Ministry of Education and Science of Ukraine

ODESSA NATIONAL ACADEMY OF FOOD TECHNOLOGIES

International Competition of
Student Scientific Works

BLACK SEA SCIENCE 2018

PROCEEDINGS

April, 4, 2018

ODESSA, ONAFT 2018

Ministry of Education and Science of Ukraine

Odessa National Academy of Food Technologies

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Proceedings

April 4, 2018

Odessa, ONAFT 2018

Міністерство освіти і науки України

Одеська національна академія харчових технологій

Міжнародний конкурс студентських наукових робіт

BLACK SEA SCIENCE 2018

Матеріали

4 квітня 2018 року

Одеса, ОНАХТ 2018

UDC 001(262.5):378.4.091.27(08)
BBC 421D221
B64

Black Sea Science 2018: Proceedings of the International Competition of Student Scientific Works, April 4, 2018, Odessa / Odessa National Academy of Food Technologies; B. Yegorov, M. Mardar (editors-in-chief.) [*et al.*]. – Odessa: ONAFT, 2018. – 827 p.

Proceedings of International Competition of Student Scientific Works «Black Sea Science 2018» contain the works of winners of the competition.

The author of the work is responsible for the accuracy of the information.

ISBN 978-966-289-181-2 Odessa National Academy of Food Technologies

УДК 001(262.5):378.4.091.27(08)
ББК 421D221
В64

Black Sea Science 2018: Матеріали Міжнародного конкурсу студентських наукових робіт, 4 квітня 2018 р., Одеса / Одеська національна академія харчових технологій; Б. В. Єгоров, М. Р. Мардар (відп. ред.) [та ін.]. – Одеса: ОНАХТ, 2018. – 827 с.

Збірник включає матеріали робіт переможців Міжнародного конкурсу студентських наукових робіт «Black Sea Science 2018**».**

За достовірність інформації відповідає автор публікації.

ISBN 978-966-289-181-2 Одеська національна академія харчових технологій

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THE MANAGEMENT STRUCTURES' ORGANIZATION AND ITS FORMATION AT THE CONFECTIONARY INDUSTRY ENTERPRISES BASED ON THE LOGISTICS PRINCIPLES

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Topic Relevance: Nowadays the rapid changes in the external environment raise the question about the classical management tools relevance and effectiveness, therefore, modern theorists and scientists have faced new challenges and tasks. In the context of limited resources, it is highly important to optimize the resource consumption as much as it is possible. The words "efficiency" and "rationality" best reflect the logistical approach in solving such problems. Therefore, the logistics management becomes the actual topic for its study and development.

Research Purpose: *To research and develop the management structure on the logistics principles at CJSC Odesaconditer.*

Research Tasks*:*

- to study theoretical and methodical aspects of forming organizational structures at enterprises;

- to analyse the world and domestic confectionery markets tendencies and assume the further situation in the markets;

- to determine the level of competitiveness of CJSC Odesaconditer;

- to carry out the analysis of the financial state of CJSC Odesaconditer;

- to estimate the present organizational structure of management and to identify its disadvantages;

-to develop the organizational structure on the principles of logistics;

-to compare the effectiveness of the theoretical improvement and present situation with making final conclusions.

The research object *is the process of improving the organizational structures at enterprises in the confectionery industry*

The subjects *are the theoretical and methodological foundations, principles and mechanisms for improving the organizational structures of enterprises management in the confectionery industry based on the logistics principles.*

The research theoretical and methodological basis *are general and specific methods. The system approach, methods of statistical and economic analysis, graphical modelling of organizational structures, SWOT-analysis and PEST-analysis were used during the research.*

The information was taken from the reports on the economic activity of Odesakonditer (Form No. 1 and No. 2, the Accounting Report), statistical data from the National Statistics Service of Ukraine, periodicals, literature and the World Wide Web.

The results *have shown the importance of theoretical and practical development in the logistics management field as a potential scientific area. New methods and principles are highly important in constant unpredictable market fluctuations because the old ones are losing their connection with present day situation. The work confirms relevance and acceptability of this project. It can be recommended for real middle- and big-sized confectioneries with varied assortment.*

1. Theoretical and methodical foundations of the management structures' organization and its formation at the confectionary industry enterprises based on the logistics principles

Today market require new forms and methods of running a busyness. That is why the most valuable scientific works are about the enterprises which are working in instable circumstances. An enterprise is a complex system. It contains general and personal interests, stimulation and limits, technologies and innovation, discipline and creativity, etc. Without understanding the essence of enterprise and knowing the patterns of its developing it is impossible to manage its activity. It is hard to overestimate the scientific substantiation significance of the formation and effective functioning of logistic structures. The transition to an efficient organization of logistics built on scientific principles becomes one of the main conditions for a successful reorganization of the enterprise.

The subject of this research are enterprises which according to Art. 62 of the Commercial Code of Ukraine is an "independent economic subject created by a competent authority of state power, a local self-government body or other subject to satisfy social and personal needs through the systematic implementation of industrial, research, commercial or other economic activities" [10].

