

COST STRATEGIES IN MANUFACTURING COMPANIES

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Abstract: *This paper aims to analyze the evolution of the instrumentation in management of accounting and position them in relation to the general principles of the Activity-Based Costing (ABC) method. In first part, it is studied the different uses of management accounting through the literature dealing with the evolution of practices. In this matter, it will be showed that accounting systems historically introverted and impregnated with the accounting today culture to emancipate itself in several directions. These developments allow us to study several techniques focused on marketing and competitive aspects of management, on the inter-organizational dimension and processes. In the second part., the objective is, to analyze these developments in the light of general principles of the Activity-Based Costing (ABC) method. It is chosen the development on this method because in its foundations, it proposes a resolutely economic orientation of the management intended to assist managers in making decisions taking into account strategic, commercial and industrial contexts. The plan, thus, becomes a driving instrument. The basis of this approach is to redesign those processes that help improve five parameters: product features (product benefit), product quality level, rapid response to customer demand, type of service offered (customer satisfaction), manufacturing costs. The purpose of this article is to study the role of the cost-based strategy in the manufacturing industry. As far as case studies are concerned, the first concerns the cost-optimization process at the level of office activity, the second at the material procurement level, both targeting the Activity Based Costing method.*

Key words: *cost, manufacture, products, management, profit, steel industry.*

1. INTRODUCTION

Economic culture has become absolutely necessary for the ordinary citizen, is the basis of its economic behavior, without which it cannot be realized as an individual in a society where access to resources is increasingly difficult. Thus, in the case of the economy, the possible inventory of problems would include: production, exchange, consumption, currency, unemployment, inflation, economic growth. Physicists have mistakenly believed that wealth (net product) is created only in agriculture but has contributed to the advancement of economic science by prefiguring the identification of one of the most important economic categories that is "value added" [1]. It is a considerable advance towards mercantile and by understanding the mechanism of adding value through the use of manufactured goods. Accounting behaves in a present that has a "history" and a "future" that must predict according to what the past has seen, check the present, and awaits a more or less unpredictable future [1, 8, 9]. It is about how to design the future, what is necessary to consider, and what the risks and uncertainties are.

The mercantilist view that wealth was represented by the precious metal obtained from the trade activity (especially from the foreign trade with manufactured goods) is condemned in the middle of the 18th century). It is used

the method of theoretical approach, the research being built in the form of an argumentative essay that basically addresses primary sources composed of specific articles, but at the same time, it will be also used secondary sources. At the forefront it will be exposed a cost issue. The research objective will focus on the hypothesis that cost planning in the manufacturing industry has a positive impact on profit. The original contribution is to provide solutions, in personal view, to issues that have been detected in the theoretical research, namely the detection of issues that hinder the industry manufacturing industry to make a profit due to planning errors.

2. COSTS IN THE MANUFACTURING INDUSTRY

2.1. Quality costs of the enterprise

In the system approach, manufacturing often contains several related processes (interdependent subsystems) to produce products. The major processes of the manufacturing system are: manufacturing engineering, materials supply, reception, storage and release of materials, material handling, product realization, process and piece inspection, assembling, testing, packing, product installation, storage of finished products. Juan's schematic model illustrates how to change the quality assurance costs of an organization with the change in quality [17, 2]. This model shows that as the quality level increases by wider use of preventive and evaluation methods, the cost of defects decreases. Thus, the total costs of quality

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assurance decrease initially with the increase of prevention costs to the level of an optimal cost, after which they start to increase as the quality level increases [3].

With all its simplicity and wide use, the model described is imperfect. It is based on some unfounded assumptions (assuming that prevention and evaluation costs are cumulative, but in reality higher prevention spending would allow for a lower assessment activity). It also ignores the time factor (prevention costs are stronger at first, while the cost of defects is permanent). The baseline for calculating the cost of non-quality is the normal operating situation, with non-quality spending actually being the avoidance of the enterprise if "everything is going well for the first time." It is therefore necessary to define what is meant by normal operation in the calculation. Costs of nonconformities are expenses due to defects, in other words, expenses incurred because no work is being carried out in accordance with what was foreseen. Internal costs of nonconformities (scrap, retouches and other unnecessary expenses) and external costs of non-conformities that are revealed by customer feedback (customer compensation, late payment penalties, lost contracts) are distinguished. Prevention costs are costs corresponding to activities designed to prevent defects: general quality management and adoption of the quality system in line with ISO 9000 international standards, quality training programs, supplier capability assessment, preventive maintenance, designing products in accordance with market requirements, internal audits, marketing studies, etc. Thus, analytical accounts can provide information on workforce value, costs allocated to services, cost of machine hours [4, 9]. But the figures thus obtained must be analyzed and supplemented by estimates based on certain conventions - it is agreed that a certain cost should be accounted for in a particular chapter. All those who participate in the accounting and estimates must follow the same conventions and refer to the same definitions.

