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ANALYSIS OF THE PARTICULARITIES OF CREATING A SYSTEM OF LOGICAL ACTIVITY AT THE ENTERPRISE FOR THE PRODUCTION OF TARE PRODUCTS

Abstract

Domestic packaging industry is not going through an easy time. The volume of production of polymers, corrugated cardboard, glass containers and other packaging products is falling in Kazakhstan. Today, the domestic packaging market needs to expand production that can bring the packaging platform to the level of the world's leading industries. Packaging allows to reduce the losses of products, guarantee their quality, increase their shelf life, and ensure delivery to the consumer. Product packaging plays an important role in the chain of production-storage-transportation-sales practical for all industries. Market conditions dictate the need to radically improve the competitiveness of packaging and packaging materials. When talking about the problems of creating a system of logistical activities for the production of packaging products it is important to set the basic principles, approaches, methods and indicators, according to which the system of logistics activities is formed and its performance is evaluated. The main principle of forming a system of logistics activities is that at the present stage of development of the considered enterprises, in particular, enterprises for the production of corrugated cardboard, the system is one of the main opportunities to increase competitiveness by increasing the volume of products produced. At each stage of the product lifecycle (in accordance with the marketing concept), logistics activities play a role. The terms of supply of inventory (their availability) and terms of execution of orders accepted by the company may change depending on the current market opportunities and competitive situation.

Key words: logistics activity, packaging industry, management efficiency, cost, price, packaging quality, competitiveness.

Perhaps, not a single enterprise engaged in the production and sale of goods can do without packaging containers. Having made a product, it is also important to take care of its packaging.

In the market of packaging materials and specialized equipment, the most prevailing industry is the economy, which forces to create and improve packaging, is the food industry (Figure 1).

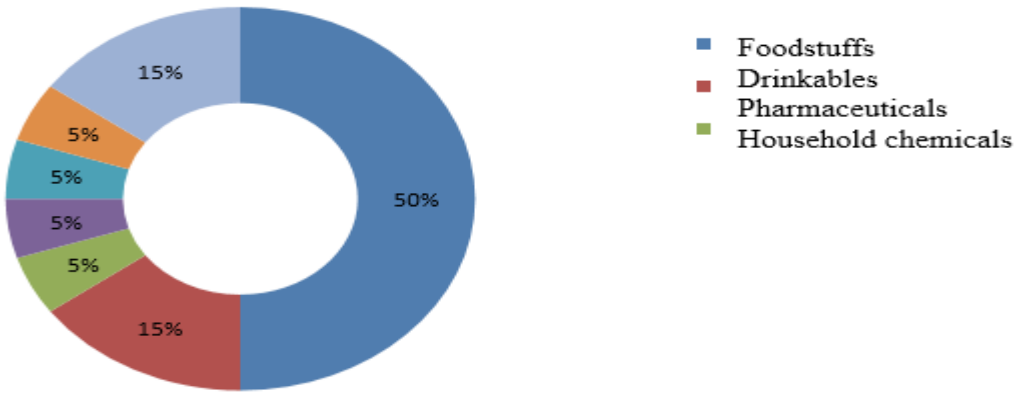

Figure 1 – The market for packaging materials and equipment

The domestic packaging industry is going through difficult times. The volume of the packaging market in Kazakhstan is declining in the production of polymers, corrugated cardboard, glass containers and other packaging products. Local manufacturers of packaging and specialized equipment own 35% of the market, and such manufacturers comprise approximately 300 enterprises, the rest is imported from China and Russia. According to experts, the Kazakhstani packaging and equipment market is approximately 25 times smaller than the Russian one. Considering the structure of the packaging and equipment market in Kazakhstan, it is observed that 40% is polymer packaging, 30% is paper and corrugated cardboard packaging, 30% is glass, metal containers and packaging materials and equipment (Figure 2).