By organizational structure of management (OSM) understands the ordered set of interrelated elements in stable relations, which ensure its functioning and development as a complete process [22]. The elements of

OSM are individual employees, services and other links of the management apparatus. Relationships between elements of the OSM are supported by communications, which can be divided into a horizontal and a vertical. The horizontal communication is characterised coordination and usually it is one-levelled. The vertical communication such as subordination is needed for the control hierarchy, with the condition if there are several levels of control. The communications in OSM can be linear and functional. The linear links represent the movement of managerial decisions and information. The functional connections are used to distribute the decisions and information to different functional departments. [24].

Some western experts consider actions of Ukrainian industrial managers as "management under fire" [24]. Also it should be noted that absence of methodological developments on OSM improvement is one of the topical problem that makes management process is more complicated. When one designs OSM and organizational innovations, such a methodological approach which allows adaptation and self-organization of production management systems should be used. In native and foreign works there are a number of weaknesses in present papers on this topic:

- Few number of working on creating general principles of solving structuring problems and methodological approaches of OSM formation.
- The absence of needed amount of previous experience generalization at innovation practice at industrial enterprises. [14,23,24].

It is well-known fact that there are several types of OSM: linear structure, functional structure, divisional structure and a blend of the two, called matrix structure. They all are based on specific principles (table 1). Opposite types of organizational structures may create different types of combined organizational structures, which in some way justifies the use in practice of various forms of logistic organizational management structures, among which the basic ones are:

- logistics in the functional structure of the organization;
- logistics in the divisional structure of the organization;
- Logistics in the matrix structure of the organization [22].

Logistics in the functional structure can be a determining functional unit that implements a clear set of tasks, or a subdivision which is subordinated to another functional unit.

We will analyse the type of OSM with the logistics functions that exist in the scientific literature.

Table 1 – The logistics formation principles

The logistics management principles	The organizational structure formation principles
Time orientation	Fast production and information transfer; Limits of decision making phases; Matching goals related to time and their implementation.
Market orientation	Adaptation of OSM to the chosen strategy; Differentiating activities by customer groups; Formation of organizational management structures in relation to the content of activities; Adaptation of OSM to environment changes.
Integration orientation (complex approach)	Integration of moving materials and information; Integration of the main functions; Holistic responsibility for the order.
Moving orientation	Management on the principle of continuity; Decentralization of management functions; Centralization of strategic functions; Synchronization of logistic processes; Ensuring the speed of information transfer.

Source [24]

Organizational management structure is a multilateral concept, which primarily includes a system of goals and their distribution among different links, since the management mechanism must be oriented towards the achievement of goals. In developing the principles and methods of designing management structures, it is important to move away from representing the structure as a frozen set of bodies that meet each specialized management function. Important elements of the governance structure are communications, information flows and document management in an organization. Thus, the organizational structure is a behavioural system, it is people and their groups that constantly enter into different relationships for solving common problems.

Principles are universal laws that help to avoid errors in the work, which are formed due to the regularity and repetition of their occurrence. They are based on all methodologies and approaches, therefore, the following ones can be distinguished:

1. Principle of purpose unity.
2. Principle of the functions primacy and secondary structure.

3. The principle of the units' functional isolation of the management apparatus.

4. The principle of organizational structure simplicity.

5. The principle of unified command, which consists in the fact that the employee must receive orders from only one superior

6. The determination of the management optimal rate The rate of manageability is determined by the work nature of the manager and his relations with subordinates. The number of subordinates should be lower at higher levels of management and higher at lower levels.

7. Establishing the optimal ratio of centralized and decentralized forms of management which determined by the size of the enterprise, the projects scale, the work homogeneity, the managers' philosophy at the strategic level, the functional sphere of activity, etc.

The formulated principles of constructing organizational management structures are interrelated and interdependent. Each of them has an its own value, but only their joint use provides a comprehensive character of the design of organizational structures of production management [19].

There are three main approaches to building or improving the existing organizational structure of management:

1. System approach;

2. The approach based on business processes;

3. Structured-oriented approach.

The identification and analysis of the emergence of problems of both the construction and development of the organization are becoming more important in present day situation. The system approach, attaching importance to the scientifically based definition of management functions and quantity requirements as part of the overall process of forming an organizational and managerial structure, guides researchers and developers to the general principles of designing organizations. First of all, the system approach involves the initial definition of the system goals organization, which determine the structure of tasks and the maintenance of functions of the control apparatus.

Regarding the system principles implementation for the formation of the internal structure of the management apparatus, it should be taken into account that the organizational structure is a complex characteristic of the management system. In a single system different methods of forming organizational structures must be considered, many of which have emerged only in recent years. These methods have a different nature, each of them separately does not allow to solve all the practical problems of constructing

the organizational structure of the management apparatus and should be used in organic combination with others.

The design of organizational management structures is based on the use of such basic complementary methods: analogies; expert-analytical; structuring goals; organizational modelling [15].

The features of the system approach are:

- clear goals definition and establishment of their hierarchy;
- achieving the best results at the lowest cost by using comparative analysis tools and choosing ways to achieve the goals;
- wide comprehensive assessment of all possible outcomes of activity using quantitative interpretation of objectives, defining methods and means of achieving them [17].