Evaluations have more weight if they are accepted by all; it is advisable to make valuations at minimum values, better underestimated than overestimated, and the calculation method must be indisputable. Certain consequences of defects whose estimation would be delicate, for example, missed opportunities or loss of an unsatisfied customer, are simply mentioned without being expressed in Figs. 6 and 7.

These conventions result in the drafting of a calculation guideline defining definitions (e.g. the cost of recruitment, training of newcomers), and guidance on the sources of information. There are also some standards that can serve as a starting point for writing this internal guide.

However, the importance of calculating the cost of non-quality should not divert attention from the assessment of customer satisfaction or dissatisfaction. This dissatisfaction is often difficult to translate into the costs of non-quality, but it must remain the center of concern for quality approach. Apart from the analytical expression of the quality costs, there is the possibility of presenting some representative indicators. In order to make comparisons over time or between units, or to show the

cost-cutting potential, it is convenient for these costs to be expressed as a percentage of turnover, which is eloquent for everyone. The cost aggregation by type of defect, by type of product or type of activity is useful for guiding the subsequent action to reduce quality costs. The existence of a summary with all the quality costs of the enterprise allows the use of the partial calculations it contains for certain defects [5, 11]. It also makes it possible to regroup the costs of accountability centers; a fair repartition is, however, difficult because for much non-conformity the causes are multiple and the responsibilities are common to several departments of the organization.

2.2. Selecting manufacturing process

One of the modes of presentation may take into account the number of staff in the enterprise, in which case the cost of quality is expressed per employee.

Some businesses track the relative evolution of the different cost categories: prevention costs, detection costs, costs of internal nonconformities, costs of external nonconformities.

Manufacturing management refers to the management of the series of processes belonging to internal actions involved in the organization, planning, control and risk management, as well as the interfaces of the manufacturing function with other functions of the organization. In summary, the management of the manufacturing has the tasks of planning, programming and controlling activities that transform inputs (raw materials and materials) into finished goods. Manufacturing management is the management of a set of technologies and methods used to define how products are to be manufactured. The manufacturing management sub-function is responsible for ensuring that the organization has the technical skills and resources to focus on the specific product quality assurance objectives at the lowest possible cost [12, 6].

In the first line, the manufacturing system is designed to design the manufacturing processes and the succession of operations required to manufacture the product as it has been designed. In a synthetic approach, the implementation of a manufacturing system involves planning, implementation and controlling processes, these processes being under the responsibility of competent production personnel and management personnel. The planning process should take into account the potential of the product market, the product design, the production processes to be used, the facilities, equipment and materials necessary for production. In the implementation process, these resources are supplied and introduced so that production can begin [7]. Despite this, the deployment phase takes place along with control, as the manufacturing system has to be kept under control and managed both during implementation and production. The main advantages of custom-made manufacturing are the ability to deliver products to the customer with the exact specifications required. The main disadvantage is that manufacturers are sensitive to fluctuations in demand for products, leading to reduced use of production capacity.

3. GENERAL CONSIDERATIONS ON THE RELATIONSHIP BETWEEN COST AND PROFIT

3.1. Planning the production process

There are unanswered questions that we do not have the certainty of a lasting construction that does not change to any intensification of the economic, social and political turmoil. A lasting construction for a more or less unpredictable future cannot be based on data and accounting information.

