CONTROLLING AS AN INCENTIVE TO THE EFFECTIVENESS OF BUSINESS PROCESSES

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ABSTRACT

The problems that arise at the present time should be solved in a comprehensive manner, applying a logistical approach, the use of which allows to treat all enterprises as separate systems.

The application of the logistic approach presupposes a clearer description of the main business process, displaying the trajectory of material and information flows at the top level, as well as existing feedbacks. Optimization of processes occurs due to the elimination of unnecessary operations and simplification of the introduction of changes due to the standardization of the process. Description of business processes and their documentation, as well as control, analysis and adjustment of the process under the influence of feedbacks is nothing more than a subsystem of controlling of the overall logistics system of the enterprise.

Controlling involves an integrated management system of the organization, aimed at coordinating the interaction of management systems and monitoring their effectiveness. At the heart of any controlling system is the documentation of the business process and its mandatory standardization.

A step-by-step analysis of the model of business processes of the company «K» with elements of reengineering is carried out. Currently, the term «business process reengineering», according to the authors, means any change in the process, the rejection of established procedures, a fresh look at the work to create a product or a service and provide value to the client. Priority in the activity of any company is the satisfaction of the needs of customers and, accordingly, the profit. Customers evaluate the quality of service by comparing the expected quality characteristics and the quality characteristics of the actual service. The quality of service characteristic is a distinctive feature, a descriptive element of the customer service process. The gap between the expected quality of service and what has been received is called a «service expectation gap». The application of the logistic approach and Gap-analysis is demonstrated with the aim of improving the economic motivation and financial monitoring of client-oriented activities in the corporate and consumer markets. Based on the Gap-analysis, the authors proposed a model of differentiation and analysis of the inconsistencies in the actually provided quality of service to the customer's service expectations, which makes it possible to identify and differentiate the reasons for the «gap» in the customer's service expectations and the characteristics of actual services.

Keywords: commodity circulation, controlling system, business processes, model, visualization, Gap-analysis, reengineering, logistics approach, intellectual warehouse.

Background. *Analysis of studies on controlling problems shows typical contradictions associated with a narrow understanding of the term or its reduction to the concept of control, analysis in the field of finance (accounting) and management of logistics risks.*

There are many similarities that almost all companies have to face: minimization of economic risks, competitive struggle, optimization of costs, customer loyalty. Solving these problems should be integrated, applying a logistics approach that allows to perceive all enterprises as separate systems.

The application of the logistic approach presupposes a clearer description of the main business process, displaying the trajectory of material and information flows at the top level, as well as existing feedbacks. Involvement of all services of the enterprise in the implementation of the business process leads to the consistency and delineation of the responsibility of the performers. Optimization of processes occurs due to the elimination of unnecessary operations and simplification of the introduction of changes due to the standardization of the process. The description of business processes and their documentation, as well as control, analysis and adjustment under the influence of feedbacks are nothing more than a subsystem of controlling the overall logistics system of the enterprise.

Controlling is an integrated management system of an organization aimed at coordinating the interaction of management systems and monitoring their effectiveness. It can provide information and analytical support to decision-making processes when managing an organization. It includes risk management, an extensive enterprise information system, an alert system through the management of a key indicator system (KPI), management of a strategic, tactical and operational planning implementation system and a quality management system [1–4].

Objective. *The objective of the authors is to consider controlling as an incentive to the effectiveness of business processes.*

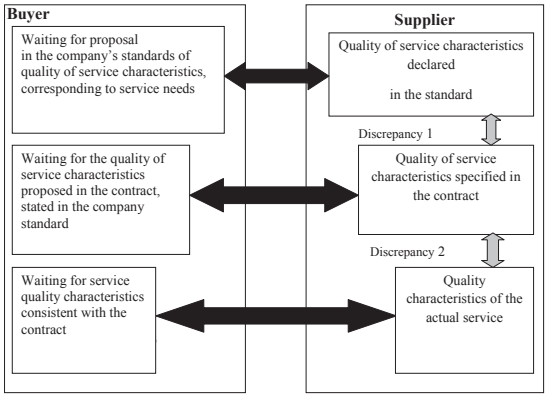
Methods. *The authors use general scientific methods, comparative analysis, evaluation approach, economic assessment method.*

Results.