The structural analysis is called the research method of a system, which begins with a general overview of it and then is detailed, gaining a hierarchical structure with an increasing number of levels. Usually such methods:

1) divide the level of abstraction with a limitation of the number of elements at each level (usually from 3 to 7, with the upper limit corresponds to the ability of the human brain to perceive a certain number of interconnected objects, and the bottom is chosen for reasons of common sense);
2) limit context that includes only important parts at each level;
3) use of strict formal rules of record;
4) consistently approximate to the final result.

Methods of structural analysis can overcome the complexity of large systems by dismembering them into pieces ("Black boxes") and the hierarchical organization of these "black boxes". This is the first principle of structural analysis. The advantage of using "black boxes" is that their user does not need to know how they work – only their inputs and outputs, as well as their purpose (that is, the function they perform), need to be known [18].

In recent years there has been an active reorganization of management structures both in large industrial complexes and in medium-sized organizations. The most important factors that determine such a reorganization are:

-innovative processes activation in various areas of production and market activity;

-entrepreneurship development, which involves the constructive use of creative initiative of members of collective enterprises and organizations;

- information technologies introduction that change the management process;

- competition efforts [17].

Today it is expedient to use four basic methods in forming the organizational structures:

1. the analogy method is used in developing typical management structures for enterprises operating in similar conditions;

2. expert method is based on the study of the enterprise, its most significant features identification, bottlenecks in the production and the recommendations development based on the experts' views and on the synthesis of best practices in the field results;

3. the method of structuring purposes, based on the development of the system goals of the enterprise and its further combination with the structure developed. Thus, the structure is based on a systematic approach, analysis and justification of options for its construction and functioning;

4. method of organizational modelling, within the framework of which the development of formalized mathematical, graphical and machine descriptions of the distribution of powers and responsibilities in the enterprise, so that based on clearly defined criteria to assess the degree of rationality of various variants of organizational decisions [18].

The purpose of the reorganization of the organizational structure of CJSC Odesaconditer is to develop a new organizational structure based on the principles of logistics. Certain deviations from the normative values, which create a number of systematic mistakes in the work of the organization, were detected in the analysis. Based on the method of structural analysis we can develop a new organizational structure.

The logistics organization at the enterprise can be compared with the circulatory system in the human body because it plays a key role in providing the organization with all the resources which are necessary for its existence. In the narrow sense it can be transportation, warehousing and in philosophical viewpoint as the logistic concept of management. Therefore, the choice of the correct logistics organization at such a large industrial enterprise as CJSC Odesaconditer is an important task for the existence and harmonious development for competitive position in the confectionery market.

It is obvious that combined structures can be implemented among the "polar" types of organizational structures, and this in some way justifies the use of various forms of logistics organization in practice, among which the basic ones are: Logistics in the functional structure of the organization;

Logistics in the divisional structure of the organization; Logistics in the matrix structure of the organization [55].

Logistics in the matrix structure allows you to integrate individual employees, groups, organizational units and companies into one project team. It is a very flexible organizational tool for small mixed project teams, as well as for hundreds and thousands of co-workers, groups, divisions, organizations and companies in large projects. However, it is not suitable for enterprises of this type because this structure can be uncertain [21]. However, logistics in the functional structure of the organization can be presented as the main functional unit that performs a set of tasks, or a subdivision subordinate to another main functional department, for example, marketing [20].

Functional structure take place when there is a division of labour and specialization. Advantages: it allows management to focus on strategic issues; create conditions for achieving high efficiency at the expense of specialization. Disadvantages: it leads to a functional conflict; complicate coordination between functions; Reduce opportunities for managers who manage strategic management [24].Organization of logistics in the functional structure and in the divisional structure belongs to the generalized group of formal organizational structures. When logistics is not shown in structure clearly, but in the form of a program, such organization of logistics belongs to informal organizational structures. The intermediate position between formal and informal structures is occupied by so-called semiformal organizational structures, primarily characterized by matrix organizational structures [20].

The division exists in those organizations, which allocate separate structural divisions, endowed with great powers.Advantages: it provides transfer of rights at the offices of the organization, which contributes to increasing the flexibility and adaptability of the organization to the environment; dismiss the leadership from solving current issues and make it possible to deal only with strategic issues; the organization establishes at a lower level the dependence of the financial state of the units on the results of their operation; creates conditions for the formation of managers in the organization of strategic management.

Disadvantages: There is a possibility of the emergence of strategically incompatible individual units of the organization; difficulties in distributing common resources for organization between separate departments of the organization [14].

2. Analysis of the confectionery market in the world and Ukraine

The confectionery industry is a group of huge companies around the world that produce various types of chocolate, chewing gum and candy, as well as other cocoa products. The five leaders in the confectionery market are Mars Incorporated, Nestle SA, The Ferrero Group, Cadbury and Mondelez International. The success of the market has been achieved by those companies that have been operating on the market for more than one century, have a "goodwill", a large number of brands known throughout the world. In addition, some companies prefer not to concentrate only in one specific market of confectionery, but sell food, beverages, animal feeds. This is an additional factor in the competitive advantage of the aforementioned companies in a context of intense competition. The main trends on the market are the introduction of new products.