Properly predicting a profit means building costs for possible revenue. In this course, the focus consists only on costs, on a building based on elements and classifications. The total cost expresses in cash the total consumption of inputs produced to obtain a given volume of output. The mathematical relationship between the amount of factors used and the maximum physical output obtained from combining them is called production function. In the short term, the production factors can be fictitious and the production increase is only achieved by adjusting the variable factors. For simplicity, we will assume in this subchapter that there are only two factors of production, labor and capital, and labor is the only variable factor in the short term. Custom manufacturing programs were introduced by Renault, Nissan, BMW and Volvo automobile manufacturers. Automobiles are custom-made in three weeks without expensive stocks of finished vehicles. The Just-in-Time (JIT) system is a manufacturing system or production organization technique developed in Japan that suggests that any inventory in the production process is waste (waste) that needs to be removed from the process. A basic principle of the JIT is to produce only what is needed, on a firm order, when necessary and in the required quantity. This reduces inventories, in particular unfinished production stocks and costs for inventories on the manufacturing stream [8]. The "pads" of products on the manufacturing line are considered waste / wastage and are minimized in the JIT system. Also, Quick Response Manufacturing (QMS) is a manufacturing strategy that aims to reduce the time between customer ordering for the product and the final delivery of that product, the so-called total time. The QRM concepts were detailed by Rajan Suri in the 1980s, a professor at the University of Wisconsin-Madison, USA. By reducing total time (equivalent to cycle time), improved product quality results, lower costs by 15–30%, improved 60–90% product performance on time, productivity gains by 30%. Advanced performance tools and techniques such as Production Planning and Control Systems (MPCS), Lean Six Sigma strategy, etc. are used in modern manufacturing systems. The main objective of MPCS is to ensure that the desired products are manufactured: at the desired time, in the planned quantities, with the product quality specifications and minimum costs. The Lean Six Sigma strategy (in translation: 6 Sigma in Slim Manufacturing) is a manufacturing management strategy where Sigma ideas are combined with sophisticated manufacturing. The MPM system is used to engineer the sequence of operations, machine location planning, production line balancing and 3D

design of human and robotic operations, as well as the delivery of machine programs and electronic work instructions at workshops. Manufacturing engineers assess different manufacturing scenarios, material flows, calculate production costs and the effects of changes on production lines [9, 10]. Major applications that benefit from integrated information on MPM's specific products, processes, facilities, and resources are: line balancing, time estimation, electronic work instructions, production costs, and quality control plans. Assembling manufactured products can be done either from internally produced components or from externally supplied components. Therefore, different types of cost planning are essential in planning the production process. The repair and installation of industrial equipment falls within the manufacturing industries. In an approach as a system, manufacturing is a system of correlated processes that interact to produce as a result material goods that will meet the expectations of customers.

3.2. The marginal product

The fact that only the labor factor can be changed makes it, given a certain number of hired workers, that its subsequent increases correspond to ever smaller total production increases. In economic terms, it is concluded that the short-term production function has a downward marginal product. The marginal product is defined by the formula:

$$Q_m = \Delta Q / \Delta L, \quad (1)$$

where Q_m is the marginal product, ΔQ variation in total production, and ΔL change in the use of labor factor. If in the short term entrepreneurs can increase production only within the limits of existing production capacities, long-term constraints on fictitious factors disappear [4, 11].

Within a long time horizon, entrepreneurs have the opportunity to intervene on the scale of production capacity by investing in new production capacities (whether to increase production sizes) or by giving up a number of capacities. So over a long period, practically all costs are variable.

4. APPLICATION AREA: APPLYING COSTS FOR PROFIT

4.1. Getting the accounting profit

In order to obtain a more accurate cost, managerial accounting must provide decision makers information on: actual costs of stocks, costs of acquisition costs and costs, preservation, which may facilitate analyzes targeting in particular slow moving stocks, the age of parts, assortments and articles; optimal dimensioning of the quantities of raw materials and materials held by the enterprise and their correlation with production needs. Minimizing the value and volume of stocks of raw materials and materials has as reduce storage and retention costs, as diversity generates high costs and costs creates the premises for detecting possible frauds. In Fig. 1, there are three identical firms as technology: one of a small size, another of medium size and another of large size, described by their short-run average cost curves. A company that wants to produce 10000 units per

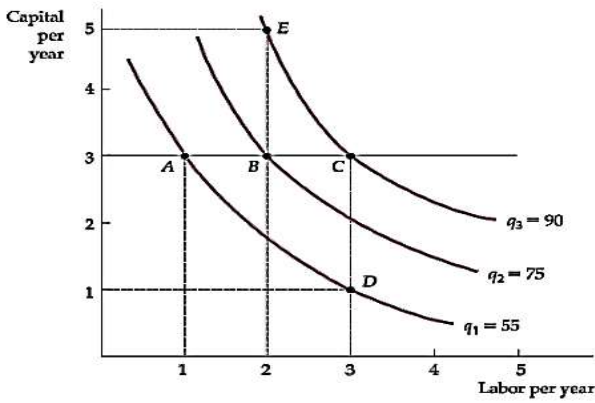


Fig. 1. Common characteristics upon long-run average cost and short-run average costs [14].

