

IMPLICATIONS AND OPPORTUNITIES REGARDING THE ORGANIZATION OF QUALITY COST MANAGEMENT ACCOUNTING

ION IONESCU, *PROFESSOR, PHD*

OANA STAICULESCU, *ASSISTANT, PHD*

VALERIU BRABETE, *ASSOCIATE PROFESSOR, PHD*

*UNIVERSITY OF CRAIOVA, FACULTY OF ECONOMICS AND BUSINESS
ADMINISTRATION*

ionescuion2006@yahoo.com, oana.staiculescu@yahoo.com, vali_brabete@yahoo.com

Abstract

Taking into considerations the obvious importance of the concept of quality, the inevitable question arises "What is the cost of quality?", clearly reaching the notion of "cost". It would seem absolutely logical and natural, that when we are referring to the total quality cost, from the professional point of view, to have an accountant that should take care of recording and supply of all the necessary data in terms of the inventory of this cost. The practical reality, however, shows that the accounting side of an economic entity does not provide comprehensive information regarding a complete definition of the quality cost. From this perspective, the present paper aims to consider a relevant discussion on the necessity and importance of the existence of the management accounting regarding the cost of quality

Keywords: *Quality, Financial accounting, Management accounting, Quality cost, Scrap*

JEL Classification: *M40, M41*

1. Introduction

The carrying out of a management in terms of quality cost may bring multiple benefits for any economic entity, irrespective of the market it is operating on. The integration of the quality cost concept, as an independent notion in all the departments, can provide an optimal solution for more accurate information of the management. Indeed, the interest of a top management company is to receive in due time accurate data, from all the inferior hierarchical levels, in order to take the best decisions to provide quality. Taking into account the importance of this concept, we ask ourselves: „What is the cost of quality?” reaching obviously in this way, to the notion of cost.

There are many important reference points nowadays in terms of defining the quality costs, still only few of them that refer to its concrete determination, are comprehensive and compelling.

The majority of the economic entities are still at the initial stages in terms of the implementation of the quality costs, not succeeding to lay the basis of a stable relation between the cost of conformance and the cost of non-conformance related to the activity carried out. Without the premises of a solid basis, we face the uncertainty of taking over reliable and on-line data, which should help the departments, as well as the financial-accounting department, in the definition and completion of detailed procedures in terms of the determination, registration, analysis and optimization of the total quality costs. The existing relationship between the four categories of costs (prevention, appraisal, internal failure, external failure) is a very complex one, that aggravates the precise quantification of the possible values obtained. We align at the same time with the opinion according to which „*knowing the components of the costs, we will be able to take decisions that will maximize profitability*” ([5, p. 7]).

2. Organization of management accounting regarding the cost of quality

It would seem absolutely logical and natural, that when we are referring to the total quality cost, from the professional point of view, to have an accountant that should take care of recording and supply of all the necessary data in terms of the inventory of this cost. Still, in practice, we see that the part connected with the **accounting of an economic entity does not provide comprehensive information in terms of the complete definition of the quality cost.** Small sequences, as: scraps, corrections, audit, reprocessing and other such examples can be taken from the accounting documents, still there is not a concrete database that should stand for a complete source of the four categories of costs (prevention, appraisal, internal failure, external failure) that

account for the total quality cost. **The initiative of the organization of the existing expenses in the financial accounting under the form of the four categories of costs would be quite useful** for the management of the company that needs these data in order to improve and optimize the processes of the economic entities.

At present, depending on the organization of accounting, **the quality cost can be organized from the point of view of the financial accounting, as well as of the management accounting. The major differences in terms of the use of information from the two points of view, refers to:**

1. Legal regulations. To the extent that quality cost is made up of an entire series of running costs, and they are recorded in the financial accounting, then the accounting department must take into account the legislation in force for their correct classification and the carrying out of the accounting entries. Instead, the management accounting in terms of the quality cost is not organized according to certain regulations that are imposed, and it is up to each economic entity to make decisions.

2. The information users. In case of financial accounting, the information users can be people inside the economic entity (managers, employees, shareholders), as well as from the outside (the state, credit institutions, potential investors). The management accounting reports are drawn up exclusively for managers, because they regularly include confidential information to which the people outside the economic entity must not have access.

3. The type of accounting system. As opposed to financial accounting, where the double entry accounting system is used, the management accounting is not limited to using the accounting figures. From this point of view, the management accounting can be classified differently (with or without the use of the nominal accounts) or integrated (with the use of detail accounts of the expense accounts from the financial accounting).