Confectionery market of Ukraine is highly competitive and replete. Most of the products are produced and sold by 5-1-confectionery companies.

Before the global economic crisis, 28 specialized enterprises which share was about 60% and about 800 small and medium-sized enterprises of the local food industry (38.3%) carried out the production of confectionery products in Ukraine. The leaders in the production were: Confectionary Corporation Roshen (21.7%), AVK (11.0%), CJSC VO KONTI (13.9%), Biscuit Chocolate Corporation (5 , 5%), CJSC Zhytomyrsky Lasoschi (5.0%), OJSC Poltavakonditer (4.6%) [1].

The main players in the Ukrainian confectionery market are Confectionery Corporation ROSHEN, Konti Company, AVK Company, Biscuit-Chocolate Corporation, Zhytomyr Confectionary Factory ZL, Nestle Company, Craft Foods Company, PJSC PoltavaKonditter ", Confectionery factory" Lagoda "and CJSC" OdessaKonditer "[2].

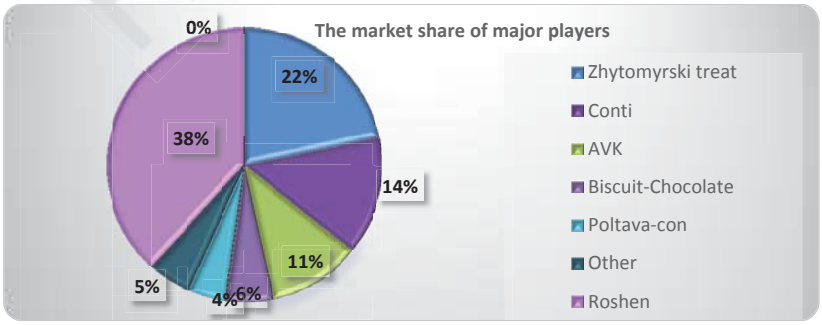

Fig. 1. Market share of major players in 2013-2014, %

The largest output reduction was observed in Lviv (by 22.5%), Poltava (by 26.4%). But in Odessa the issue increased by 5.5%, Vinnytsa – by 27.4%, and the Kharkiv confectionery factory – by 11.4%. This indicates significant reserves in the confectionery industry [3]. The share of confectionery in the Ukrainian food industry market, according to some data for 2013 was about 15%, while the leader in this segment was the production of flour products [4]. In the crisis period, 2013-2014, and the first half of 2015, it has been difficult situation in the confectionery industry. The segment of sugar confectionery products showed the greatest decline in 2013 – by 10.8% compared to 2012 and amounted to 196.8 ths. Tons. The production of chocolate products in 2013 decreased by 5% compared to 2012 and in the natural the terms amounted to 327.6 thousand tons. A slight decrease was registered in the segment of flour confectionery products by 0.1% and reached 384.4 thousand tons in 2013.

In the first quarter of 2015, the Ukrainian confectionery market faces a number of interconnected issues. In the first place, there was a new wave of devaluation. In March 2015, the hryvnia rate dropped by 47.0% compared to the rate fixed for December 2014 – UAH 22.98. for $ 1 against 15.63 UAH. for $ 1 (exchange rate on the interbank market). In the result in 2014 devaluation was more than 50%.

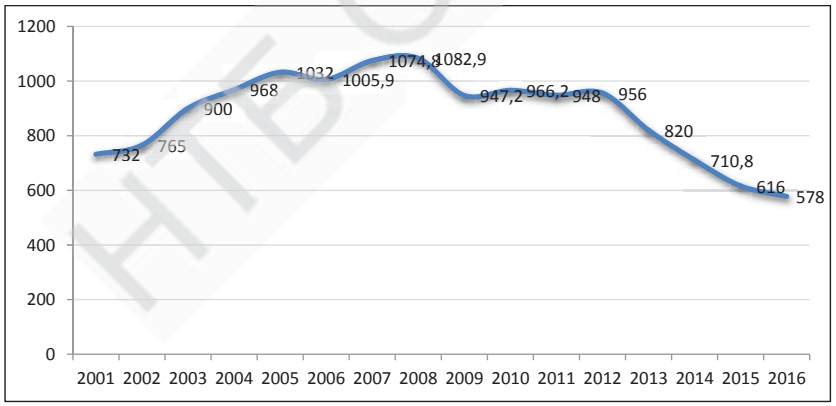

Fig.2 The production value of confectionery industry in Ukraine in 2001-2016, ths. tonnes

The Ukrainian confectionery industry is dependent on exports, therefore the introduction of trade restrictions by the countries of the Customs Union negatively affects its dynamics and determines the search for new

markets. Ukrainian manufacturers are also under high political pressure, so that is why in August 2013 the import of ROSHEN products into the territory of the Russian Federation was prohibited. At the same time, Ukraine has signed an agreement with the EU, according to which the customs tariffs of the European Union for Ukrainian products are significantly reduced, it gives an opportunity to open new wide field for the development for domestic companies [8].