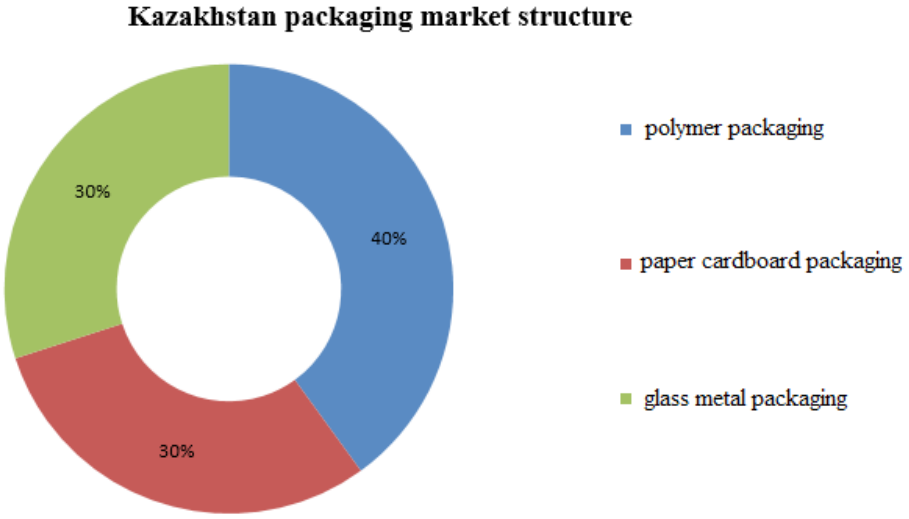

Figure 2 – Kazakhstan market of packaging and equipment

Today, the domestic packaging market needs to expand its products, which can bring the packaging industry to the level of leading world industries. PACKING allows to reduce losses of products, to guarantee its quality, to increase the period of its storage, to ensure delivery to the customer. Yes, and for its own sake, the packaging of the products plays the most important part in the product chain – storage – transportation – implementation of the practice for all industrial processes, which is relevant.

Thus, market conditions dictate the need for a dramatic increase in the competitiveness of packaging and packaging materials.

Speaking about the problem of creating a system of logistics activities for the production of consumer goods, it is important to identify the basic principles, approaches, methods and indicators, according to which a system of logical activity is being formed, an assessment is made of the effectiveness of its work.

The basic principle of the formation of a system of logical activity is that, at the modern stage of development of the manufacturing enterprises (and in the number of enterprises producing corrugated paper), the system is one of the main ways to increase competitiveness by increasing the volume of manufactured products.

At each stage of the product life cycle (in accordance with the concept of marketing), logical activity plays a certain role. The terms and conditions of the offer of reserves (their availability) and the terms of fulfillment of orders accepted by the company may vary depending on the prevailing market conditions and the competitive situation.

The product life cycle diagram well covers the whole spectrum of typical strategies for creating a logical server system, which are necessary for adapting to changing needs in the server. There is no general rule of action. The strategy of creating a system of logical service is always subject to specific market, competitive conditions, as well as customer inquiries [1].

When choosing a supplier, the customer takes into account the possibility of the latter in the field of logistic service, that is, the competitiveness of the supplier affects the competence and quality of the services offered to them.

Regardless of the specifics of a particular segment, when carrying out logical activity, the basic logistic principle must be fulfilled – a high economic effect. The implementation of this principle can be achieved by a high quality logistic server [2].

In the modern practice of the work of the enterprises under consideration (for example, a company for the production of a blackboard), a lot of customer service parameters are used.

The following is an example of a generalized classification (characterizing the main areas of the server assessment):

- the time from the receipt of the order to delivery;
- stability of supply;
- convenience of placing and confirmation of the order;
- objectivity of prices and regularity of information on costs per service;
- opportunity to provide loans;
- efficiency of processing technology on warehouses;
- quality of packaging;
- the possibility of choosing a delivery method.

The clarity of the consumer server is characterized by the time it takes to maintain a supply chain. Consumers believe that it is better to complete the order in exactly 10 days than the cycle time will fluctuate from 3 to 30 days.

