

IMPROVING MARKETING LOGISTICS MANAGEMENT OF ENTERPRISES OF AGRO-INDUSTRIAL COMPLEX

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Abstract. The *Purpose* of the paper is to prove the need of improving marketing logistics management at enterprises of agro-industrial complex with the use of balanced scorecard method that will allow objectively evaluate its effectiveness. *Methodology.* The survey is based on the use of general scientific research methods, methods of analysis and synthesis, method of abstraction. *Results.* Research of state sales of agricultural products in agrarian enterprises helped us to identify and organize the following disadvantages: intermediary structures that are engaged in marketing of agricultural products significantly increase their costs that excess in 2-4 times the original price of agricultural products; inadequacy of agricultural market infrastructure and lack of wholesale and retail markets for agricultural products; low level of development of information electronic communications; backwardness of transport infrastructure and poor quality of roads, particularly in rural areas; high level of physical and moral deterioration of transport; low level of development of industrial and technological base of agricultural enterprises warehousing. *Practical implications.* We systemized and proposed indicators of evaluation of marketing logistics at enterprises of the agro-industrial complex based on the Balanced Scorecard in key areas: financial and cost-effectiveness indicators; indicators of internal logistics business processes; quality and development staff; indicators in the direction of working with clients. To the financial indicators and indicators of economic efficiency we included such as sales per 1 employer at marketing department (Qs/employer), proportion of logistics cost of marketing in the total cost of the enterprise (%), coefficient of the implementation of marketing plan (Cm), ROI in logistics marketing (%), profitability of marketing channels (%). Internal logistics business processes in enterprises of the agro-industrial complex represented by such indicators as the share of orders that executed late, including objective reasons (%), share of reject (fault of the manufacturer) (%), share of violating the terms of delivery, including objective reasons (%), speed of loading-unloading works (Sp). Indicators of evaluation of marketing logistics in the direction of quality and staff development at enterprises of the agro-industrial complex are characterized by such indicators as share of qualified personnel in marketing department (%), coefficient of employee turnover (Ce), share of expenditure on staff training in marketing department (%), level of investment return of staff training in marketing department (L). As the indicators of evaluation of marketing logistics at enterprises of the agro-industrial complex in the direction of working with clients, we proposed such as the share of stable clients (%), reliability of supply (Csr), speed of customer and clients service (Csp), share of complaints on supply (%). *Conclusions.* Thus, using the proposed indicators of evaluation of marketing logistics in various areas, management of enterprises of the agro-industrial complex should determine the optimal set of parameters that will allow making realistic assessment of the results of functioning of its marketing logistics.

Key words: management, estimation of sale logistic, Balanced Scorecard system, agrarian enterprises, sale logistic.

JEL Classification: L22, M31, R14

1. Introduction

Enterprises of the agro-industrial complex are the system of interconnected logistics operations with the movement of agricultural raw materials, products, property and information for the purpose of meeting the needs of their customers and maximize own profit.

Therefore, implementation of management subsystem of marketing logistics that is implemented by function of

management is really important for the enterprises of agro-industrial complex, due to the following factors, such as the high costs of production and sale of domestic products; considerable lag sphere of circulation of agricultural products from the production sector; lack of logistics system of sales.

Sales of agricultural products dealing with intermediary structures that increase costs that

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exceeding in 2-4 times the original price of the product; imperfection of agricultural market infrastructure development and lack of wholesale and retail markets of agricultural products; low level of development means of the information electronic communications; underdevelopment of transport infrastructure, quality of roads, particularly in rural areas; high level of physical and moral deterioration traffic; low level of development of industrial and technical base of warehouse facilities of agricultural enterprises (Zarubanna, 2014).

So at enterprises of the agro-industrial complex should be set up the logistics management subsystem, experts of which could ensure the implementation of specified functions and be able to adequately assess the effectiveness of marketing logistics management.

2. Scientific analysis of categorical apparatus

Value of sales logistics in enterprise management and evaluation of its performance are investigated in the work of such scientists as Alyesinskaya T.A., Anikin B.A., Zarubanna L.V. (Zarubanna, 2014), Vitkovski J., Coyle J., Robert S. Kaplan, Mirotin L.B. Among Ukrainian scientists engaged in matters of logistics enterprises subsystem we can distinguish such as Balabanov L.V., Golikov E.A., Degtyarenko V.N., Kirshyn M.V., Kolmakova O.M. (Kolmakova O.M., Smachylo V.V., 2012), Krykavsky E.M. (Krykavsky, 2006), Malyarets L.N., Smyrchynskyy V.V. (Smyrchyns'kyj, 2008), Ryszard B. and Jakubiec M. (Barcik Ryszard and Marcin Jakubiec, 2013) etc.

