ASSESSMENT OF COSTS FOR THE QUALITY OF LOGISTICS ACTIVITIES

Saidjon Naimov
independent researcher

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An overview of existing approaches to accounting for quality costs and their management in logistics activities is given, an approximate list of quality costs in this area is proposed, divided into categories. To manage quality costs, it is proposed to determine the value of optimal costs at which the difference between income and quality costs will be maximum.

The well-known American specialist in the field of quality management Philip Crosby asked a rhetorical question: “Think about where your company could be if you completely eliminated the cost of errors?” [one]. This question is not without meaning, because the costs associated with errors, that is, with poor quality, "pull" the company down from the heights of competitiveness.

The riya shows that in order to increase the competitiveness of a company, it is necessary to strive to increase the volume of output of products or the provision of services and reduce the cost of production. Another indicator of competitiveness is the level of quality of the offered products or services. Between these two criteria, unity and opposition are observed.

As a first approximation, we can assume that the money spent on quality should increase sales volumes, and, consequently, profits. On the other hand, additional costs for quality increase the cost, that is, reduce profit. According to Edwards Deming, the costs of not meeting quality requirements and the resulting loss of reputation with customers are so high that they need to be assessed. At the same time, he argued that attention to measuring the cost of quality and finding the optimal.

The greatest contribution to solving the problems of the economics of quality was made by American specialists, the most famous of them is Joseph Juran. He divided the cost of quality into four categories: the cost of preventing defects, evaluation, internal rejects and external rejects. Schematically, the general structure of quality costs is shown in fig 1.

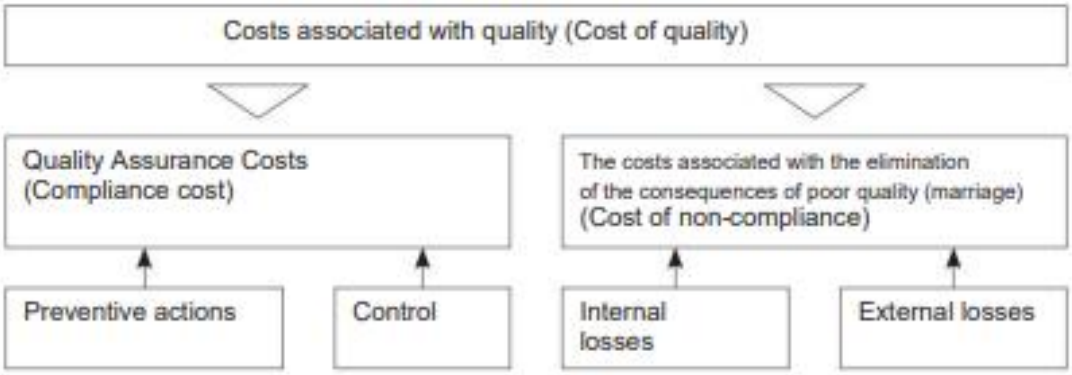
According to J. Juran, as quality improves, the costs of preventing nonconformities increase, while the costs of marriage (internal and external) decrease.

A more detailed classification of quality assurance costs was presented by another American expert, Armand Feigenbaum. He divided all the costs of quality assurance into three groups: defect prevention, quality assessment, and scrap losses. Further, he detailed each group of costs in the form of its components. This classification of costs is shown in fig 2.

Summing up the costs associated with the prevention of defects, quality assessment and the appearance of defects, we obtain a general dependence of quality costs on its level. The graph of this dependence has the shape of a “U” shaped curve, as shown in Fig. 3. From the figure it follows that as the quality improves, characterized by the absence of defects, the costs associated with their elimination tend to zero. At the same time, achieving this level of quality is associated with a rapid increase in the cost of preventive measures. At the same time, the costs of assessing (controlling) quality are reduced insignificantly.

This situation leads to the idea that the task of quality management should be to find an appropriate level of quality (the number of defects) that minimizes the total cost of it.

