key elements of the enterprise development optimal strategy formation, however, its presence, as it is noted in the work (Krasnokutska, 2010) does not guarantee strong market position to the enterprise. Created opportunities must be implemented, namely transformed into concrete and measurable results for creating sustainable competitive advantages and consumers retention.

Any retail enterprises can provide the achievement of strategic guidelines only under timely adaptation of management system all elements in accordance with the external environment, untapped opportunities activation and hidden values. In the work (Ilyin, 2011) potential opportunities are considered as a set of factors that mainly positively affect the activities of the organization, alternatives that can be used by the enterprise for strategic goals (results) achieving. Grinchenko R.V. (2018) view should be taken into account, according to which the value creates the possibility of strategic goals translating into language that is understandable to the performers, shows the market how the enterprise differs from competitors, its key advantage. The result of balanced interaction of all elements of retail management systems is to increase the level of stability of the enterprise and its market value.

The main business processes (purchase, supply, storage, sale, after sales service) are elements of the process of the of the retail enterprise strategic goal achieving. This approach, as it is noted in the work (Olshanskiy, 2018) is grounded by the following: business processes of analytical and trade and technological nature dominate at trade enterprises, these business processes form retail trade enterprise «offer» value; each business process has its own well-established management system; the system's effectiveness is determined by the efficiency of a potential particular type (innovative, financial, trade, product, personnel, marketing, logistics, material and technical, intellectual and competence) which is involved in the particular business process implementation.

With taking it into account, each business process has its value (resources/costs) and is able to generate additional «consumer value» by identifying hidden adaptive opportunities. Namely, resources, added values and adaptive opportunities form the value of the retail enterprise in the market. In this case, the higher enterprise market value, accordingly, the stronger its competitive positions in the market, the greater the prospects for further development.

The enterprise development should be approached as a multidimensional concept and for its measurement it is necessary to use special variables of adaptability, competitive advantages and economic activity results. One of the important areas of additional «consumer value» generating is adaptive opportunities activation (Biloshkurska, 2010) under retail trade enterprise adaptation strategy formation. Under emphasizing the need to form an effective adaptation mechanism Stepanova Y. L. (2012) draws attention to the fact that there can be no single strategy and tactics for creating and maintaining competitiveness and adaptation of the enterprise, as each enterprise deals with different environmental effects, has its own unique internal environment and unique opportunities and resources, namely its unique adaptive potential. However, the adaptation mechanism, as well as the mechanism of competitiveness strategic and current planning, can be universal for any enterprise and should be developed.

The need to substantiate a quality system of adaptation at the retail enterprise is drawn to the work (Grinchenko, 2018), which states that the enterprise adaptation system should be based on the simplification of analysis system and assessment of their adaptation opportunities. Wrong approaches to analysis and assessment give incorrect results, which form enterprise adaptation inefficient system and the enterprise does not achieve its goals. Grosul V. A., Kruglova O. A., and Rachkovan O. D. (2017b) note that the enterprise adaptive opportunity is enterprise potential, which can be used for growth rates accelerating, new reserves searching, overcoming or simplifying the negative effects of the external environment on its activities. With taking into account the importance of adaptive opportunities for retail enterprises adaptive potential formation, the problem of determining their optimal list depending on the influence of internal and external factors arises.

As we can see, providing the successful development of retail enterprises is not possible without taking into account environmental factors and rapid adaptation to its changes. The retail enterprise adapts to the external environment through adaptation, and the result of such interaction is enterprise's competitiveness level increasing. Retail enterprise adaptation strategy formation is a complex and multifaceted problem that requires new solutions and causes discussions and differences in its solution.

The purpose and problem of research. The purpose and fundamentally important issue of scientific research is the of the algorithm substantiation of retail trade enterprises activities adaptation strategy forming today are key for the owners of retail trade enterprises, of studying the adaptation strategy types, identifying key criteria that must be taken into account in its formation.

3 Results of the research

Retail enterprises adaptation strategies development is an axiom in countries with developed market economies, as the skilful use of conceptual approaches to strategic management provides enterprises effectiveness. However, foreign scientists' developments cannot be fully applied under Ukrainian conditions, as they do not take into account Ukrainian enterprises development peculiarities. In this regard, it is necessary to form methodological approaches in the field of strategic management in relation to the Ukrainian economic conditions for the practical significance of scientific developments in the field of strategic management increasing (Ansoff, 2011). Their development should be based on appropriate theoretical and analytical platform. The methods' choice for determining the retail enterprise adaptation optimal strategy is substantiated by the ambiguity of «adaptation strategy» concept in the economic literature. We come to the conclusion that it is advisable to adhere to the position which is stated in the work (Orlova, 2014), according to which adaptation strategy from the standpoint of the enterprise's action plan and measures for its adaptation to environmental factors, as well as the balance of internal and external environment providing.