But our research of the scientists' works shows that they did not have a common approach to assessing

indicators of marketing logistics management in enterprises of the agro-industrial complex that develops under fierce competition and demanding consumer needs for quality agricultural products and services.

If we want to improve the business activity of agricultural enterprises we need to study and improve marketing logistics management in enterprises of agro-industrial complex.

In Table 1 we study reviews of the literature sources about scientists concerning the interpretation of the essence of the concept "sales logistics".

So, we can evaluate the effectiveness of marketing logistics management at enterprises of the agro-industrial complex as a whole, the efficiency of logistics services (division) within a particular enterprise or to count only individual logistic indicators if the agricultural company does not have such unit.

3. Methods of assessing the indicators for logistics management at enterprises of agro-industrial complex

Generalizing definitions of theorists and practitioners regarding the concept of "marketing logistics" suggests defining the features of marketing logistics:

- planning, control, and management of transportation, warehousing and other tangible and intangible transactions (Zarubanna L.V., 2014; Kyslyj V.M., Bilovods'ka O.A., Olefirenko O.M., 2010; Krykavsky E.M., 2006);
- part of the common enterprise logistics system that provides a rationalization of physical promote products

Table 1

The interpretation of scientists' definition of "marketing logistics"

Definition of "marketing logistics"	Author
Planning, control, and management of transportation, warehousing and other tangible and intangible transactions, carried out in the process of bringing the finished product to the customer in accordance with the interests and requirements of the latter, as well as transmission, storage, and processing of relevant information.	Zarubanna L.V. (Zarubanna L.V., 2014)
Part of the general enterprise logistics system that provides rationalization of physical promotion of products to consumers.	Kolmakova O.M. (Kolmakova O.M., Smachylo V.V., 2012)
Complex interrelated functions that implemented in the process of distribution of material flow between different wholesale buyers, including the activities of planning, control, and management of transportation, warehousing and other tangible and intangible transactions that are carried out in the process of bringing the finished product to the customer in accordance with its interests and requirements.	Krykavsky E.M. (Krykavsky E.M., 2006)
Part of the general logistics system that provides the most effective organization of products distribution. It covers the entire chain of distribution systems, marketing, transportation, storage, and others.	Smyrchynskyy V.V. (Smyrchyns'kyj V.V., 2008)
Planning, managing and physical processing of the flow of finished products accompanied by the necessary information, financial and service flows from the moment of acceptance of goods from production to the customer in order to optimize consumables and time characteristics of that parts of tangible and intangible flows.	Kislyj V.M. (Kyslyj V.M., Bilovods'ka O.A., Olefirenko O.M., 2010).
A sign of coherence of logistics and marketing is a concept called marketing logistics. Taking of logistic activities in cooperation with marketing happens in area of point of contact, which is logistics in delivery and distribution, creating commonly a structure of marketing logistics.	Ryszard B. and Jakubiec M. (Barcik Ryszard and Marcin Jakubiec, 2013)

to consumers (Zarubanna L.V., 2014; Krykavsky E.M., 2006);

- set of related functions that are implemented in the process of distribution of tangible and intangible flows (Zarubanna L.V., 2014; Kyslyj V.M., Bilovods'ka O.A., Olefirenko O.M., 2010; Krykavsky E.M., 2006);
- part of the general enterprise logistics system (Kolmakova O.M., Smachylo V.V., 2012; Smyrchyns'kyj V.V., 2008);
- ensures the efficient organization of production distribution (Smyrchyns'kyj V.V., 2008).

Investigating definitions of theorists and practitioners regarding the concept of “marketing logistics” we appropriate to define it as *a subsystem of the general logistics management of enterprise, which represents the process of management of planning, control of marketing logistics operations in order to meet consumer demand with minimal costs, taking into account the features that are related to the production, warehousing, storage and transportation of agricultural products.*

Unlike existing interpretations, our proposed definition enables more holistically reveal the essence of marketing logistics, including three components:

- organizational aspects of marketing logistics at the enterprise;
- customer satisfaction;
- disclosure of the essence of marketing logistics, considering the features of agricultural enterprises.