Part 1 US supplier		Currency: EUR		1 316,525
Machining quotation				
01.01	Set up part/machine		Tier 1	0
01.02	Machining Time		Tier 1	1 160,301
01.02.01	Marking		Tier 1	1 913,860
01.03	MT Control		Tier 1	0
01.03.01	MT Control Test		Tier 1	1 38,264
01.04	QC		Tier 1	0
01.04.01	Hardness Test		Tier 1	1 47,336
01.04.02	Wet Magnetic Test		Tier 1	1 44,135
01.06	Documentation		Tier 1	1 38,264
01.06	Handling, Storage and Shipping		Tier 1	1 32,825

Fig. 2. Total cost for the company in case of Product A, subsidiary [22].

month, for example, will choose the average size over the long run. If they choose a high capacity, the costs would be high, because much of this capacity would remain unused.

The average size company represented in Fig. 2, produces 10,000 products per month at the average cost of 1 million lei / piece.

Against the backdrop of a high demand from consumers, the company wants to mash its output to 11,000 units per month. The time period for companies to adjust their production capacities is different from firm to firm and from industry to industry. Construction of a nuclear reactor takes between 5 and 10 years [12]. Expansion of a restaurant, on the other hand, can be done in a few weeks. The accounting profit resulting from the difference between the company's income and the cost of accounting is higher than the economic profit, as it also includes the normal profit. Getting the accounting profit means a better situation for the company, i.e. it earns enough to cover all the costs. This does not mean that the temptation of another alternative disappears if there is an additional gain. There are situations when the company obtains accounting profit, but from an economic point of view, it records losses.

Profit is a synthetic indicator of the economic and financial performance of the enterprise, reflecting the efficiency of allocation of resources. This maximizing profits objective is of particular importance for cost diversification and measurement. As the main objective of the company is to maximize profit, choose the variant that ensures minimum costs [14]. Also, when making decisions, it could be considered the influence of changes

of production on the structure of production costs. This makes the evolution of production costs to be tracked both over the short and long periods. If cost analysis, in the short period, requires a distinction between invariable factors (production equipment) and variable factors (labor force and working capital), long-term all factors of production can be considered variable.

4.2. Objectives of the ABC implementation

The general problem of paper is to ask whether the Activity-Based Costing (ABC) method constitutes a common reference that would explain the evolutions described or if, on the contrary, they ultimately show the overall failure of the Activity-Based Costing (ABC) and the return to other forms of analytical approaches. This is why it is observed a current Activity-Based Costing (ABC) oriented on the strategic dimensions, marketing and sales management and more generally on the entire environment external of the company.

An important goal of mass production is to reduce internal complexity to the point where products can be made flexibly without incurring costs and deadlines change of series. This is possible thanks to the standardization of raw materials, plant and equipment machinery, manufacturing processes from the conception of products. Standardization involves a costing system that leads to a reduction in raw material consumption, a number of parts, machines. The Activity-Based Costing (ABC) method allows retaining the different types of variables that explain cost formation.

Generally, an active quality-building policy leads to a global cost reduction. The part representing the costs of prevention, very low in the beginning, increases progressively. The portion of detection costs is growing, as a measurement effort is being made; then, this part is diminishing, as the prevention gradually replaces the many controls. Through this process, the enterprise can make comparisons over time and across sectors. The normal profit represents that part of the profit that the entrepreneur (the economic agent) realizes and assumes in his capacity owner of factories. Viewed as the difference between the selling price and the cost of production, profit, namely the total profit has two components: normal profit and supernormal or economic profit. As income of the owner who is the entrepreneur, normal profit is not included in the production cost. Profit is in the narrowest sense, the income that economic agents obtain as a product of capital use in the broadest sense, profit is the gain gained by economic agents as a surplus over the cost of production. Hence, profit is the advantage achieved in the form of an action, operation or economic activity. The cost per unit of product depends on volume of production, change in product characteristics, quality. In order to maximize profits, the manufacturer must minimize production costs, so as to obtain as much as possible output from the two factors of production: labor and capital [15, 8].

Knowing this process requires consideration of several elements:

1. With the help of value engineering, with the limitation of raw material and energy resources, a minimum cost is achieved without affecting quality, reliability and performance.

2. Minimizing production costs has a decisive role in maximizing profits. Making profits depends on the ability of manufacturers to produce higher quality goods at a lower cost, to sell at competitive prices [16].
3. The possibility that the receipts are higher than the costs, is the motivation of the transfer of resources towards certain branches, which leads to the increase of the offer. The decrease in cost per unit of useful effect is the objective basis of lowering prices and tariffs, and hence increasing the purchasing power of the population.
4. The importance of minimizing costs is also reflected in external economic exchanges, a cost disadvantage risking turning into a competitive rebound.