On the base of the adaptation strategy theory and methodology, we arise four research problems: (1) what are the alternatives of the retail enterprise in terms of adaptation to environmental factors for strategic goals achieving? (2) How can the critical limit of enterprise's adaptive development be described graphically? (3) What alternative types of adaptation strategies can a retailer use? (4) Does the chosen algorithm provide adaptation strategy optimal type determining? We have consistently studied approaches to the systematization of adaptation strategies, calculated the levels of adaptation opportunity and adaptability of retailers to environmental factors, carried out positioning of retail enterprises to the «strategic adaptation space» matrix for these problems solving.

In the process of compiling the algorithm for the adaptation strategy optimal type determining, we used the enterprise life cycle concept by Luo Q. and Li H. (2015), according to which it is determined that the strategic management process of retail trade enterprise adaptation is focused on achieving the following priority goals through constant adjustment (depending on the enterprise development stage), namely: survival providing (Q1), stable market position (Q2), stable growth and effective functioning in the strategic perspective (Q3). Figure 1 clearly illustrates this hypothesis.

According to figure 1 we take into account that

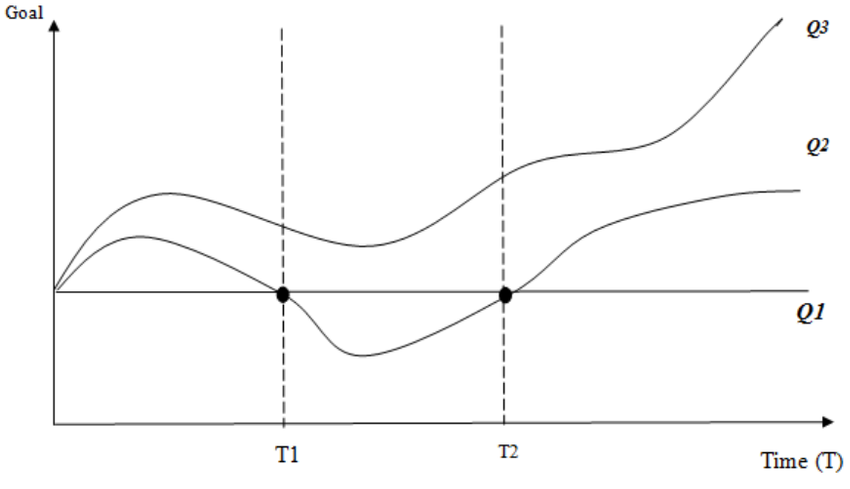


Figure 1 Alternatives of retail enterprise strategic goals achieving in terms of adaptation to environmental factors
Sourse: developed by the authors

the critical limit of enterprise adaptive development (Q1) corresponds to enterprise's strategic goal – survival providing under determining alternatives for retail enterprise strategic goals achieving in terms of adaptation to environmental factors. Under this condition, adaptation is the minimum-security threshold, and under falling the enterprise activities into the range of {T1; T2} in the next period, it will indicate imbalance between the enterprise and the external environment. If the retailer is able to adapt to market conditions in a timely manner, its level of adaptability will be fully in line with the objectives (Q2). Stable position maintaining, identified potential reserves effective use will help higher level goal achieving (Q3).

In addition, we take into account the main adaptation properties (flexibility, mobility, stability), which are proposed in the work under determining the strategy selection main stages (Vyshnevskaya, 2017).

The main content characteristics of the adaptation strategy main types are highlighted under summarizing the study (Grosul, Kruglova, & Rachkovan, 2017b, Dorofeeva, 2012; Orlova, 2014; Rachkovan, 2015) of the strategic management theory and methodology foundations formation of enterprise adaptation.

The preventive adaptation strategy defines adaptation measures that are preventive in nature to challenges that do not yet exist, but which are provided in the enterprise's forecasts of the manifestation possibility and environmental factors intensity on the enterprise's activities on the base of the business environment continuous monitoring. The enterprise is ready for innovations, including an organizational plan related to changes in the structure and management system. The adaptation process is systemic (Orlova, 2014; Rachkovan, 2015). Under active adaptation strategy it is understood that the enterprise is ready to adapt and adaptive change rate is quite high. There are developed adaptation principles, models that take into account both the nature of change and enterprise activity scale. The process of adaptation is systemic in nature; it covers all enterprise's areas and functional units. Under the passive adaptation strategy (Orlova, 2014; Rachkovan, 2015) it is understood that the enterprise is conservative (extensive development within the conquered niche), its behaviour according to many respects is inertial. At the same time, the enterprise does not take active steps in the market to expand the scope of activities, solves problems traditionally, maintains inefficient economic ties, does not search for new suppliers and consumers, applies cost pricing model, its actions are aimed at using existing opportunities in the environment. Within this strategy, the processes of functioning of the enterprise as a system lead to a simple reproduction of its basic economic characteristics.