Consumers, depending on their interests and inclinations, can be divided into three groups (Figure 3).

For each of the selected groups of customers (segments), a certain level of logical activity is required, which will determine the volume of sales in a specific segment.

So, for the first segment, the indicators will be critical, characterizing, for example, the percentage of damage to loads, methods of working with recommendations. Consumers belonging to the second segment will prefer to guarantee the high speed and reliability of order fulfillment (value of the functional cycle, flexibility in the process of acceptance and processing of orders, flexibility when choosing a method of transportation, etc.). The third group will select a supplier who will be able to accept all operations associated with the planning of production and delivery of materials to the warehouses of buyers.

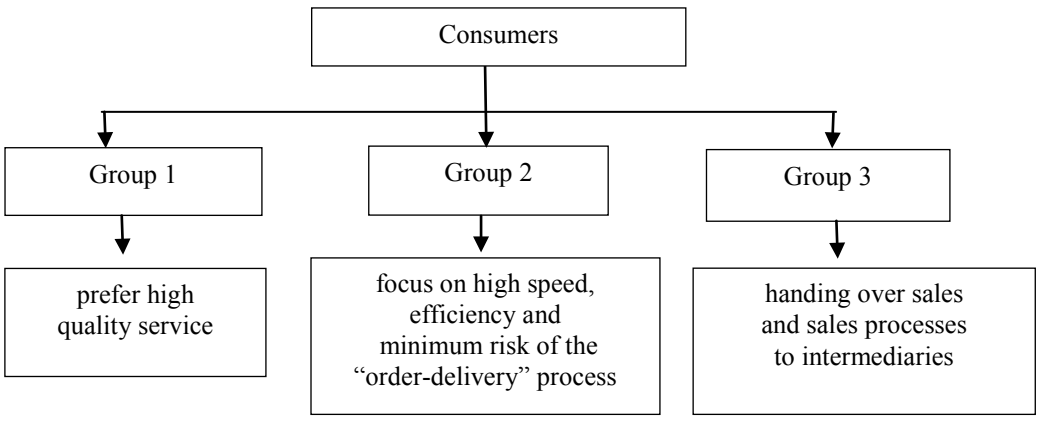

Figure 3 – Specific groups of consumers of products and services of enterprises for the production of packaging products

Consequently, the correlation in the segmentation of customers can have a significant impact on the volume of sales in the container sector. However, it is only small to offer a particular segment a specific set of services, it is important to determine how effective the proposed level of server is. For these purposes, an assessment of the effectiveness of the logical server is required.

Indicators and units of measure describe the results of individual tasks, of which the process of processing and sending orders are dropped. Examples of such units are: the number of orders received from customers; the number of orders received from suppliers; the number of orders shipped to customers, etc. These indicators record the volume of work, and, in some cases, the level of productivity [3]. Table 1 shows the estimated figures that are most often used by companies using the corrugated board.

The marked indicators are oriented to a greater extent for the consumer and characterize mainly the speed of the order through the supply chain of the manufacturer. The importance and relevance of the application of these indicators is unclear, since they reflect the general principles of organizing a logical service system on a specific enterprise (reliability, functionality and accessibility). In addition, using the indicated group of indicators, it is easy to assess the level of the logistic server for competing enterprises [4].

All of the indicators shown reflect the time required to complete one or another operation. This characteristic, although it is one of the most important for consumers, cannot be used as a unique indicator for creating an effective system of logistic and evaluation of its development level. It is important to evaluate how much resources the manufacturer will use to achieve certain indicators. For these purposes, there are a number of internal indicators for evaluating logical activity. Evaluation by internal indicators is intended to compare current performance with past and target targets. From the position of a company providing a logical service, indicators can be broken down into the following categories: costs, customer service, productivity, asset management, quality [5].