4. Different goals in terms of the main purpose of recording the expenses, respectively of the calculation of costs. The reports produced by the financial accounting are meant to describe the process as a whole, unlike the management accounting that targets the segmentation of costs for each operation in part. For example, if we take into account the expenses with the wages of the quality department, the related expenses will be considered globally in the financial accounting and recorded only the wage fund as such, through 641 account debit „Expenses with the staff salaries”, respectively with 421 account credit „Employees - salaries payable”, (the accounts develop at most as detail accounts, representing each department in part). Instead, in the case of the management accounting, things are different, because in certain situations, a related calculation of the hourly rate for each employee in part is required, in relation with the position he held. Thus, an hourly rate will be calculated for a quality auditor and another hourly rate for a person who is performing the quality inspections. An appropriate example in terms of using the accounts for the determination of the scrap cost, in the case of the financial and management accounting, is shown in table no. 1.

5. The temporal dimension of expenses, respectively of the costs. The financial accounting reports are based on entries that have been made in the past, while the management accounting takes into account the deferred costs (or historical costs), established considering the facts that they involve, as well as predetermined costs (or pre-calculated costs), namely „*those costs that are determined before the facts that they involve*” ([1, p. 33]). Relying on provisional calculations, the management of the economic entity can make decisions that target future economic events.

6. The frequency of reports. According to the regulations in force, in terms of the financial accounting, there are concrete moments when reports are drawn up (depending on the size of the economic entity and the tax system). The management accounting must issue reports much rapidly, depending on the management needs (daily, weekly, monthly, etc.). The more an information is pertinent, the more the decisions of the management are more adequate.

The information connected with the quality costs must be carefully selected and presented to the management under the form of conclusive reports and very efficient, as the main idea that defines the management objective is, as it would have been obvious, that to reduce the quality costs. Thus, **the organization of the quality costs under the form of the management accounting** helps and facilitates the decisional process in order to improve and optimize the costs concerning quality.

The management accounting is the one that is making the connection between the importance of the identification, determination, assessment and optimization of the quality cost and the top management of each economic entity. The main object refers to following all the functional sectors in order to establish a concrete base for the definition of standards and quality procedures. For this reason, in order to record information in the accounting as correct as possible, we must take into account few reference elements, such as:

- **The efficient organization of the accounts** refers to the establishment of some precise accounts related to a certain sequence that deals with the provision of quality. For example, the expenses in terms of guarantees should be found in only one account, developed on detail accounts, so as to know every moment the cost amount for each cost bearer;
- **The carrying out of precise estimates in terms of quality cost.** For example, in some economic entities, within the engineering department, there are engineers who test the product from the qualitative point of view, although they are not remunerated separately for this activity. Normally, in

order to determine a cost as exactly as possible, we must estimate the time lost for carrying out this operation and establish in this case, an hourly rate or the manpower;

- **The set of standard costs** for corrections, replacements, scraps etc. Relying on history, we can establish these standard costs for different products and/or operations in order to stream line the working times related to the estimation of costs. At the same time, we must always take into account the possibility that the standard used not to correspond with the reality;
- **The getting of an underestimated quality cost.** For fear to receive a negative feedback, certain employees tend to hide certain quality flaws, which they can be responsible for.

Considering the opinion of the authors C. Iacob, I. Ionescu and M. Avram ([1, p. 10]) the value consumptions used to obtain a product, a work or to provide a service lead to some calculations needed for their integration, and the result obtained is a synthetic indicator known as „*cost of production*”. Thus, **if all the statements referring to the cost of production are clear, when we refer to the cost of production quality, the opinions of the economic entities are divided.** Some consider that a program for the management of costs requires a series of expenses, as well as a trained staff to use it in a correct manner. Other companies agree that that part of the management accounting that they practice, is enough for the determination of such a cost at all the levels and departments of the company.

Our vision, related to this aspect, is that the accounting systems that are currently in operation, have not been prepared to calculate, generate, assess or analyze the concept of quality on the total costs generated by the company. This is the reason why many quality costs remained for a long period of time hidden costs.