At the same time, three basic adaptation strategies are divided into the following subtypes, namely: moderately active adaptation strategy, moderately preventive adaptation strategy, moderately passive adaptation strategy. The emergence of three subtypes of adaptation strategies is grounded by the type of business leaders' reaction to changes in the external environment and the priorities which they set for achieving their strategic goals and maintaining a stable market position (figure 2).

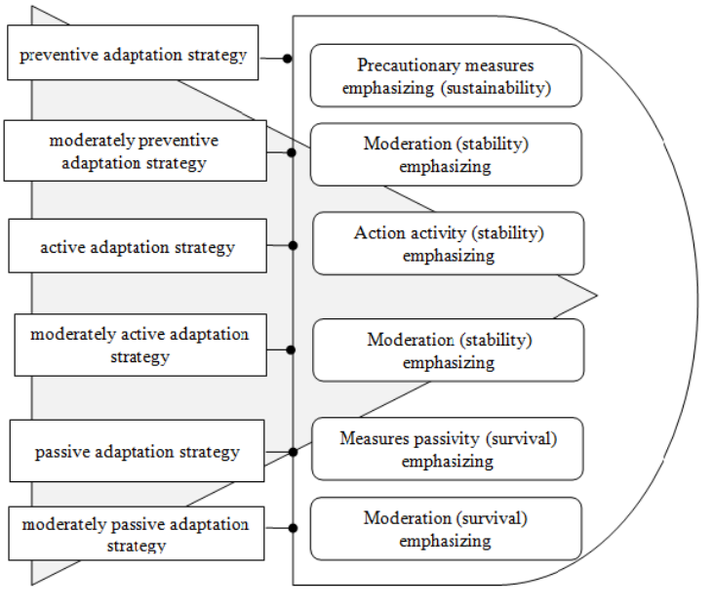


Figure 2 System of retail trade enterprises adaptation strategies
Sourse: developed by the authors

For the study continuation, we decided to disclose the content of the methodology main stages of the retail business adaptation strategy determining.

The first stage involves assessing the adaptability of retailers to environmental factors. The purpose of the assessment is identifying factors that may directly effect on the adaptation strategy formation.

The second stage involves the retail enterprise adaptive potential assessing, which is proposed to be carried out on the base of the comprehensive model use (formula 1).

$$R^{AP} = \sum_{1}^{n}(1-\sigma_i)\times\chi_i \quad (1)$$

where

R^{AP} - the integrated coefficient for the enterprise adaptive potential level assessing;

n – number of indices groups of the enterprise adaptive potential;

σ_i – relative assessment of i-th dominant component adaptation potential;

χ_i – i-th indicator importance.

σ_i is calculated according to the following rule:

1) if larger index value is better:

$$\sigma_i = \frac{\tau_i}{\tau_{iopt}} \quad (2)$$

If $0<\tau_i<\tau_{iopt}$, $\sigma_i = 1$, $\tau_{iopt}>\tau_i>1$,

where τ_{iopt} – the optimal value of the indicator for retailers on the base of industry values.

2) if less index value is better:

$$\sigma_i = \frac{\tau_{iopt}}{\tau_i} \quad (3)$$

If $\tau_{iopt}>\tau_i>1$, $\sigma_i = 1$, $0<\tau_i<\tau_{iopt}$.

The proposed model allows establishing the relationship between the elements of adaptation potential and the position in relation to the model as a whole, namely it allows determining the actual level of enterprise adaptation potential management.

The third stage involves retail enterprise adaptation level assessing to the action of environmental factors. This assessment allows determining the enterprise readiness to successful implementation of adaptation strategy under dynamic changes, as well as assessing the effect degree of adaptation properties on the overall level of enterprise stability. Formulas (4-8) were used for assessing the retail enterprise adaptability level to the action of environmental factors. The calculation of comprehensive integrated indicator for assessing the retail enterprise adaptation level to the action of environmental factors (I^{AZ}) is carried out according to the following formula:

$$I^{AZ} = \frac{1}{2}\sin 120(I_g + I_m + I_s) \quad (4)$$

where I_g – indicator that determines the retail enterprise adaptation level to the action of environmental factors according to "flexibility" criterion;

I_m – indicator that determines the retail enterprise adaptation level to the action of environmental factors according to "mobility" criterion;

I_S – indicator that determines the retail enterprise adaptation level to the action of environmental factors according to «sustainability» criterion.

$$I_{g,m,s} = \sum_{j=1}^{5}\varpi\sum_{j=1}^{n}(\varphi_i \times G_{ij}, M_{ij}, S_{ij}) \quad (j=\overline{1,N}) \quad (5)$$

where $\tilde{\omega}$ – importance of the linguistic subset state in the two-dimensional convolution;

G_i, M_i, S_i – the i-th indicator current value of the retail enterprise adaptation level to the action of environmental factors, respectively, according to the "flexibility", "mobility", "sustainability" criteria;

φ_i – the i-th indicator of G_i, M_i, S_i importance of enterprise adaptation level assessment to the environmental factors action.