I.

In our opinion, the target task of controlling is construction and improvement of an effective logistics system for making, implementing, monitoring and analyzing management decisions at the enterprise, therefore it is important to take proactive measures that do not allow the probability of entering the critical risk zone and orienting towards strategic business security management.

Let's consider the functioning of the controlling system on the example of the company «K» [2]. Priority in the activity of any company is the satisfaction of customers' needs and, accordingly, the receipt of profit. Customers evaluate the level of service by comparing the expected quality characteristics and quality characteristics held. The gap between the expected quality of service and what has been received is called a «service expectation gap». Analysis of gaps (hence the Gap-analysis) was developed by Stanford Research Institute (California).



Pic. 1. Model of differentiation and analysis of discrepancies in the actually provided quality of service to the customer's service expectations [3, 7].

The main task of Gap-analysis is to bridge the gap between what is and what should be.

Based on the Gap-analysis, the authors proposed a model of differentiation and analysis of the inconsistencies in the actually provided quality of service to the customer's service expectations (Pic. 1).

The service standards stated by the company may not fully correspond to the needs and expectations of the customer. The reason for the gap 1 (Gap 1) may be the errors committed in the study of the services market, resulting in a discrepancy between the actual service needs of the client and understand these needs by senior management of the supplier. In addition, the lack of identity of the declared standards of service to the customer's service needs can be explained by the monopolistic position of the supplier, the lack of sufficient resources, and a number of other reasons. These inconsistencies arise at the stage of strategic planning of the supplier's business. Gap 1 is not a surprise for the buyer, it is taken into account when choosing a supplier, in strategic planning and, as a rule, does not require the client to reserve any resources.

The gap 2 (Gap 2) of the customer's service expectations becomes more painful for the latter than Gap 1, because it can break his tactical and operational plans. The probability of occurrence of Gap 2 forces the client to reserve resources, create alternative channels.

The most sensitive for the client is gap 3 (Gap 3), caused by the mismatch of the service characteristics specified in the contract (discrepancy 2), the actual characteristics of the service. Discrepancy 2 may occur during the execution of warehouse work or transportation of an order to the buyer. The reason for the discrepancy 2 may also be the lack of the supplier of the stock of goods necessary for execution of an order.

Gap 3 is likely to become the cause of the claim, because it is a breach of contractual obligations. Growth of the discrepancy 2 and, consequently, Gap 3 negatively affects the competitiveness of the company. In this case, discrepancy 2, being significant for customers, should be fixed by the enterprise controlling system.

It should also be noted that for the occurrence of Gap 3, caused by the discrepancy between the quality of service characteristics specified in the contract, in the actual quality, the same contract may provide for property sanctions, but most often they are not available, therefore, buyers do not react and the organization has no idea of growing discontent.

II.

The application of the model of differentiation and analysis of discrepancies allows analyzing, evaluating and adjusting the business process in real time using the feedback of the controlling system [10].

***At the first stage**, the modeling of customer service process of the company «K» was performed, which allowed to see the whole process (planning, functionality, control, analysis) and to identify the reasons for the discrepancy between the expected and received quality of service. The IDEF0 notation was used to describe the top level of the service process.*

The description of the process makes it possible to understand the relationship between planning, implementation, monitoring and analysis, to identify service boundaries, to identify the inputs and outputs of the process, to prepare for its more detailed description.