Synthesis of methods and systematization of assess indicators of logistics activity of enterprises of agro-industrial complex, including of marketing logistics provided an opportunity to highlight the following methodological approaches:

1. Functional efficiency of logistics is measured as a useful economic effect (number of manufactured products, volume of logistics services, value of received profits and so on, and also demonstrates a high level of production and as a result of savings in material and financial resources).

2. Comparison of the results that are achieved in the process of functioning of the logistics system and the cost of their achievement gives a better judgment about

the effectiveness of logistics savings and inventory sales. This integrated indicator may be an indicator that represents the ratio of economic benefits derived from the implementation of the logistics concept and the capital that was invested in logistics.

For a quantitative assessment of such economic category as efficiency, we should use a relative measure – coefficient of efficiency (Ce) of material flow in the logistics chain. Building efficiency indicators are based on relation “actual effect to the potentially possible effect”:

$$Ce = Ef / Pf, \tag{1}$$

There Ef – actual effect derived from the functioning of material flow in the logistics chain for a certain period of time, UAH per units of products;

Pf – maximally achievable (potential) effect, which can be obtained in specific conditions of production for the same period of time, while optimizing material flow, UAH per units of products (Krykavsky, 2006).

Accepting with the proposals of authors, we offer to evaluate the effectiveness of marketing logistics management in enterprises of the agro-industrial complex by the Balanced Scorecard method.

The main purpose of the use of the Balanced Scorecard is to provide quantitative and qualitative consistency between different indicators that help holistically measure the effectiveness of marketing logistics and consequently the success activity of the enterprises of the agro-industrial complex (Anykyna B.A., 2009; Myrotyn L.B., Tashbaev I.E., Kasenov A.G., 2012).

Developing this idea, we offer to evaluate marketing logistics management at enterprises of the agro-industrial complex in four directions (Fig. 1).

More detailed assessment areas of marketing logistics management at enterprises of the agro-industrial complex are considered, offering specific indicators for any of them. Depending on the strategic objectives of enterprises of the agro-industrial complex that are set by the direction for the sales department, in each case should be chosen an optimal set of financial indicators for their complex analysis (Table 2).

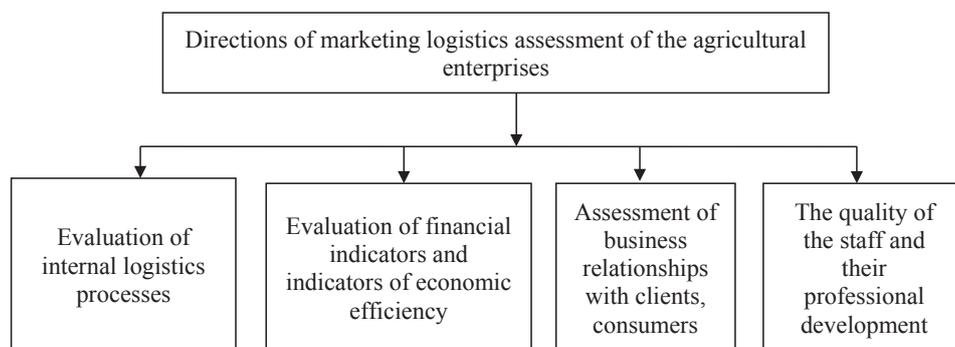


Fig. 1. Evaluation of marketing logistics management at enterprises of the agro-industrial complex for the defined areas

For the purpose of assessing marketing logistics management at enterprises of the agro-industrial complex in the direction of assessment of internal logistics business processes, each enterprise of the agro-industrial complex depending on the specifics should identify those business processes, which are in high priority for internal logistics processes, and constantly monitor their implementation.

So in Tab. 3 we offer indicators of evaluation of internal logistics business processes at enterprises of the agro-industrial complex.