Importance level of φ_i i-th indicator G_i, M_i, S_i of enterprise adaptation level assessment to the environmental factors action must correspond to the range of {0; 1} thus that the following Fishburn rule is met (Fishburn, 1970):

$$\varphi_1 \geq \varphi_2 \geq \ldots \geq \varphi_\kappa \quad (6)$$

It should be noted that if the indices of enterprise adaptation level assessment system to the environmental factors action have different trend, the priority of G_i, M_i, S_i indicator is determined by the formula (Marmoza):

$$\varphi_i = \frac{2(l-i+1)}{(l+1)l} \quad (7)$$

where l – number of indicators in the ranked series. Importance of G_i, M_i, S_i indices for enterprise adaptation level assessment to the environmental factors action is calculated on the base of the ranking method (Gencen, 1967.) by the formula:

$$i_{I^{AZ}} = \frac{I^{AZ}_{max} - I^{AZ}_{min}}{1 + 3.32 \times lgn} \quad (8)$$

n – observations number.

The fourth stage involves development of goals, directions and tasks of the adaptation strategy to environmental factors action. At this stage, the priority strategic goals of the enterprise are formed.

The fifth stage involves the enterprise

adaptation strategy choice for the planning period depending on the external environment, its strength of effect on the enterprise, enterprise vulnerability to environmental factors, the ability to use unused reserves for enterprise adapting. This stage involves formation of enterprise «strategic adaptation space» matrix, which creates an opportunity to combine of enterprise adaptive potential assessment and takes into account its ability to adapt to environmental factors. Retail enterprise positioning in the matrix field allows determining the optimal type of adaptation strategy for the retail enterprise.

3.1 THE LEVEL OF ENTERPRISE ADAPTIVE POTENTIAL DETERMINING

Development is always accompanied by certain changes in the ratio of economic growth (Velicer, Eaton & Fava, 2000). On its base, the development trajectory concept which is described in detail in the work (Vitlinsky, Kolyada, & Baranov, 2013) was taken into account under retail enterprise adaptive potential level determining. The trajectory describes the state of the studied object (or studied index value) as a function of the desired state at time t (formula 5):

$$AP=AP(t),\ t\in[0,T] \quad (5)$$

where [0, T] - the segment on which the trajectory of reaching the desired state at time t is determined.

With taking it into account, AP=AP(t), t∈[0, T] is dynamic trajectory of the desired state achieving of retail enterprise development by adapting to current changes in the environment.

The calculated values of the integrated coefficient for adaptation potential level assessing and the dynamics of their change during 2015–2019 for retail enterprises are presented in table 2.

TABLE 2 The integrated coefficient value of Ukrainian retail enterprises adaptation potential level assessing during the period of 2015–2019

Enterprise	2015	2016	2017	2018	2019	Deviation, +/-		Change rate, %	
						2019 from 2015	2019 from 2018	2019 in % to 2015	2019 in % to 2018
Retail chains and supermarkets									
LLC «Suchasnyi modern»	0,46	0,58	0,66	0,70	0,74	0,28	0,04	161,18	105,90
LLC «Tavriia-V»	0,39	0,49	0,54	0,60	0,64	0,25	0,04	163,32	106,82
«Fozzi-Fud» (Silpo-Riteil)	0,58	0,72	0,81	0,89	0,97	0,39	0,08	166,99	109,16
PJSC «Bazys»	0,36	0,49	0,56	0,60	0,64	0,27	0,03	175,67	105,40
PJSC «Riteil Hrup»	0,66	0,71	0,80	0,85	0,95	0,29	0,10	144,10	111,50
LLC «Tsentr TM «Piatyi Okean»	0,42	0,55	0,58	0,66	0,76	0,34	0,10	181,77	115,83
Average value	0,48	0,59	0,66	0,72	0,78	0,30	0,07	165,51	109,10
Maximum value	0,66	0,72	0,81	0,89	0,97	0,39	0,10	181,77	115,83
The minimum value	0,36	0,49	0,54	0,60	0,64	0,25	0,03	144,10	105,40
Trade enterprises									
PJSC «Optvyrobtorh»	0,31	0,42	0,51	0,58	0,64	0,33	0,06	206,14	110,25
PJSC «Universam»	0,32	0,38	0,46	0,56	0,61	0,29	0,05	190,20	108,87
PJSC «Torhservis»	0,27	0,37	0,44	0,51	0,57	0,29	0,06	207,73	111,91
PrJSC «TD TsUM»	0,29	0,41	0,46	0,51	0,55	0,25	0,04	185,39	107,52
LLC «Tavriia V»	0,31	0,38	0,46	0,54	0,61	0,30	0,07	197,95	113,48
PrJSC «Berehynia»	0,33	0,41	0,47	0,52	0,57	0,25	0,05	176,58	109,62
Average value	0,31	0,39	0,47	0,54	0,59	0,29	0,06	194,00	110,28
Maximum value	0,33	0,42	0,51	0,58	0,64	0,33	0,07	207,73	113,48
The minimum value	0,27	0,37	0,44	0,51	0,55	0,25	0,04	176,58	107,52