Starting from the idea, according to which, the level of products quality influences particularly the production costs (the scraps, the return of products showing flaws, the prevention activities etc.) and implicitly the general costs of the company, the costs for the quality of products and services that account for the totality of expenses made in order to maintain and raise the qualitative level of the products, respectively of the services. In other words, **the management accounting can rely on the calculation of the quality cost from two points of view: of the producer and of the user.**

A. For producer, the quality cost shall be equal to the production/achievement cost ($C_{p/r}$), to which certain operational costs will be added (CO), those that are determined, for example, by logistics and costs related to the inaccurate quality (CQN), generated by the impossibility to use the product or the service operating.

$$CQT = C_{p/r} + CO + CQN \quad (1)$$

The management accounting organization, shall be performed in this case on cost centers aiming to collect and control the quality cost on each stage existent in the process. Judging by the practical activity, we can list the following examples of cost centers, such as: dispatching, repairs, corrections, reshaping etc.

B. For user the quality cost will be equal to the cost of purchase (C_a), to which certain operational costs will be added (CO) and also costs related to the inaccurate quality (CQN) generated by the impossibility to use the product or the service operating.

$$CQT = C_a + CO + CQN \quad (2)$$

As it would have been normal, the management accounting related to the producer shall focus on the definition and measurement of those costs in terms of the quality of the products and services that appear during the guarantee period. In terms of the management accounting related to the beneficiary, this will focus more on the costs concerning the subsequent repairs appeared during the entire life cycle of the asset bought.

Another means of the management accounting organization involves the use of the four types of costs (prevention, assessment, internal flaws and external flaws) that practically define the total quality cost within a company, to the greatest extent possible. Therefore, **the managerial accounting specific to every economic entity in part, reserves the right to operate only with those sequences of the total quality cost that reflect the structure of the cost of production.** The option related to the selection of some components of the quality cost to the detriment of others is a problem related to the organization of the management accounting. After all, taking into account the potential balance of the quality costs, that can be exhaustive or not, we can draw up an entire financial year of these costs.

M. Mieiă ([4, p. 135-136]) suggests for the management accounting organization, the recording of some elements such as:

- *the total cost of scrap (Ctr)*, that will be equal to the sum of the product between the quantity of the rejected products (Qr_i) and the unit cost of production (c_i) of each rejected product in part:

$$Ctr = \sum_{i=1}^n Qr_i \times c_i \quad (3)$$

- *the materials recovered from the rejected products (Mr)*;
- *the total losses due to the rejects (Ptr)*, that will be equal to the difference between the total cost of scraps and the materials recovered from the rejected products:

$$Ptr = Ctr - Mr \quad (4)$$

- the total cost of the declassified products (Ctd), that will be equal to the sum of the products between the quantity of the declassified products (Qd_i) and the unit cost of production (c_i) for each declassified product in part:

$$Ctd = \sum_{i=1}^n Qd_i \times c_i \quad (5)$$

- the materials recovered from declassified products (Md);
- total losses due to the declassified products (Ptd), that will be equal to the difference between the total cost of downgrading and the materials recovered from declassified products:

$$Ptd = Ctd - Md \quad (6)$$

- the total cost for the repair of the products that are during the period of guarantee (Ctg), shall calculate as the sum of the costs recorded with the remediation of the flaws appeared during the period of guarantee (c_g), based on the relation:

$$Ctg = \sum_{i=1}^n c_{gi} \quad (7)$$

- materials recovered from declassified products during the period of guarantee (Mdg);
- the total losses determined by the complains made during the period of guarantee (Ptg), that will be equal to the difference between the total cost of downgrading and the materials recovered from the declassified products:

$$Ptg = Ctg - Mdg \quad (8)$$

From another point of view, when referring to the establishment method of the costs of production, C. Iacob, I. Ionescu and D. Goagără, ([2, p. 84-86]), talk about the cost of the residual products used that include the recoverable and recycled wastes, as well as the reshuffled rejects whose capitalization can be done through sale, or through the recycling within the economic entity.

The moment the residual products are sold, they are capitalized at the selling price that will lead to a drop in the total production cost.

In case the residual products are recycled within the economic entity, they are capitalized at the market price, or at a price set named „lump price” and whose method of determination is shown as example in table no. 1 using the financial accounting data, as well as the management accounting data.