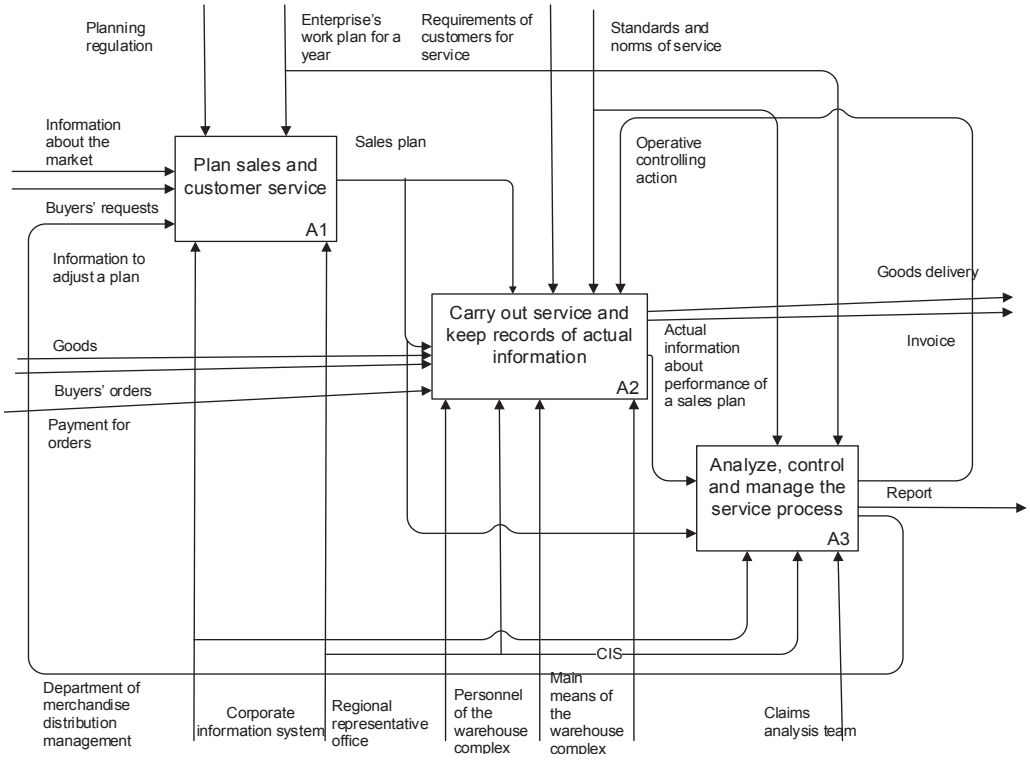
Participants in the process of servicing the clients of the company «K» are (Pic. 2): logistics service, management of Moscow and regional trade, warehouse complex.

The business process of selling goods and customer service of the company «K» consists of the following processes (in the formulations recommended by the IDEF0 notation): plan sales and customer service; serve and maintain records of factual information; analyze, monitor and manage the service process.

The first process «Plan sales and customer service» (A1) is provided by the department of merchandise distribution management (MDM), which is part of the logistics service. The plan is based on information about the market and customer applications, taken from the corporate information system (CIS). The activity of MDM is determined by «Planning regulations» and «Work plan for the enterprise for a year». The result (output) of this process is «Sales plan».

An analysis of the company's «K» service process conducted by the controlling system shows that there is a certain discrepancy between the actual service needs of customers and their understanding by the top management of this company. As a result, there is a discrepancy, which is explained by an underestimation of the importance of quality of service for performance results, and the reason for this is the lack of focused work to study the customer's service needs, which is why it is not always possible to correct standards and norms of service in a permanent manner.

The process «Carry out service and keep records of actual information» (A2) is carried out by employees of regional offices and personnel of the warehouse



Pic. 2. Business process for the sale of goods and customer service of the company «K».

complex. Inputs of this process are: the sales and service plan, the receipt of goods in the warehouse, the receipt of orders of buyers, the receipt of payment for orders. At the output of the process A2: an invoice for the payment of the customer's order, delivery of the paid goods and actual information about the fulfillment of the sales plan and customer service plan. The work is regulated by standards and norms for customer service, as well as customer requirements for service.

In the course of the implementation of the process A2, there is a probability of discrepancy 1 (Pic. 1). It arises in connection with the possible non-alignment of the sales and service plan with resource planning. The likelihood of a shortage of commodity, labor and transport resources determines the reasons for the organization's refusal to assume the obligations laid down in the standards of service, that is, the probability of discrepancy 1. This non-alignment may also become a cause of discrepancy 2, which will happen if the company, despite the expected deficit of resources, will assume obligations for servicing. The reasons for a possible discrepancy 2 may be, in addition, a violation of technological discipline by the main production personnel of the warehouse, failures in the operation of CIS, imperfection of internal documentation regulating technological processes.