Unfortunately, in practice of domestic enterprises of the agro-industrial complex, estimation of marketing logistics in the direction of quality and development of staff is less popular than on the financial direction. Not

Table 2

Indicators of marketing logistics management at enterprises of the agro-industrial complex on financial indicators and indicators of economic efficiency

Indicator	Formula	Characteristics of indicator
Sales per 1 employer at marketing department ($Q_s/\text{employer}$)	Sales of finished products/number of employees at marketing department	Indicator is calculated for the purpose of comparing its dynamics or with other enterprises-competitors
Proportion of logistics cost of marketing in the total cost of the enterprise (%)	Cost of marketing / total costs of the enterprise	Characterizes the importance of the cost of marketing in the structure of total cost of the enterprise
Coefficient of the implementation of marketing plan (C_m)	(Actual marketing volume – planned marketing volume) / Planned marketing volume	The severity of the calculation consists in the contingency plans, as well as their reliability
ROI in logistics marketing (%)	(Net income / total investment in marketing logistics) * 100%	The presence of indicators about the amount of investment at the enterprise
Profitability of marketing channels (%)	(Profit of marketing channels – cost of marketing, transportation, lack of storage) / (cost of marketing) * 100%	The indicator shows profitability of marketing channels and used for the purpose of comparison and optimization

Table 3

Indicators of the evaluation of marketing logistics in the direction of assessment of internal logistics business processes at enterprises of the agro-industrial complex

Indicator	Formula	Characteristics of indicator
The share of orders that are executed late, including objective reasons (%)	(The share of orders that executed late, including objective reasons / Total number of orders) * 100%	Refers to the indicators that characterize the reliability of supply
The share of reject (fault of the manufacturer), (%)	(Amount of reject products / Total number of products) * 100%	Provides information about work of system of quality control
The share of violating the terms of delivery, including objective reasons (%)	(Amount of deliveries violating the terms of delivery, including objective reasons / Total amount of deliveries) * 100%	Violation of terms of delivery is possible for objective reasons and subjective reasons
The speed of loading-unloading works (S_p)	(Actual time – normative time) / (Normative time of loading-unloading works)	Shows the speed of technical staff work

Table 4

Indicators of the evaluation of marketing logistics in the direction of quality and staff development at enterprises of the agro-industrial complex

Indicator	Formula	Characteristics of indicator
The share of qualified personnel in marketing department, (%)	(The share of qualified personnel in marketing department / Total amount of qualified personnel in marketing department) * 100%	Qualified personnel in marketing department provides positive work in the department
Coefficient of employee turnover, (C_e)	(Employees who left enterprise for a certain period – inevitably released employees) / average number of employees during the corresponding period	Shows dissatisfaction employees with working conditions
The share of expenditure on staff training in marketing department, (%)	(The cost of training staff in marketing department/sum of costs for training all employees) * 100%	Comparing the cost of training staff in marketing department with the cost of training all employees in enterprise
Level of investment return of staff training in marketing department, (L)	Cash sales from revenue/cost of training staff in marketing department	It is difficult to distinguish changes in money earnings revenue and level of investment spending after education of staff training in marketing department

Table 5

Indicators of the evaluation of marketing logistics at enterprises of the agro-industrial complex in the direction of working with clients

Indicator	Formula	Characteristics of indicator
The share of stable clients, (%)	$(\text{The share of stable clients} / \text{Total amount of clients}) * 100\%$	Characterizes on how much consumers are satisfied with the work of the enterprise
Reliability of supply, (Csr)	$\text{Number of completed deliveries} / \text{Total amount of planned supply}$	Determines on how the enterprise complies with the terms of delivery
The speed of customer and clients service, (Csp)	$\text{Number of timely supply} / \text{Total number of deliveries}$	Depending on the information obtained via telephony clients and consumers
The share of complaints on supply, (%)	$(\text{The number of orders on which complained} / \text{Total number of orders}) * 100\%$	Diagnoses level of customers' service quality through surveys.

all enterprises of the agro-industrial complex used this way, but the study of the quality of the human resources, performance of their work and methods of stimulating work activity will help to identify the reserves of increasing staff productivity and also efficiency of enterprises of the agro-industrial complex as a whole.

Therefore, indicators of evaluation of marketing logistics in the direction of quality and staff development at enterprises of the agro-industrial complex we propose to consider in the Table 4.

Evaluation of marketing logistics in the direction of client and customers services are diverse, and that is why we can evaluate it by using indicators of reliability, stability, speed, flexibility because good governance work with the clients is a factor that improve the competitiveness of agricultural enterprises in market conditions.