Table no. 1

Scrap cost calculation

Supposing the case study of an economic entity which, during the quality control of the finished goods, from 1.500 pieces manufactured, 150 units have defects that can be repaired. The selling price of one piece is 200 Lei, value without VAT, and the entity is using a 20% share for profit included in the price and 5% distribution expenses. Consumption expenditures involve reshuffling of materials in value of 2.000 Lei, 1.000 Lei labor costs including social protection expenditure amounting 265 Lei and the share of manufacturing overheads (120% of the direct costs). Following the reshuffle, recoverable materials are obtained which are valued as waste in amount of 500 Lei. We will also consider the standard cost of finished goods conform to the quality standard as being 160 Lei/ piece.
Finished goods conform to quality standards: $1500 - 150 = 1350$ units

a) Using financial accounting data

Explanations	Value		Records of financial accounting
▪ is recorded the production of the 1.350 pieces of finished goods in accordance with quality standards, at the cost of 160 Lei / unit	1.350×160	216.000	$345 = 711 \quad 216.000$
▪ determining the recording price of	150×200	30.000	$346 = 711 \quad 24.000$

the 150 pieces deducting from gross sales price and distribution costs included in the price (is applicable the gross-up principle)	$\frac{100 \times 25}{100 + 25} \times 100 = 20\%$ 30.000 - 20% x 30.000	- 6.000 24.000	
<ul style="list-style-type: none"> recording rework expenses, indicating that indirect costs are dissipated through the expense accounts 	<ul style="list-style-type: none"> 1.000 x 20,8% 1.000 x 5,2% 1.000 x 0,5% 	<ul style="list-style-type: none"> 208 52 5 	<ul style="list-style-type: none"> 602 = 302 2.000 641 = 421 1.000 6451 = 4311 208 6453 = 4313 52 6452 = 4371 5
<ul style="list-style-type: none"> recording the scrap passing in the manufacturing process for reshuffle, minus the value of recovered materials that can harness apart 			<ul style="list-style-type: none"> 3028 = 346 500 711 = 346 23.500 4111 = % <u>620</u> 708 500 4427 120
<ul style="list-style-type: none"> hypothetically, if the only products complying with quality are the 150 parts scrapped then the following situation occurs 	150 x 160	24.000	<ul style="list-style-type: none"> 345 = 711 24.000 348 = 711 <u>7.183</u> 31.183
The recorded price difference is resulting from the account 121 "Profit or loss" due to the closing entry for revenue and expenses.			

b) Using managerial accounting data

Explanations	Value		Records of financial accounting
<ul style="list-style-type: none"> recording the production of the 1.350 pieces of finished goods in accordance with quality standards, at the cost of 160 Lei / unit 	1.350 x 160	216.000	931 = 902 216.000
<ul style="list-style-type: none"> determining the selling price of the 150 defective parts which can be reworked 	150 x 200	30.000	931 = 902 24.000
<ul style="list-style-type: none"> minus 20% profit and 5% distribution expenses included in the selling price (is applicable the gross-up principle) 	$\frac{100 \times 25}{100 + 25} \times 100 = 20\%$ 30.000 - 20% x 30.000	- 6.000	
<ul style="list-style-type: none"> adding the cost of reshuffling 	- direct consumptions: 1.000+2.000+265	3.265	921 = 901 3.265
	- indirect consumptions: 3.265 x 120%	3.918	923 = 901 3.918 921 = 923 3.918
<ul style="list-style-type: none"> total cost reworked items 	30000-6000+3265+3918	31.183	902 = 921 31.183
Although reworked products are more expensive than the products of the commercial orders of which they have been separated, in practice this is less noticeable because the scrap value integrates the following orders, and therefore increase the cost of finished goods which are reused, divided between the unit costs.			

Source: The table was made by the authors

Therefore, based on those stated above, **we are in line with the opinion according to which**, in a competitive environment where the opportunity of information comes first, the quality cost management can help save substantial amounts of money in terms of costs and new opportunities for the improvement of the performances of economic entities can appear.

3. Conclusions

In agreement with the opinion of Johnson and Kaplan ([3, p. 3]), **according to which** „the current informational system of management accounting, under the procedures and the reporting periods of the financial statements, is too slow, too complex and too distorted to be of any help for the managers in terms of planning and taking decisions”, **we can state that** the management accounting system must evolve permanently in order to meet the changing needs of the managers. Therewith, the new operation systems assimilated to the production process (such as the method Just in Time, the philosophy Kaizen costing etc.) or the innovative approach of the management of total quality that determine the economic entities to perform a restructuring of the work procedures and maybe, why not, to conceive new systems for the calculation of the costs. We **consider** from this point of view, that unlike the West Europe, Romania is still a pioneer, in the sense that, although management accounting is an orientation tool and a „counselor” for setting important indicators, still occupies a tertiary place in the current priorities of the managers.

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Acknowledgement: “This work was partially supported by the grant number 4C/27.01.2014, awarded in the internal grant competition of the University of Craiova”