«Analyze, control and manage the process of customer service» (A3) should be done by the claims analysis team (CAT) and the department of merchandise distribution management. The input of the A3 process is the actual information about the fulfillment of the sales plan and the sales plan itself. In this case, the level of services is assessed, information about the service performed is compared with the standards, norms and the plan provided. The output of this process is a report on the implementation of the sales and customer service plan.

The business process of selling goods and customer service is always cyclical, so there are feedbacks: information and management. The feedback on the information is «Information for adjusting the sales plan» flow. Transported by this flow to the entrance to the A1 process, the information helps to correct the actions in the sphere of customer service.

The control feedback is «Operative controlling action» on the service process (A2). Carrying out the analysis and control of the implementation of the service plan, the MDM takes operational management decisions that regulate the performance of work by trade missions and the warehouse complex. That in aggregate demonstrates the controlling system of the company «K».

III.

At the second stage, *the business process of customer service was separated and modeled using IDEF0 notation to detail the processes that induce customers' quality-of-service characteristics.*

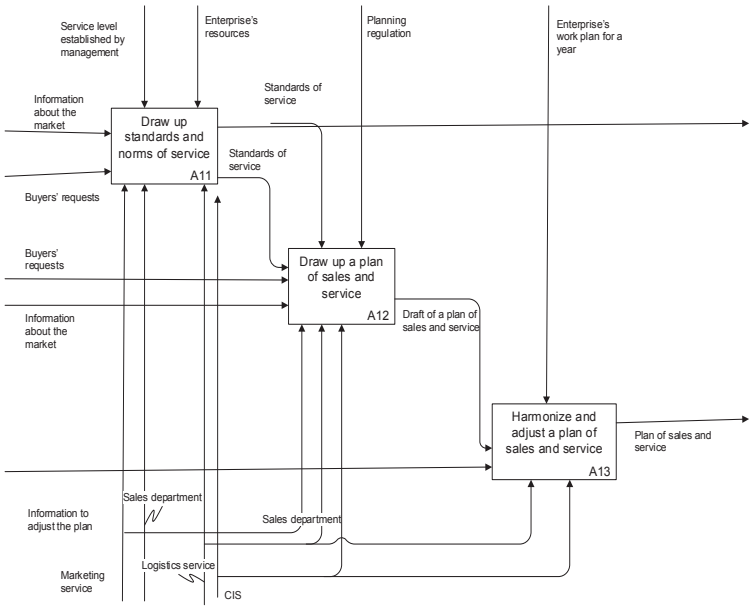
Process A1 detailing («Plan service») includes subprocesses (Pic. 3):

1. A11 («Draw up standards and norms of service»).

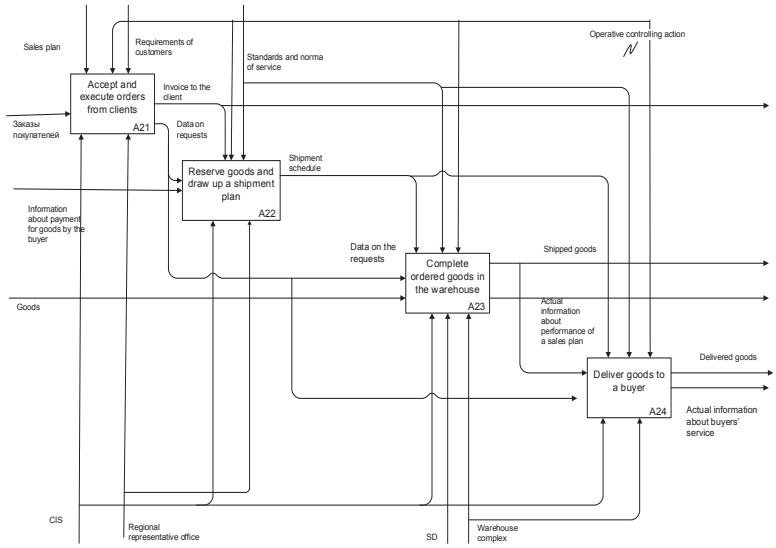
2. A12 («Draw up a sales and service plan»).