Table 1 – Indicators of the logistics system, the most commonly used by companies for the production of corrugated board

Indicator	Estimated Base	Unit of measure
Ordering Period	based on 1 order	hour
Order Delivery Period	based on 1 order	hour
Order picking period	based on 1 order	hour
Order Processing Period	based on 1 order	hour

Costs. This group directly reflects the results of logical activity. The value of the costs is expressed either by the total amount of the cost, or by the amount of money per assortment position (unit costs), or by any share in the volume of sales:

- unit costs, tenge / unit;
- share of costs in sales, %;
- costs of outgoing deliveries, tg;
- share of warehouse expenses, %;
- administrative expenses, tg;
- share of costs for processing orders, %;
- direct costs for the payment of labor, tg.

The indicated list of indicators reflects some groups of costs of a logistic server in an industrial enterprise. These costs can be calculated using various methods. It is possible to carry out accounting in the calculation for an optimal position, to which the service is extended; you can take them into account per unit of output.

The evolving practice of cost accounting for logistic activities, in particular, in enterprises producing a corrugated board, refers to the first option of cost accounting, that is, in terms of the assortment position, to which the logistic service is extended.

Productivity is one of the most important characteristics of the operation of all systems. Performance is measured by relegating the final result of the “out” system (that is, the volume of products and services produced) to the amount of “out-of-band” resources that the system needs to receive this result. In such a simple form, to evaluate the productivity can only be achieved if the

system has a measurable result "on entry" and amenable to a quantitative assessment of the "on exit" result. Difficulties arise in the following situations:

- the result "on the way out" can hardly be measured, and the use of input resources can be easily correlated with a predetermined period of time;
- constantly changing the structure or type of end result or input resources;
- it is difficult to obtain the necessary data or they are unavailable at all.

Measurement of the indicator of the effectiveness of the system of the logical server, by analogy with the accounting of costs, it is logical to compare with the assortment positions, for some the service is extended. This restriction makes it possible to redistribute the results of the system of logical service and traditional indicators of the result.

Valuation of company assets. This procedure is aimed at assessing the effectiveness of the use of capital, invested in basic equipment (equipment and equipment), as well as return on capital, invested in reserves.

An assessment of asset management shows how liquid assets (in particular, reserves) are "handled" so quickly and how much less capital assets are invested in them.

Possible indicators of the performance of the logistic server system:

- number of shipment for one employee, pieces of orders;
- units of sales per unit of salary, pieces;
- the number of orders per trading agent, pieces;
- industry indicator – budget normative of the enterprise, %.

Indicators of the efficiency of asset management of a logical activity (service):

- processing reserves, days;
- the costs of maintaining reserves, tg;
- level of reserves, number of days for replenishment;
- outdated stocks, tg;
- rentabilityof investments, %.

For companies that produce corrugated cardboard, due to the specifics of the production process, the most relevant indicators from the above are those related to finished product inventory (turnover, inventory maintenance costs, number of days to replenish inventory, inventory level). Moreover, as in previous cases, the most complete reflection can be obtained when using these indicators in the context of assortment items that are covered by logistics activities.

Quality of service. Quality indicators are developed to determine the effectiveness of a set of operations rather than the operations themselves. It is usually difficult to measure quality because of the heterogeneity of the operations to be evaluated. Often used by companies that produce corrugated cardboard indicators of service quality:

- frequency of damage to the products, %;
- cost of damaged products, tg;
- number of claims for damages, PCs;
- number of product returns from consumers, PCs;
- the value of the returned goods, tg.

All of the above indicators should be actively used as indicators for assessing the level of logistic activity of enterprises for the manufacture of corrugated paper. On the basis of the indicated indicators, the results of the process of working with advertisements from customers are analyzed, and the work of the divisions of the logistics departments (in particular the warehouses of finished products and customer departments) is evaluated.

Despite the fact that the perfect order is a guideline for the perfect execution of the order, the actual practical productive activity does not make it possible to achieve such a standard.