Actions on formation of the system of logistics services at the enterprises of the agro-industrial complex are performed in the following sequence:

- segmentation of the consumer market, its division into specific consumer groups, any of each may require certain services according to the characteristics of consumption;
- determining the list of the most important for customers services;
- systematization of services included in the drawn up list, focusing attention on the most important services for customers;
- setting standards of services for different market segments;

- evaluation of services provided, establishing the relationship between service level and cost of services provided, determining the level of service that is necessary to ensure the competitiveness of enterprises of the agro-industrial complex;

- establishment of feedback with customers to ensure compliance with marketing services to the needs of customers.

Indicators of evaluation of marketing logistics at enterprises of the agro-industrial complex in the direction of working with clients, consumers are in the Table 5.

4. Conclusions

Thus, using the proposed indicators of evaluation of marketing logistics in various areas, management of enterprises of the agro-industrial complex should determine the optimal set of parameters that will allow making realistic assessment of the results of functioning of its marketing logistics. However, we encourage responsible managers and experts to carry out such an assessment systematically and on the condition of comparison of its results in dynamics, as well as with results of other agricultural enterprises-competitors.

The prospect of further research is to develop indicators to measure the marketing logistics in the context of the various options of its organization at enterprises of the agro-industrial complex, depending on the size and specifics of their activities.

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УСОВЕРШЕНСТВОВАНИЕ УПРАВЛЕНИЯ СБЫТОВОЙ ЛОГИСТИКОЙ ПРЕДПРИЯТИЙ АГРАРНО-ПРОМЫШЛЕННОГО КОМПЛЕКСА

Аннотация. *Цель исследования* – доказать необходимость совершенствования управления сбытовой логистикой предприятий аграрно-промышленного комплекса с помощью метода сбалансированной системы показателей, который позволит объективно оценить ее эффективность. *Методы исследования.* В процессе написания статьи были использованы общенаучные методы исследований, методы анализа и синтеза, метод научной абстракции. *Результаты исследования.* Исследование состояния сбыта сельскохозяйственной продукции аграрных предприятий позволили выявить и систематизировать следующие недостатки: посреднические структуры, занимающиеся сбытом аграрной продукции значительно увеличивают расходы, превышающие в 2-4 раза первоначальную цену сельскохозяйственной продукции; несовершенство развития инфраструктуры аграрного рынка и отсутствие оптово-розничных рынков сельскохозяйственной продукции; слабый уровень развития средств информационных электронных коммуникаций; отсталость транспортной инфраструктуры и низкое качество автомобильных дорог, особенно в сельской местности; высокий уровень физического и морального износа транспорта; низкий уровень развития производственно-технической базы складского хозяйства аграрных предприятий. *Практическое направление.* Нами систематизированы и предложены показатели оценки сбытовой логистики предприятий аграрно-промышленного комплекса на основе сбалансированной системы показателей по основным направлениям: финансовые показатели и показатели экономической эффективности; показатели внутренних логистических бизнес-процессов; показатели качества и развития персонала; показатели работы с клиентами и потребителями. К финансовым показателям и показателей экономической эффективности целесообразно отнести следующие: объем реализации на 1-го работника отдела сбыта; доля логистических затрат на сбыт в общих затратах предприятия; коэффициент выполнения плана по сбыту; рентабельность инвестиций в сбытовую логистику; рентабельность канала сбыта продукции. Внутренние логистические бизнес-процессы предприятий аграрно-промышленного комплекса представлены следующими показателями: доля заказов, выполненных несвоевременно, в т. ч. по объективным причинам; доля брака по вине производителя, доля нарушение сроков доставки, в т. ч. по объективным причинам; скорость погрузочно-разгрузочных работ. Показатели качества и развития персонала характеризуются следующими показателями: доля квалифицированного персонала отдела сбыта; коэффициент текучести кадров; доля расходов на обучение работников отдела сбыта; уровень отдачи инвестиций в обучение сотрудников отдела сбыта. Показатели работы с клиентами и потребителями представлены следующими показателями: доля стабильных клиентов; надежность поставок; скорость обслуживания потребителей, клиентов; доля жалоб на поставку. *Выводы.* Таким образом, используя предложенные показатели оценки сбытовой логистики по разным направлениям, руководство предприятий аграрно-промышленного комплекса должна определить оптимальный набор показателей, что позволит реально оценить результаты функционирования системы сбытовой логистики.