3. A13 («Harmonize and adjust a sales and service plan»).

Subprocess A11 («Create standards and norms of service») is provided by marketing and logistics services, sales department. The inputs of the subprocess are: market information and customer requests. Outputs are standards and norms of service. Controlling action is the service level established by management and the resources of the enterprise.



Pic. 3. Process A1 («Plan sales and customer service»), actually implemented in the company «K».



Pic. 4. Process A2 («Carry out service and keep records of actual information»), actually implemented in the company «K».

Subprocess A12 «Create a sales and service plan» is assigned to employees of marketing and logistics services. Inputs for it are service standards, customer requests, market information. The output is a draft sales and service plan. The management impact is provided by service standards and planning regulations.

Subprocess A13 («Harmonize and adjust a service plan») is assigned to the logistics service. Inputs are draft sales and service plan, information for adjusting the plan. Output is a sales and service plan.

Detailing the process A2 («Carry out service and keep records of factual information») involves the following subprocesses (Pic. 4):

1. A21 («Accept and execute orders from customers»).

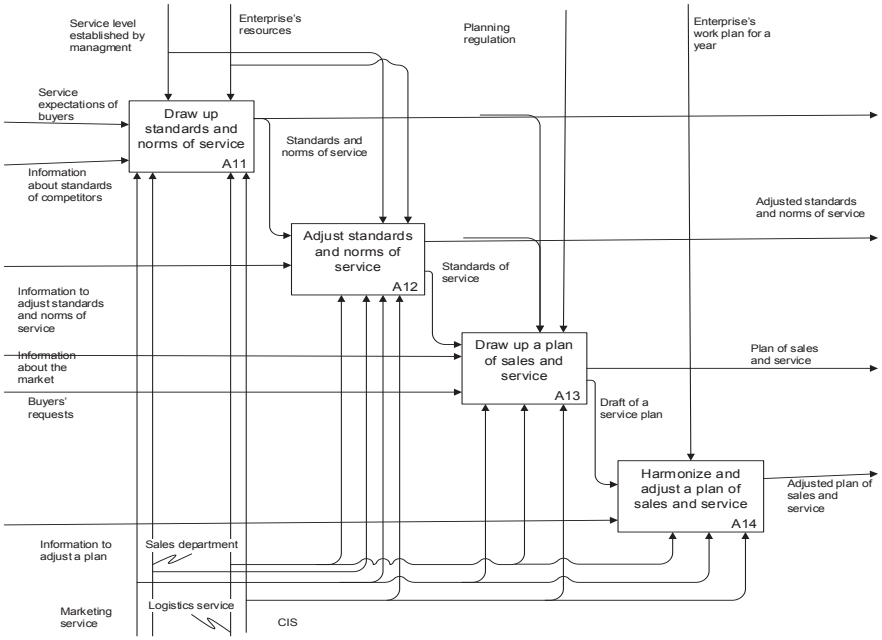
2. A22 («Reserve the goods and make a schedule of shipment»).

3. A23 («Complete the ordered goods in the warehouse»).

4. A24 («Deliver the goods to the buyer»).

From Pic. 4 it can be seen that subprocess A 21 («Accept and execute orders from customers») is carried out by the regional representative office (RO). The input for it are orders of buyers. Outputs are invoices to customers and order data. Managing impacts are the sales plan, customer requirements for service, standards and norms of service.

Subprocess A22 («Reserve goods and make a schedule of shipment») is also the prerogative of regional representative office. The input here is information about the payment of the order and the



Pic. 5. Recommended process A1 («Plan sales and customer service»).

order data. The output is the shipping schedule. Managing impacts are invoice to the customer, standards and norms of service.