Internal evaluation indicators reflect the effectiveness of the operations required for the customer service. So, in real practice, the production of a corrugated board, the most often used indicators of the level of logical activity, are shown in Table 2 (p. 127).

Table 2 – The most frequently used indicators of the level of the logistic service provided by the manufacturers of the corrugated board

Name	Unit of measure	Business Average
Delivery on time	%	From 90% of all delivered orders
Unloading the finished product warehouse	Sq.m finished products	Up to 80% storage capacity
Level of recommendations	order	Up to 10% of all delivered orders
The share of overdue payments in the volume of sale	%	Up to 5% of sales volume in monetary terms
Delayed payment delays	Banking days	Up to 15 days
Duration of customs clearance	Calendar days	Up to 5 days

Usually a combination of the three methods of comparative analysis is used. The first one involves the use of open logical data, which can be obtained, for example, from a periodic print. The second method involves specific studies of non-competing companies in their own or related sectors. In this case, a mutual study of the pricing and evaluation systems takes place in order to find ways for improvement. The third method is based on combining with other organizations for a systematic exchange of data and comparative analysis [6].

To a greater or lesser extent, both indicators are used in practice by manufacturers of the corrugated board. The marked indicators complete the list of indicators of the system for evaluating the level of logical activity.

The first indicator, namely, consumer surveys regarding their assessment of the level of service provided by the logistics company, is used by the majority of enterprises on a regular basis, while the second time is much less common.

This is due to the characteristic features of the market participants, which are suitable to provide data, in particular, on the achieved level of the logical server. Information is often carried out by sampling and sampling. These data mainly describe the range of services provided and data for some of the indicators.

Having determined the indicators that characterize the various operations to provide a logical server, it is important to evaluate what the economic efficiency of the logical activity is.

Logistic activity has a high potential for economic efficiency. The economic effect of the logistics service is manifested in the high level of organization of the production and the service, and, as a result, the economy of the natural and monetary indicators on the one hand and the high level of customer satisfaction.

In relation to the enterprises under consideration for the production of corrugated board, the effectiveness of the server may be reflected by the following natural indicators:

- level of stocks and reduction in the need for warehouse space;
- time of passage of materials along the logistic chain;
- the duration of the order service cycle;
- quality server;
- dimensions of the party cargo;
- level the use of production facilities;
- stability of work;
- storage of product quality upon delivery.

Logistic service costs can reach a share of 15% [6] of the total costs of the company for the production of products. If you take the cost on a 100% service, then the specific weight of the individual components is distributed as follows:

- transportation of 28–48%;
- warehouse operations and storage of cargo 25–40%;
- packaging 5–18%;
- costs of managing 4–15%, etc.

The most important efficiency factor, according to the determination, is the cost structure for the logistics service, as well as what kind of expenses these costs take in the process of calculating the total cost of producing a unit of production.