TOP-10 exporters of sugar confectionery without cocoa content in September 2016/2017 MR has the following form (Table 2).

Table 2 – TOP-10 exporters of sugar confectionery without cocoa content in September 2016/2017

The company title	Ths. Tonnes	Ths. dollars
Dniprovski Lasoschi	2,93	4302,22
Plus-Rozpodilchyy Center	2,11	2818,33
DPF, TD	0,31	314,65
Tri Star	0,25	278,32
Harkivska Biskvitna Fabryka	0,13	162,76
AVK	0,08	110,75
Ekotechnika	0,08	81,25
Petrol-park	0,07	112,97
Agroproduct	0,06	56,52
Merkuryy	0,05	131,20

Another important point is that the middle class of the Ukrainian confectionery market, such as Malby Fuchs (TM Millenium), Poltavakonditer and others, are becoming increasingly active in new markets. They are actively modernizing production, introducing new technologies and looking for new markets. Thus, "Biscuit-Chocolate" in the first half of 2016 increased exports in real terms by a third. The largest activity in the purchase of confectionery products was shown by the countries of the Middle East, increasing their volumes by 2.5 times compared to the first half of 2015. The second most active was the Chinese market (+ 26%), which is now experiencing a boom in consumption, including food and confectionery. Sales to EU countries increased by 13%.

3. The analysis of the activity of CJSC Odesaconditer

3.1 Financial and economic analysis of the activity of CJSC Odesaconditer

CJSC Odesaconditer is one of the oldest enterprises in Ukraine. In 1820, a small private enterprise was created in Odessa, a trading house "Brothers Karkhmalnikovy" – the first confectionery factory in the south of the country. The main financial and economic indicators of CJSC Odesaconditer for 2012-2013 are presented in Table 2.

There was a decrease in net realizable sales (16,98%) and an increase in the cost price of sold products (14,29%). But a significant increase in administrative expenses by UAH 1536 thousand. or 12.15% had negative influence on Odesaconditer activity. The growth rate of the main operating activity financial result decreased in 2013 compared to 2012. on 3587 thousand UAH or 0.41%.

The financial result from ordinary activities before taxation in the reporting year decreased due to the financial result of the main operating activity, which amount was 3592 thousand UAH. (40.98%), but its decrease was influenced by the financial result from another activity whose value was 5 thousand UAH. (100%).

Compared to 2012 in 2013 the company increased its output by 3796 thousand UAH. or 26.71%. In current prices there was an increase in 78428 thousand UAH. or by 27.88%, and in compared wholesale prices this number was 75893 thousand UAH. or 26.74%. Gross profit in 2013 was 5,553 ths. UAH, which is 5834 thousand UAH. or 49.92% below than this indicator in 2012.

Table 2 – The main financial and economic indicators of Odessaconditer activity for 2012-2013

Indexes	2012	2013	Deviation	
			Abs.	%
1. The volume of production in natural terms, t	14213	18009	3796	26,71
2. The volume of production excluding VAT and excise duty, ths. UAH				
- in current wholesale prices	281299	359727	78428	27,88
- in comparable wholesale prices	283834	359727	75893	26,74
3. Average wholesale price per 1 ton of products, ths. UAH.	19,79	19,97	0,18	0,91
4. Net income from products sales, ths. UAH.	154522	128281	-26241	-16,98

5. Cost of sold products, ths. UAH	142835	122428	20407	14,29
6. Administrative expenses, ths. UAH	12640	11104	1536	12,15
7. Sales expenses, thousand UAH.	5554	5154	-400	-7,20
8. Gross profit, ths. UAH	11687	5853	-5834	-49,92
9. Total cost of sold products, ths. UAH	161029	138686	-22343	-13,88
10. Costs of 1 UAH sold products, UAH	1,11	1,12	0,01	0,90
11. Financial result from ordinary activities before taxation, ths. UAH, including:	-8760	-12347	-3587	-0,41
13. Income tax, ths. UAH	189	-27	162	85,71
14. Net profit, ths. UAH	-8760	-12374	-3614	-41,26
15. Cost of used material resources, ths. UAH	117323	96058	-21265	-18,13
16. Material return, UAH	0,42	0,27	-0,15	-0,36
17. Material Consistency of Products, UAH	2,40	3,74	1,34	0,56
18. Average number of personnel of the main activity, persons	870	750	-120	-13,79
19. Labour productivity of one operating personnel of the main activity, UAH.	323,33	479,64	156,31	48,34
20. The main activity personnel's fund of salary, ths. UAH	26967,40	25655,70	-1311,70	-4,86
21. Average annual salary per worker of the main activity, UAH.	30997,	34207,6	3210,6	10,36
22. Average annual cost of fixed assets, ths. UAH	90092	90335,5	243,5	0,27
23. Average annual cost of working capital, ths. UAH	65013,5	57958,5	-7055	-0,11
24. Return on assets, UAH	1,08	1,05	-0,03	-2,7
25. Turnover rate of working capital	2,54	2,33	-0,21	-8,27
26. Cost-effectiveness of production,%	12,22	20,92	8,7	x
27. Profitability,%	-0,10	-0,14	-0,04	x
28. Average annual receivables, thousand UAH	32266	24802,5	-7463,5	-23,13
29. Average annual amount of accounts payable, ths. UAH	10558,0	11414,5	856,5	8,11
30. Liquidity index at the end of the year:				
- current liquidity index	2,88	2,41	-0,47	x
- quick liquidity index	1.33	1,44	0,11	x
- absolute liquidity index	0,22	0,10	-0,12	x