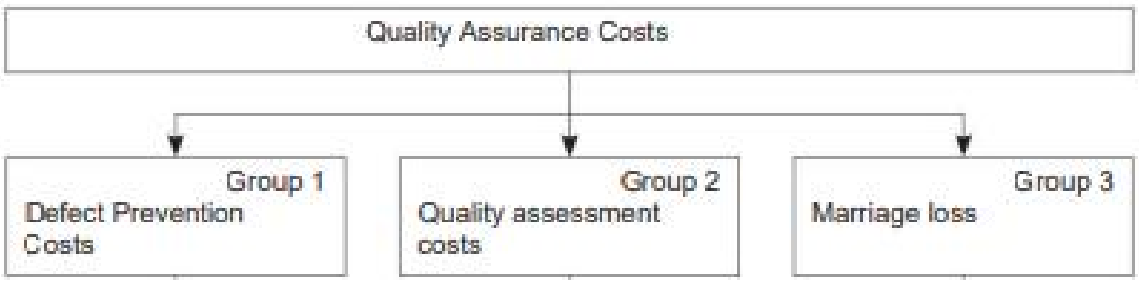
Rice. 1. General structure Marriage loss according to A. Feigenbaum [The structure of quality assurance costs according to A. Feigenbaum quality costs according to J. Juran [General structure of quality costs according to J. Juran]



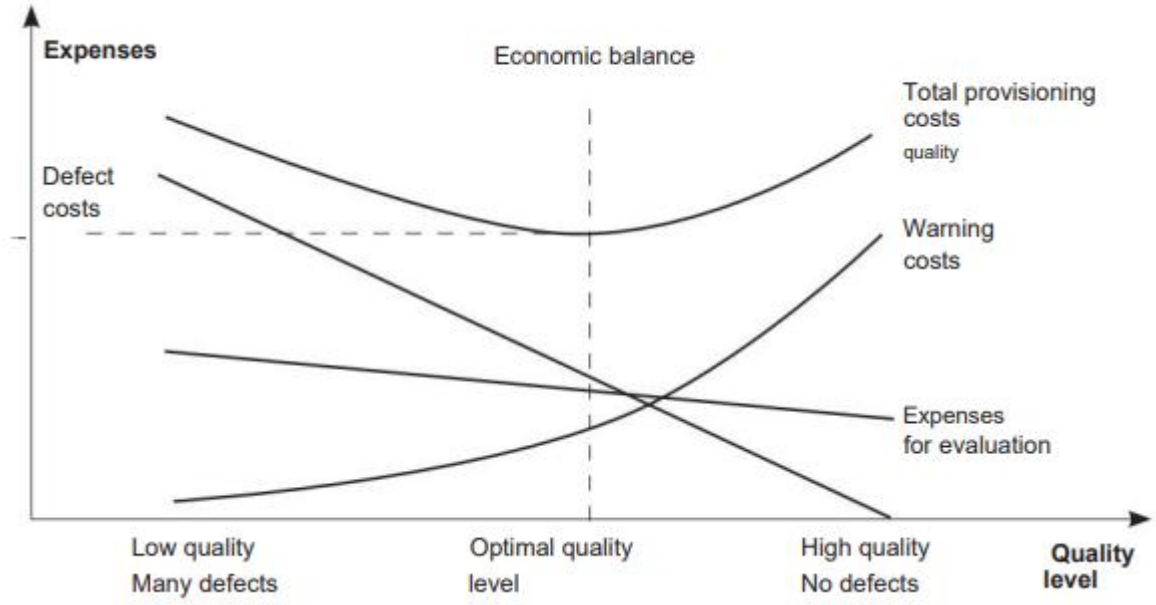
To account for the costs of the quality of logistics activities, they can be divided into several categories. 1. Costs due to internal inconsistencies:

- irreparable marriage (complete loss of goods) due to violation of the rules of storage and transportation: the cost of labor; compensation for the cost of the lost goods; overheads;
- reparable marriage (recovery of goods): restoration costs; unscheduled control and assessment of the quality of goods;
- nonconformity analysis: the cost of conducting a nonconformity analysis in order to identify the causes;
- the cost of disposal of damaged goods;
- the cost of sorting control and selection upon detection of damage to goods in batches of products;
- Losses from grade reduction due to violation of storage and transportation rules;
- Losses during storage, including from natural wastage;

Rice. 2. Cost structure for quality assurance according to A. Feigenbaum [The structure of quality assurance costs according to A. Feigenbaum].



Rice. 3. Dependence of costs on quality assurance on the level of quality [Dependence of quality assurance costs on the quality level].



- losses associated with failures of information and communication systems of logistics;
- costs for the assessment and management of logistical risks;
- logistics insurance costs sky risks.