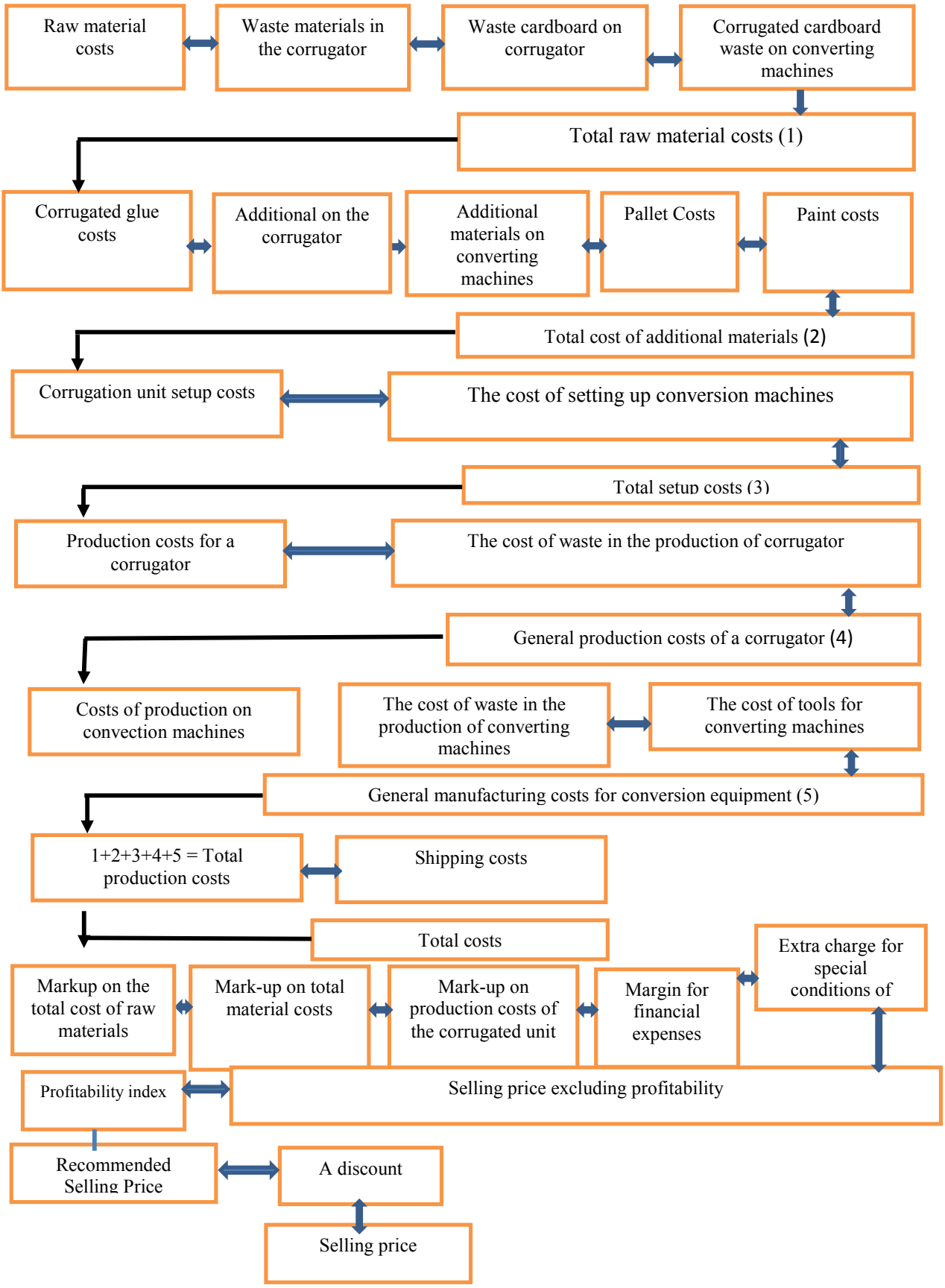

Figure 4 – Formation of the real estate cost and sale price
of enterprises for the release of a corrugated board

The cost structure and pricing model of a particular industry are also important because it incorporates a method of compensating for additional services. For an example, it is possible to consider the process of price formation for the final product at enterprises for the production of corrugated board on the example of the price model "StoraEnsoPackaging" [7] (Figure 4).

Shows a typical cost structure, included in the cost of production of enterprises for the production of corrugated paper.

Thus, from the above structure it is clear that the cost of a logical service (which is due to the level of service from the top base) may not have a direct impact on the cost of production and serve only as compensation for the loss of its real or potential losses for the provision of additional services.

Thanks to the same fact, the logical service, as an integral element of the final price, allows the company to conduct a flexible and motivated price policy without making any adjustments to the cost elements [7].

Having analyzed the existing approaches to determining the concept of a logical server, giving a scientific definition and delimiting it with the baseline definition of a server, as a set of performance indicators that characterize the performance of an industrial highlighting the concepts of different levels of the logical server, it is necessary to determine what factors influence the development of a logical server for the enterprises under consideration and in what economic conditions the existing views and approaches apply.