3.2 The analysis of the operating management structure at CJSC "Odessakondter"

The organizational structure of CJSC Odesaconditer is linearly functional. It has four levels of subordination and 10 chains of information transmission. Linear-functional organizational structure of management is based on the division of powers and responsibilities on management functions. Line managers are directly influencing the responsible employees. The managers interact with the functional units to solve managerial problems. The organization's hierarchy of management at this enterprise helps to focus on the specifics of the functional units and integrate the goals of their managers to achieve maximum efficiency. The large size of the organization predetermines certain features of its formation. Let's analyse the conformity of the today state of the management at the enterprise to the normative values in Table 3.

Table 3 – The conformity analysis of the management level to the regulatory value

Manager	Object of management	Norm	CJSC Odessa-konditer	
			The number of managerial units	
			factual	deviation
Chairman of the board	All the units	9	8	1
HR manager	Social sphere	–	9	-9
Quality manager	Main Proceeding	–	0	0
Supply chain manager	Supply and Sale sphere	–	5	–
Chief engineer	Main and Ancillary Production	6	1	–
Chief accountant	Bookkeeping	6	3	3
Head of planning and production department	Planning and Production Department	1	1	–
Head of technical department	Technical Department	1	9	-8
Head of production and technical laboratory	Production and Technical Laboratory	5	0	5
Head of production and technical department	Main Production	13	10	3
Chief power engineer	Energy Service	1	3	–
Chief mechanic	Repair Service	–	1	–

It is clear from the table that there are deviations from the normative values, so the organizational structure needs some improvement. Next, we will determine whether all specific management functions are carried out at the enterprises in an appropriate amount.

3.2 The proposition and evaluation of reorganization management structure

In the current organizational structure, the production department is at the same level as other administrative departments. They should be given more attention because they are the main reason of the enterprise's existence. The products produced at the factory are varied, so it makes sense to separate production department into an independent division, giving them a certain degree of autonomy and controlling only the key points for strategic development. This will deepen the work specialization in each direction and maximize the work productivity of each employee involved in production process due to the narrow direction of his/her responsibilities. Thus, the structure of the production division may have fallowing look:

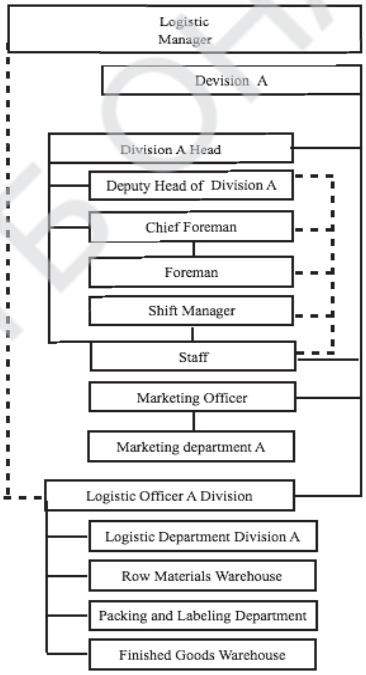

Fig. 3 The production division's organization structure of management at confectionery industry

Management in confectionery shops is carried out by certain kind of administration: the head of the shop and his deputy. The head of the shop organizes and controls the work of the brigadier, define range of products, share raw materials between teams and controls the process of confectionery production. The head of the shop has fallowing duties:

1. Managing the production and economic activity of the shop (sector).

2. Creating tasks and organising rhythmic output of high quality products.

3. Carrying out work on organizational improvement in production process, its technology, mechanization and automation at production lines, prevention of shortage and improvement of product quality, saving of all kinds of resources.

4. Organizing short-time-planning, accounting and preparation and timely submission of reports on the production activities at the workshop (section); he should use new forms of management to improve labour standards.

5. Providing technically correct use of equipment and other fixed assets and execution of schedules for their repair, safe and healthy working conditions, as well as timely provision of working privileges under labour conditions.

6. Coordinating the work of masters and craft services.

7. Supervising the compliance of employees with the rules and norms of labour protection and safety, industrial and labour discipline, rules of internal labour regulations.

8. Introduces proposals for encouragement of employees, imposition of disciplinary penalties on violators of industrial and labour discipline, application of measures of material influence if necessary.

9. Organizes work for the improvement of the skills of workers and employees of the shop, conducts educational work in the team [63].