Source: developed by the authors

The integrated coefficient value of adaptation potential level assessment for each studied retail trade enterprise is determined according to calculations results (table 2). It is noteworthy the significant increase of adaptation potential management level during the period of 2015–2019 of such retail chains as: LLC "Fozzi-Fud" (Silpo-Riteil) (growth rate of 166,9%), PJSC "Riteil Hrup" (by 144,09%), LLC "Tsentr TM "Piatyi Okean" (by 181,7%). It should be noted that the integrated indicator value in 2015 was characterized by an acceptable level and unsatisfactory adaptation nature, then in 2019 enterprises have high or sufficient functionality of adaptive potential. Other enterprises of the studied group (LLC "Suchasnyi modern", LLC "Tavriia-V", PJSC "Bazys") during 2015-2019 improved the adaptation potential level and in 2019 on average it was 0,72; it indicates that enterprises have reserves for adaptive potential increasing.

On average in retail chains, the integrated coefficient value for adaptation potential level assessing in 2019 was 0,78, which was 165,51 more than in 2015 and 109,1% more than in 2018. The highest value in 2019 was recorded in LLC "Fozzi-Fud" (Silpo-Riteil) – 0,97 and the lowest in LLC "Tavriia-V" – 0,64.

The integrated coefficient calculated value of trade networks adaptation potential level assessing is characterized by higher level compared to trade enterprises, integrated indices low values indicate this fact. The trade enterprises integrated coefficient value is in the range from 0,31 to 0,59 (sufficient level). Among the enterprises of this group, the highest value of the integral coefficient is recorded in 2019 (PJSC "Optvyrobtorh" – 0,64) and PrJSC "TD TsUM" has the lowest value of 0,55. However, it should also be noted that during the analysed period, all enterprises in this group increased the efficiency level of adaptation potential management by an average of 176,58% compared to 2015 and by 107,52% compared to 2018.

The scale is developed for making conclusions about adaptation potential level that characterizes trade enterprise adaptation potential level and at the same time determines its quantitative and qualitative characteristics (table 3).

TABLE 3 Assessed verbal and numerical scale of the enterprise adaptive potential level

R^{AP} Interval	The adaptation nature	Qualitative level of potential assessment	Adaptation level characteristics
RAP > 0,85	satisfactory adaptation	(A)	high or sufficient adaptation potential
0,6< RAP <0,84	adaptation mechanism tension	(B)	sufficient functionality is provided by the functional reserves of the adaptation potential
0,3 <RAP <0,59	unsatisfactory adaptation	(C)	reducing the adaptation potential functionality
0,29<RAP	adaptation failure	(D)	rapid reducing the adaptation potential functionality

Source: developed by the authors

The structure of retail enterprises by the adaptation nature in 2019 is clearly presented in the diagram (figure 3).

Figure 3 data show that adaptation mechanism tension characterizes most retailers (58,33%).

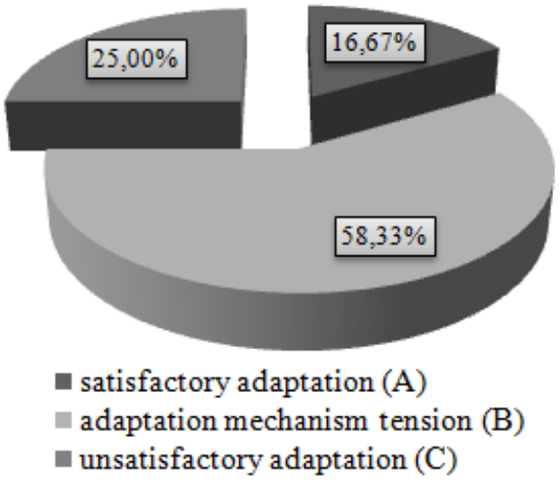


Figure 3 Structure of retail trade enterprises by adaptation nature of in 2019, %
Sourse: developed by the authors