Subprocess A23 («Complete the ordered goods in the warehouse») is functionally assigned to the employees of the warehouse complex. The input is received goods and data on orders. The output – goods shipped and actual information about the implementation of the sales and service plan. Managing impacts are the standards and norms of service and the shipment schedule.

Subprocess A24 («Deliver the goods to the buyer») is provided by the dispatch service of the warehouse complex. The input into the process of merchandise distribution is the order data. Outputs – delivered goods and actual information about customer service. Managing impact – standards and norms of service, as well as a shipment schedule.

IV.

At the third stage, *analysis and reengineering of the selected subprocesses was carried out to improve the quality of priority service characteristics.*

As already noted, the presence of short delivery of ordered goods increases the discrepancy between the service characteristics specified in the contract and the characteristics of the actual actions taken.

We proposed to make the following changes to the process A1 («Plan sales and services»), presented in Pic. 3:

– inputs to the subprocess A11 («Draw up standards and norms of service») to make information about customer service expectations and information on standards for servicing competitors (Pic. 5);

– add a subprocess «Adjust standards and norms of service».

The inputs of the recommended subprocess «Adjust standards and norms of service» will be existing standards and norms of service, as well as information for their adjustment. The latter becomes the output of the process A3 and, in fact, provides feedback within the customer service process. This information is formed by the company's controlling system based on the analysis of the results of the sale of goods and the quality of services, the study of market requirements, standards and norms of organizations-competitors.

The output of the subprocess A12 (Pic. 5) is the adjusted standards and norms of service. Controlling action will be the service level established by management and the resources of the enterprise.

The absence of special regular surveys of customer service expectations and the established procedure for adjusting standards and norms of the service process is a typical feature of Russia that constrains the development of its competitive capabilities. We propose to include in the business processes (and accordingly fix in the regulations of organizations) the procedure for periodic adjustment of standards and norms of service based on feedback. Continuous implementation of this procedure will reduce Gap 1 (Pic. 1).

The picture presented in the article demonstrates the possibilities of the controlling system within the framework of business process reengineering. However, modern achievements of scientific and technological progress allow designing the process in real time, monitoring it, estimating and forecasting the results of the variants of the situation change. For example, the emergence of WMS-systems in the warehouse allowed to solve a number of tasks in the context of optimizing business processes, but at the same time, in the event of problematic situations, an operative assessment of the possible causes of their emergence and quick adequate reaction of managers are needed. A lot of tables and graphs that the WMS-system offers does not always allow reacting to the situation on time. Therefore, it is advisable to receive information in an accessible and understandable form, that is, to visualize it – this is the key to making successful managerial decisions.

Visualization is a concept, a system for transferring complex ideas, patterns and data through visual images. Of course, visualization is the most important step in the data analysis process. It helps to present the results of research in a simple and understandable form, often serves as a key factor for decision-making in various fields of activity.

Pic. 6. Screenshot of the program monitoring center «Intelligent warehouse» [11].

The desire of leading companies to see in real time what is happening to their business processes is facilitated by the ever-increasing dissemination of tools for interactive visualization of analytical, statistical and cartographic data, methods of information analysis, and automation of infographic. Among other things, the «Intelligent Warehouse» block (Pic. 6) is available, which is built into the WMS-system and allows visualizing data on arrivals and orders for loading and unloading, monitoring the efficiency of loading and unloading processes, using vehicle status indicators, monitoring the current employment and location of personnel, financial monitoring of warehouse operations.

Plus, this program has the function of modeling the state of the warehouse in the future without interfering with the situation and visualizing the options for changing the processes. With its help, it is possible to assess the efficiency and feasibility of planned warehouse operations, answer the question «What will happen if…?» (Increase freight turnover of the warehouse, stock turnover, etc.).

Conclusion.

Based on all the above, it is possible to conclude that controlling is a concept of business process management, which includes accounting, planning, monitoring and analytical work. A common understanding, as practice shows, there is no such term among experts. Experts only agree that it is not appropriate to identify controlling with control, since in the German-speaking business environment, where the idea of controlling was born, it is understood as a function of supporting the economic management of the company.

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