One of the peculiarities of confectionery products production and marketing is that it is not an essential product, and in the current situation which we have in Ukraine, the market is constantly changing. CJSC "Odessaconditer" conducts active foreign economic activity. The laws of customs and export regulation are regularly amended and corrected. For a detailed study of such changes, it makes sence to create a marketing department in each division, so research and changes in the structure and features of the market. Narrow orientation will allow to focus on a particular direction. The logistics department, as noted above in this work as a

vital supply source for any manufacturing enterprise is a key factor in success in today's market conditions. If logistic thinking is used at every step of production, the maximum possible economic result can be achieved. Therefore, it makes sense to introduce logistics in each division.

The variety and unevenness of consumption of each of the raw materials and large-scale production of JSC "Odessaconditer" without the proper organization of logistic functions is a weak point of the whole factory. Allocation of logistic functions at the production level will help to avoid the problem with supply failures and specify the quantity of orders.Finished products after the end of the production cycle must be packed and marked with certain labels and may be stored at the division division for a certain time, and then redirected to the central warehouse of the centralized logistics department.

The effectiveness evaluation system is a complex assessment that includes a certain list of requirements that may have a certain quantitative expression. Before developing the the new organizational structure, it is needed to determine the list of indicators which will reflect the main characteristics of the organizational structure of management.

Problem definition and the purpose of the transformation provide an opportunity to define clearly the parameters for developing the effectiveness evaluation system of the organizational structure based on the principles of logistics.It is highly important to determinate the optimal number of employees at departments, services, and other structural subdivisions, keeping in mind the functional stability of the organizational structure.The employees number optimization in departments, services and other structural subdivisions of the enterprise is very topical issue and generally increases the efficiency of the organizational structure of management. The practice of solving such problems allows to recommend the normative method.In this case the number of top managers is calculated according to the formula:

$$K_{t.m.} = 1 + N_d \ ,$$

N_d – the amount of departments in organisational structure.

Before reorganization: $K_{t.m.} = 1 + 19 = 20$

The leaders of the first link include:1. Chairman of the Board; 2. Technical manager; 3. Quality management; 4. Personnel manager; 5. Chief of Security Services; 6. Chief accountant; 7. Head of Production and Technology Department; 8. Chief technologist; 9. Head of technical control department; 10. Head of Sales department; 11. Head of Marketing

department; 12. Head of Planning and economic department; 13. Head of Department of Packaging and Labelling Materials; 14. Legal Counsel; 15. Office; 16. Head of the Department of Foreign Economic Relations; 17. Engineer for safety and occupational safety; 18. Chief of Public Security Staff; 19. Composition of finished products.

$$K_{t.m.} = 1+8=9.$$

After reorganization:The leaders of the first link include:1. Chairman of the Board;2. Technical Director;3. Logistics chief manager; 4. Personnel manager; 5. Chief accountant; 6. Legal Counsel; 7. Office; 8. Head of the Department of Foreign Economic Relations. Thus, in order to run this organization now it is needed 19 people, and in the proposed idea 8.At this stage we need to determine the number of people in each department which provides the organization with human resource in optimal amount. The analysis of enterprises of confectionery activity has shown following functional units' proportions:30% – logistics functions (search of suppliers, carriers, expedition, control, warehouse management, including stocks);40% – production functions (shops work);15% – marketing functions;8% – economic and financial transactions;7% – general management. The average annual number of employees is approximately 708 people. By dividing this amount, we will determine the number of workers required to meet the labour needs in each department. The results of calculation are given in Table 4.

Now we can determine the effectiveness of the new organizational structure. The effectiveness evaluationof OSM on the principles of logistics is proposed using indicators which are given in Table 5.

Table 4 – The required number of employees in divisions

Index	Formula	Odessakonditer OSM before reorganization	Odessakonditer OSM after reorganization
1	2	3	4
Top managers number, $K_{t.m.}$, people	$K_{t.m.} = 1 + N_d$, N_d – the amount of departments in organisational structure.	$K_{t.m.} = 1 + 19 = 20$	$K_{t.m.} = 1 + 8 = 9$

1	2	3	4
The required number of employees in functional divisions, including employees new logistics department	$N_e = d_i \times N_o$, N_o – The average annual number of employees. d_i – functional proportion.	Logistics functions: N_e = 130; Production functions: N_e = 426; Marketing functions: N_e = 36; Economic and financial transactions: N_e = 64; General management: N_e = 52, including 19 top managers.	Logistics functions: N_e = 708*0,3= 212 Production functions: N_e = 708*0,4=283 Marketing functions: N_o = 708*0,15=106 Economic and financial transactions: N_o = 708*0,08=57 General management: N_o = 708*0,07=50, including 9 top managers.