3.2 DETERMINING THE RETAIL ENTERPRISE ADAPTABILITY LEVEL TO THE ENVIRONMENTAL FACTORS ACTION

The basis for generalized integrated indicator calculating of retail trade enterprise adaptation level assessing to environmental factors is substantiation of indices limit values for determining the generalized level of flexibility, mobility, stability on the base of "three sigma" rule use with taking into account right and left distribution asymmetry proposed and adjustment factor k, which is proposed in the work (Pritula, 2007). On the base of this approach, the values change ranges of integrated indicator of retail trade enterprise adaptation level assessing to the environmental factors action are determined and the limit values scale is developed (table 4).

The integrated indices calculated values of the integrated indicator for retail trade enterprises adaptation level assessing to the environmental factors action are presented in table 5.

TABLE 4 Limit values of retail trade enterprise adaptation level to the environmental factors action

Integrated indicator of enterprise adaptability level assessing	Adaptability level	Adaptation zone to the environmental factors action	Qualitative characteristics
0,82≤ p ≤1	High (V)	High adaptation zone (HAZ)	enterprise the most productive uses adaptive opportunities for adapting to environmental factors
0,61≤ ≤0,81	Average (S)	Normal adaptation zone (NAZ)	the adaptation values of one or more determinants approach some limit of their boundary opportunities; enterprise adaptation policy is focused on preventive nature decision-making
0,31≤ ≤0,60	Low (N)	Inflexible adaptation zone (IAZ)	enterprise is not able to actively adapt to environmental factors changing, with irreversibility signs of production reducing and partial potential reduction because of production capacity depletion
0,3≤	Catastrophic (K)	Crisis adaptation zone (CAZ)	enterprise does not meet the requirements of the external environment, adaptation rates are low with sales reducing and complete loss of potential

Source: developed by the authors

TABLE 5 Calculation generalized results of integrated indicator of retail trade enterprises adaptation level assessing to external environment factors action

Enterprise	I^{AZ} 2015	I^{AZ} 2016	I^{AZ} 2017	I^{AZ} 2018	I_{AZ} 2019	Changes rate, % 2019 to 2015	Changes rate, % 2019 to 2018
Retail chains and supermarkets							
LLC «Suchasnyi modern»	0,70	0,76	0,75	0,78	0,72	103,57	92,09
LLC «Tavriia-V»	0,67	0,80	0,51	0,51	0,40	59,90	77,89
«Fozzi-Fud» (Silpo-Riteil)	0,72	0,79	0,71	0,76	0,85	117,27	111,31
PJSC «Bazys»	0,81	0,72	0,68	0,59	0,55	67,79	92,25
PJSC «Riteil Hrup»	0,78	0,76	0,78	0,82	0,84	107,93	102,73
LLC «Tsentr TM «Piatyi Okean»	0,58	0,52	0,82	0,82	0,76	131,67	92,46
Average value	0,71	0,72	0,71	0,71	0,69	98,02	94,79
Trade enterprises							
PJSC «Optvyrobtorh»	0,72	0,82	0,66	0,66	0,72	99,88	108,99
PJSC «Universam»	0,69	0,76	0,72	0,56	0,73	105,99	130,52
PJSC «Torhservis»	0,66	0,58	0,72	0,69	0,63	96,15	91,58
PrJSC «TD TsUM»	0,74	0,79	0,69	0,65	0,58	78,77	90,45
LLC «Tavriia V»	0,64	0,70	0,70	0,56	0,41	63,93	72,68
PrJSC «Berehynia»	0,71	0,69	0,47	0,36	0,35	49,51	96,86
Average value	0,69	0,72	0,66	0,58	0,57	82,37	98,51

Source: developed by the authors

According to table 5 data, it is concluded that during 2015-2019 the value of integrated indicator which is determined for retail chains is 0,69 in 2019, which is 1,98% more than in 2015 and 5,21% more than in 2018. The calculation results show that the integrated indicator value during 2015 –2019 gradually decreased by 9,29% for 50% of the studied retail chains (LLC «Suchasnyi modern», LLC «Tavriia-V», PJSC «Bazys»).

The retail enterprises structure by retail trade enterprises adaptation level to environmental factors action in 2019 is clearly demonstrated by the diagram (figure 4).