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Аңдатпа

Отандық қаптама саласы қиын кезеңдерді бастан өткеруде. Қазақстан полимерлер, қатпакартон, шыны ыдыстар және басқа да қаптамалық өнімдер өндірісі төмендеуде. Бүгінгі таңда ішкі қаптама нарығы өз өнімдерін кеңейту керек, бұл қаптама саласын жетекші әлемдік өндірістер деңгейіне жеткізе алады. Қаптау өнімнің шығынын азайтуға, оның сапасына кепілдік беруге, сақтау мерзімін ұлғайтуға, тапсырыс берушіге жеткізуді қамтамасыз етуге мүмкіндік береді. Өнімнің қаптамасы барлық өндіріс салалары үшін «өндіріс – сақтау – тасымалдау – өткізу» тізбегінде маңызды рөл атқарады. Нарық жағдайы қаптама мен қаптама материалдарының бәсекеге қабілеттілігін күрт арттыру қажеттілігін туындатады. Қаптама өнімдері бойынша логистикалық қызмет жүйесін құру мәселесін айта келе, логикалық қызмет қалыптасатын, оның жұмысының нәтижелілігіне баға берілетін негізгі принциптерді, тәсілдер мен көрсеткіштерді анықтау маңызды. Логистикалық қызмет жүйесін құрудың негізгі қағидаты қарастырылатын кәсіпорынның қазіргі заманғы сатысында, атап айтқанда, қатпакартонды өндіру бойынша кәсіпорындар жүйесі өндірілетін өнімнің көлемін ұлғайту арқылы бәсекеге қабілеттілікті арттырудың негізгі жолдарының бірі болып табылады. Өнімнің өмірлік циклінің әрбір кезеңінде (маркетингтік тұжырымдамаға сәйкес) логистикалық қызмет белгілі бір рөл ойнайды. Кәсіпорынмен қабылданған қорларды ұсыну жағдайы (олардың қолжетімділігі) және тапсырыстарды орындау мерзімі орын алған нарықтық мүмкіндіктер мен бәсекелестік жағдайға байланысты өзгеруі мүмкін.

Тірек сөздер: логистикалық қызмет, қаптама индустриясы, басқару тиімділігі, өзіндік құн, баға, қаптама сапасы, бәсекеге қабілеттілік.

Аннотация

Отечественная упаковочная индустрия переживает нелегкие времена. В Казахстане падает производство полимеров, гофрокартона, стеклотары и другой упаковочной продукции. Сегодня отечественному рынку упаковки необходимо расширить виды производства, которые могут вывести тароупаковочную отрасль на уровень ведущих мировых индустрий. Упаковка позволяет сократить потери продукции, гарантировать ее качество, увеличить сроки ее хранения, обеспечить доставку потребителю. Упаковка продукции играет важнейшую роль в цепочке «производство – хранение – транспортировка – реализация» практически для всех отраслей промышленности. Рыночные условия диктуют необходимость кардинального повышения конкурентоспособности производства упаковки и упаковочных материалов. Говоря о проблеме создания системы логистической деятельности предприятия по выпуску тарной продукции, важно выявить основные принципы, подходы, методы и показатели, согласно которым формируется системалогистической деятельности, происходит оценка результативности ее работы. Основной принцип формирования системы логистической деятельности состоит в том, что на современном этапе развития рассматриваемых предприятий, в частности, предприятий по производству гофрокартона система является одним из основных способов повышения конкурентоспособности посредством увеличения объемов производимой продукции. На каждом этапе жизненного цикла продукта (в соответствии с концепцией маркетинга) логистическая деятельность играет определенную роль. Условия предложения запасов (их доступность) и сроки исполнения заказов, принятые предприятием, могут меняться в зависимости от сложившихся рыночных возможностей и конкурентной ситуации.

Ключевые слова: логистическая деятельность, упаковочная индустрия, эффективность управления, себестоимость, цена, качество упаковки, конкурентоспособность.