Table 5 – The formulas of effectiveness evaluation of OSM on the principles of logistics

Index	Formula	Meaning	
Structural index of centralization	$K_{sc} = \frac{N_{FU}}{N_{TFU}}$	N_{FU} N_{TFU}	Structural index of centralization
Volumetric index of centralization	$K_{vc} = \frac{V_C}{V_T}$	V_C V_T	Volumetric index of centralization
Centralization coefficient of management	$K_{ms} = \frac{N_C}{N_T}$	N_C N_T	Centralization coefficient of management
Level of specialization	$L_s = \frac{N_{EFU}}{N_{FU}}$	N_{EFU} N_{FU}	Level of specialization
Compliance ratio	$K_{cr} = \frac{A_I}{A_N}$	A_I A_N	Compliance ratio
The complexity of the organizational structure	$K_{cOS} = \frac{A_V}{A_T}$	A_V A_T	The complexity of the organizational structure

Using this formulas, one finds the effectiveness evaluationof OSM in numerical expression:

1. Structural index of centralization
Before reorganization: = 18:54 = 0.33
After reorganization: = 8: 54 = 0, 15
2. Volumetric index of centralization
Before reorganization: = 18: 72 = 0.25
After reorganization: 8: 62 = 0.13
3. Centralization coefficient of management
Before reorganization: = 20: 72 = 0.16
After reorganization: = 9:62 = 0.15
4. Level of specialization
Before reorganization: = 50: 72 = 0.69
After reorganization: = 52: 62 = 0.84
5. Compliance ratio
Before reorganization: = 9: 7 = 1.29
After reorganization: = 6: 7 = 0.86
6. The complexity of the organizational structure
Before reorganization: = 72:708 = 0.10
After reorganization: = 62:708 = 0.09
In table 6 the results will be compared

Table 6 – The comparison of effectiveness evaluation of OSM on the principles of logistics before and after the reorganization

Index	Range of metric values	Before the reorganization	After the reorganization
Structural index of centralization	$0 \le K_{sc} \le 1$	0,33	0,15
Volumetric index of centralization	$0 \le K_{vc} \le 1$	0,25	0,13
Centralization coefficient of management	$0 \le K_{ms} \le 1$	0,16	0,15
Level of specialization	$0 \le L_s \le 1$	0,69	0,84
Compliance ratio	$0 \le K_{cr} > 1$, $K_{cr} \approx 1$	1,29	0,86
The complexity of the organizational structure	$0 \le K_{cOS} > 1$, $K_{cOS} \approx 1$	0,10	0,09

Based on the principles and laws of building organizational structures, it was projected and proposed a new organizational structure of management for CJSC Odesaconditer. The fundamental difference from the old is allocated logistics functions as a separate functional unit now logistics is reflected on the operational, business and corporate levels.

The wide assortment range allowed us to allocate production workshops to separate divisions, which receive tasks from the centralized management body of the whole enterprise. As can be seen from the calculations The index of centralization of work has decreased by about twice. It was the effect that was set for the purpose. At the same time, the level of specialization has increased, which can also be characterized positively. The narrow orientation of specialists will allow to focus on researching and working in a particular segment of industry, which prevents the adoption of false decisions.

At the same time, the average number of subordinates to one manager in the current management structure of CJSC Odesaconditer exceeds the normative value, it means that some managers are overloaded.

Conclusions

Today, the classic methods of management lose their relevance. Modern scientists are looking for alternative methods and approaches to replace them. Logistics management, as the approach of materials and resources rational use, can become one of the possible directions for scientific development. In market environment, resource minimization gives competition benefits in production costs and price policy which leads to stronger competitive positions on the market.

In this work was done a theoretical and methodological analysis of the principles of forming a management structure. For a better understanding of surrounding environment, the analysis of confectionery market and financial condition of CJSC "Odesskonditer" were made. Also it was done the diagnostics of the current management structure and found weaknesses. As the result, a new organizational structure of management was developed and proposed to protect organization from fluctuations in political and economic environments and arise competitiveness in market relations. The effectiveness evaluation of OSM on the principles of logistics has shown relevance and acceptability of this project and it can be recommended for real confectionery.

The analysis of the confectionery market emphasis that there are some negative tendencies which dramatically reduce production volumes and

profits from sales due to the political and economic crisis in Ukraine. The closure of the Russian market and devaluation of the UAH became the main impacts to Ukrainian confectioners including JSC Odesaconditer like one of the representatives.

The main invisible lever that can protect an organization from constant market fluctuations is an organizational structure that acts as a kind of buffer. Models of organizational structures are rarely implemented in their pure form to avoid the disadvantages of a particular model. For large organizations such as CJSC Odesaconditer, real estate structures and its inability to respond to changes in the environment in a timely manner can be this kind of disadvantage. Linear-functional organizational structure of management has a developed hierarchical apparatus, and that is why it causes lack of sufficient flexibility. The solution to this problem may be the use of an organizational management structure with decentralized divisions and centralized logistics, whose divisions receive a certain independence in decision making. The corporative strategic development is formed above the hierarchical pyramid, but the availability of administrative, marketing, logistic and production divisions in each individual division provide timely reaction to changes in a particular segment of the market, informing the top-level management about this.

The indicators calculations confirmed the effectiveness of the new organizational structure.

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Наукове видання

Міжнародний конкурс студентських наукових робіт

BLACK SEA SCIENCE 2018

Матеріали

Верстка – Н.М. Ковальчук

Формат 60х84/16. Гарнітура Times New Roman.
Умовно-друк. арк. 48,07. Тираж 300. Замовлення № 0518-105.

Видавництво і друкарня – Видавничий дім «Гельветика»
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Свідоцтво суб'єкта видавничої справи
ДК № 4392 від 20.08.2012 р.