Figure 4 data show that 47% of retailers are

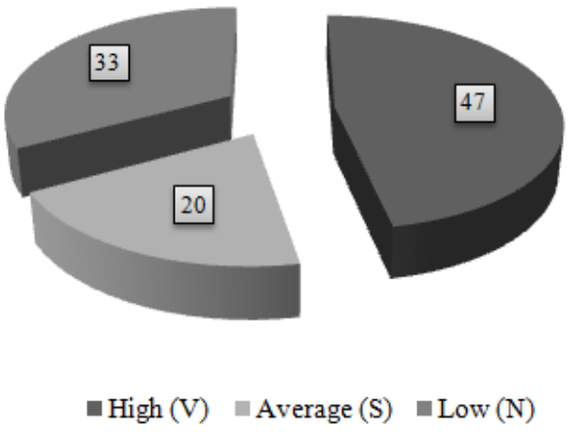


Figure 4 The retail enterprises structure by retail trade enterprises adaptation level to environmental factors action in 2019

Sourse: developed by the authors

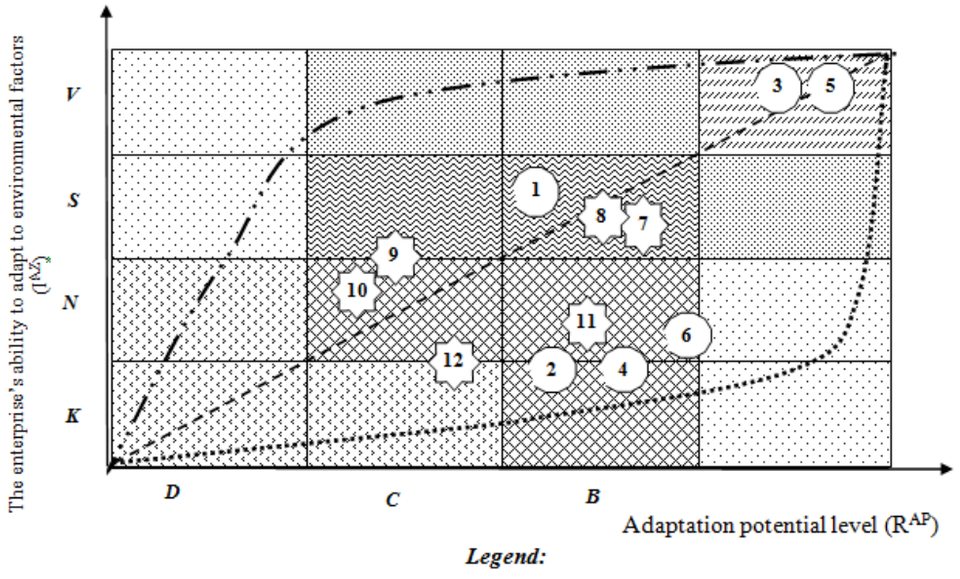
characterized by high adaptation level to the environmental factors action, 33% have medium level, and 20% – low.

The results of adaptation potential level assessment and retail trade enterprises adaptation level to the environmental factors action are the basis for measures development of retail trade enterprises management on the base of environmental factors action.

3.3 ADAPTATION STRATEGY TYPE DETERMINING FOR RETAIL TRADE ENTERPRISES.

Retail enterprise optimal adaptation strategy selection is proposed to carry out on the base of two integrated indices combination, namely adaptation potential level (RAP) and its ability to adapt to environmental factors (IAZ). According to the matrix approach, which is proposed in the work (Sorourkhah, Babaie-Kafaki, Azar & Shafiei–Nikabadi, 2018), the adaptation strategy choice is proposed to carry out on the base of enterprise «strategic adaptation space» matrix generation (4×4 dimensionality), which will allow to determine enterprise position in the adaptation space and to substantiate the strategy. Strategic adaptation space matrix for retail trade enterprises is presented on figure 5.

Retail enterprises positioning in the strategic adaptation space matrix (figure 5) shows that recommended adaptation strategy for 33,33% of retail chains is preventive adaptation strategy, as these enterprises are very good at balance maintaining between internal opportunities and external environment, namely PJSC “Riteil Hrup” and LLC "Fozzi-Fud" (Silpo-Riteil); strategy for 50% of the studied retail chains is moderately passive adaptation strategy with survival emphasis and adjusting internal processes vector (LLC “Tavriia-V”, PJSC “Bazys”, LLC “Tsentr TM “Piatyi Okean”); strategy for 16,6% of the studied retail chains is active adaptation strategy with stability emphasis and adjusting the interaction with the external environment vector (LLC “Suchasnyi modern”). Under trade enterprises obtained results analyzing, it is possible to conclude that strategy for 34% of enterprises is active adaptation strategy which is aimed at stability, but for PJSC «Universam» with adjusted interaction with the external environment vector and for PJSC «Optvyrobtorh» – with adjusted internal processes vector; for 50% of enterprises, moderately passive adaptation strategy is recommended with survival emphasis and internal processes adjustment (LLC “Tavriia V”, PrJSC “Berehynia”) and with an emphasis on adjusting the relationship with the external turbulent environment (PrJSC “TD TsUM”); for 16% of enterprises, active adaptation strategy is recommended with sustainability emphasis and priority focus on strength adjusting of the external environment effect on enterprise activities (PJSC “Torhservis”).