Costs associated with the problems of external counterparties due to their failure to meet the requirements for logistics services:

Table
Quality management maturity grid

Measured category [Measured category]	Stage I: Uncertainty [Stage I: uncertainty]	Stage II: Awareness [Stage II: awareness]	Stage III: enlightenment [Stage III: Enlightenment]	Stage IV: Wisdom [Stage IV: Wisdom]	Stage V: Confidence [Stage V: confidence]
Understanding leadership and position	Missing quality understanding as a management tool	Awareness of the need for the management company, but the lack of its funding	Increasing awareness of and support for QM A quality department has been established and the	Understanding the need for the Criminal Code and participation in its implementation	A look at the management company as the main part of the company's management system
Organizational quality status	Quality is hidden in different departments	The head of the Criminal Code has been appointed, but there is no system yet	role of the QM manager has been strengthened QM issues are recognized openly	The quality manager is the most important person in management	The head of the management company is a member of the Board of Directors
Approach to quality problems	bureaucratic approach	Teams are formed to attack quality problems	and dealt with in an organized manner	QC problems are detected at an early stage. All features are open for improvements	All problems of the Criminal Code are prevented in a timely manner
The cost of quality as percentage of implementation	According to reports - unknown real - 20% No	According to reports - 3%, real - 18%	According to reports - 8%, real - 12%	According to reports - 6.5%, real - 8%	According to reports - 2.5%, real - 2.5%
Measures for improvement quality	organized activity	Attempt take short-term actions on the CC	Application of the program 14 steps with complete everyone's understanding step	Continuation of the 14-step program and the beginning of the "transition to confidence"	Quality improvement becomes normal and permanent activities
The final position with quality in the company	"We don't know why we have quality problems"	"Is it absolutely necessary to have quality issues?"	"With the help of QM managers, we identify and resolve our problems"	"Marriage prevention is a routine part of our work"	"We know why we don't have quality problems"

The above types of quality costs can be considered the most common for logistics activities, but this list is not exhaustive. The presence of certain costs depends on the field of activity of a particular company and the processes it implements. The classification of costs should be formed in accordance with the specific needs of the enterprise. How to build a quality cost management system? To begin with, it is necessary to "clean up" the terminology so that everyone "speaks" the same language. The names of the costs should sound like it is customary in the company. The selected list of costs should be discussed with various specialists, primarily with accountants, lives in relation to the term "quality costs". There is a different understanding of this term: the costs of achieving the required quality; the cost of the quality service; poor quality cost. Keep in mind that all these elements are related to quality costs! This is the sum of the costs incurred by many divisions of the company.

Specific costs routinely charged by the company may be accepted as inevitable, but they do not cease to be part of the bad quality.

Practice shows that the costs associated with quality are significantly At the same time, it is necessary to decide reducing non-production costs. Method Improvement Programs: identify opportunities to reduce higher than indicated in the accounting documents. They, as a rule, provide data only for the main processes (business processes), not taking into account that the costs associated with quality are the result of poor performance in auxiliary operations.

The costs associated with poor quality can be "hidden" in company standards. As a rule, when developing these documents, they lay down an ideal model for the operation of processes. With the introduction of standards into the activities of the enterprise, a lot of imperfections "emerge". But developers of standards, for various reasons, are in no hurry to improve them, although they are amenable to improvement.

What can be recommended for organizing work on quality cost management? First, to determine the scale of the problems, it is necessary to translate all the data into the "language of money" - a language accessible to managers at all levels of management.

At the same time, it is necessary to decide tasks:

1. estimate the costs associated with poor quality by a one-time calculation;
2. organize accounting reports in such a way that the costs can be calculated and the result can be demonstrated;
3. identify opportunities to reduce spending on quality, using modern management tools (for example, SWOT analysis), including taking into account the possibility of reducing customer dissatisfaction, as well as budgetary and cost regulation (transferring part of the costs to relations between departments);
4. stimulate quality improvement through bringing the results to employees, their motivation;

Method Improvement Programs:

- wages;
- automation;
- implementation of new processes;
- reducing non-production costs.

I analyzed and presented the existing approaches to accounting for quality costs and their management in logistics activities. The article contains an approximate list of costs for the quality of logistics activities, divided into categories: costs due to internal inconsistencies, costs associated with problems of external counterparties, estimated costs, costs of prevention, etc. This list can be considered general, but not exhaustive.

The classification of costs should be formed in accordance with the specific needs of the enterprise. Practice shows that the effect of investing in quality improvement is not

proportional to the size of these funds. It will continue to grow until internal and external factors of influence begin to limit the opportunities for generating income.

I believe that quality cost management should be based on finding the optimal cost value, at which the effect in the form of the difference between income and quality costs will be maximum. To do this, it is necessary to take into account all the costs of quality: for the prevention of nonconformities, for the evaluation and for the elimination of defects in all their manifestations.

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WORDLY KNOWLEDGE