Legend:

A - satisfied adaptation, B - adaptation mechanism tension, C - unsatisfactory adaptation, D - adaptation fail, V - high, S - medium, N - low, K - catastrophic.

moderately active adaptation strategy, moderately preventive adaptation strategy,

preventive adaptation strategy, active adaptation strategy,

moderately passive adaptation strategy, passive adaptation strategy

balanced development vector ..... internal development vector

external development vector

Retail trade enterprises: 1 – LLC «Suchasnyi modern», 2 – LLC «Tavriia-V», 3 – LLC «Fozzi-Fud» (Silpo-Riteil), 4 – PJSC «Bazys», 5 – PJSC «Riteil Hrup», 6 – LLC «Tsentr TM «Piatyi Okean», 7 – PJSC «Optvyrobtorh», 8 – PJSC «Universam», 9 – PJSC «Torhservis», 10 – PrJSC «TD TsUM», 11 – LLC «Tavriia V», 12 – PrJSC «Berehynia»

Figure 5 Retail enterprises strategic adaptation space matrix
Sourse: developed by the authors

4 Conclusions

The fact that enterprise success in today's dynamic conditions of economic development largely depends on its ability to interact with external factors should be taken into account. It is the adaptive potential that provides the strategic sustainability of business entities. The adaptation strategy formation is integrated system of actions for retail enterprise adapting to the characteristics of the external environment with taking into account internal opportunities and strategic goals. Modern external environment features require determining the adaptive potential of each enterprise and actualize enterprise internal environment assessment to the management external conditions and determine retail enterprises adaptability level to environmental factors.

The issues of adaptation potential level assessing and its ability to environmental factors adapting and optimal adaptation strategy determining today are key at all stages of enterprise development and in various strategic guidelines from survival to sustainable market position and stable growth and effective functioning in the strategic perspective. It raises the problem of the methodology substantiating for retail enterprise optimal adaptation strategy determining.

Under scientific controversy summarizing of adaptation strategy interpretation, we come to the conclusion that the key to sound choice of strategy is qualitative and comprehensive assessment of adaptation potential level and its ability to environmental factors adapting. The matrix approach allows combining these two integrated indices in two-dimensional space. The strategic adaptation space matrix generation with taking into account the actual retail enterprises adaptation potential level and their ability to environmental factors adapting allows combining comprehensive assessment of the enterprise adaptation opportunities.

It was found at the stage of theoretical and methodological foundations determining of

enterprise adaptation strategy formation that for adaptation strategy optimal type determining, we used the enterprise life cycle concept. The main content characteristics of the main adaptation strategy types are highlighted on the generalization base of the theory and methodology basics of enterprise adaptation strategic management.

The models of retail enterprises adaptation assessing to environmental factors were proposed at the stage of the main stages of content disclosing of retail enterprises adaptation strategy determining methods. On the base of calculations results it is determined that retail enterprises adaptation potential management level increases over time. According to the analysis results it is established that adaptation mechanism tension characterizes most retailers (58,33%).

The basis for generalized integrated indicator calculating of retail trade enterprise adaptation level assessing to environmental factors is substantiation of indices limit values for determining the generalized level of flexibility, mobility, stability on the base of "three sigma" rule use. The study showed that in 2019 the retail chains integrated indicator value was 0,69, which was 1,98% more than in 2015 and 5,21% more than in 2018. The calculation results show that characteristic trend of 50% of retail chains is the integrated indicator value decreasing for the period of 2015 – 2019. According to the assessment results it is established that that 47% of retailers are characterized by high adaptation level to the environmental factors action, 33% have medium level, and 20% – low.

The matrix method was used for adaptation strategy optimal type determining. For this purpose, retail enterprises strategic adaptation space matrix (4×4 dimensionality) was generated in the coordinates: adaptation potential level, retail enterprise adaptation level to the environmental factors action. After that, the retail enterprises' positioning according to indices values was calculated. On the obtained data base, recommended adaptation strategy for 33,33% of retail chains is preventive adaptation strategy; strategy for 50% of the studied retail chains is moderately passive adaptation strategy with survival emphasis and adjusting internal processes vector, strategy for 16,6% of the studied retail chains is active adaptation strategy with stability emphasis and adjusting the interaction with the external environment vector. The use results of author's strategic adaptation space matrix model confirm all previous calculations; it proves the high possibility of its application for enterprises adaptation strategy choose in other fields of economic activity.

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