At this point, the total revenue of the enterprise (It) obtained by selling the respective products is equal to the total global cost (Ctg), and the profit (Pr) is null.

$$P \cdot Qr = It = Ctg, \tag{2}$$

where P – the unit sale price; Qr – quantity of products corresponding to the profitability threshold.

Depending on how total variable cost (Cvt) evolves, there are two ways to determine the level of the profitability threshold: linear and nonlinear. The linear method is applied in the hypothesis where the total variable cost evolves directly in proportion to the production volume, plotting through straight lines.

5. CASE STUDY: ACTIVITY-BASED COSTING (ABC) IN IT SERVICES OF A LARGE INDUSTRIAL GROUP: SIDEX GALAȚI

5.1. The weakness of management strategy

The golden days of the former steel factory began in 1960. The peak touches him a year before the Revolution when he manages to give the country eight million tons of steel. That's twice as much as it was able to produce later, after privatization. The board was sold by the management at prices below the cost of production. The parasitic companies could only buy this board and sell it at much higher prices. Due the inefficient business strategy, the profit came only for board, and the transaction was made from the storehouse itself. Beyond the black-board business, the most damaging business has been carried out in the 1997–2000, with Sidex International. The economic and financial crisis has massively hit the demand for steel, both globally and internally, and implicitly the price of this alloy. Moreover, in the last five years the price of energy and natural gas has increased, which further eroded the company's business. The Galați plant was built in the 1960s and is the only integrated steel production plant in Romania, specializing in the production of flat products and galvanized sheet metal. At the same time, it is the largest producer and exporter of steel in Romania. The company buys raw materials from Russia, Ukraine, Kazakhstan, India, Australia, Brazil and the United States of America, as shown in Table 1, for 2016. Sidex was privatized by the Romanian state in 2001 [17]. Figure 3 presents the total cost for the company in case of Product A and main suppliers considered in the supply chain (Fig. 4) [18, 23].

Table 1

Overhead costs in various countries for the company

Countries (suppliers)	Overhead costs [Euros]
USA	223.14
Kazakhstan	236.281
Australia	206
Russia	273.746

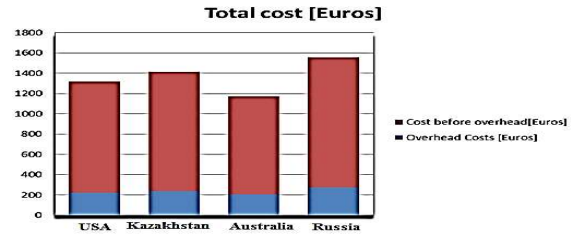


Fig. 3. Total cost for the company in case of Product A, main suppliers [18, 23].

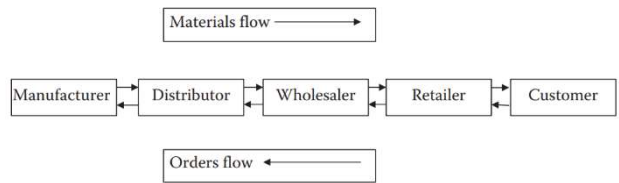


Fig. 4. Supply chain on four level [23].

Over the years, the Arcelor Mittal printing peripherals have become increasingly heterogeneous and represented around several suppliers. In most cases, contracts were negotiated and managed locally by various suppliers. In addition, it turned out that 80% of printers were used at less than 20% of their maximum capacity, which was a significant and unnecessary expense. Given the significant safety constraints on each site, Arcelor Mittal first and foremost wanted to choose a partner capable of providing trained maintenance teams to comply with safety procedures and safety rules, and to react effectively in case of fire or gas alert [18, 19].

After an exhaustive analysis of the situation, it was reorganized Arcelor Mittal's fleet: the number of models used has been reduced. The entire document management system has been centralized to reduce costs and improve efficiency. Service level agreements (SLAs) for each site and policies global printing have been put in place. They help reduce costs by limiting the use of color and paper waste.

It was installed a fleet management tool that supports updates, toner changes and alerts from a central point. This tool generates customized service reports covering the entire fleet. It provides the information required to manage the performance indices and prepare the monthly evaluation meetings. In addition, it produces the statistics of consumption required for centralized billing for the entire group. The data included in the invoices allow Arcelor Mittal to allocate costs internally. To reduce downtime and improve efficiency, a single point of contact has been created for all technical issues. As soon as an incident affects the printer and MFP fleet, the IT workflow. All technicians on site have received training on Arcelor Mittal's security protocols. They participated

Components	C1			C2			Total		
	Amount	Unitary cost	Amount	Amount	unitary cost	Amount	Amount	Unitary cost	Amount
A	10 000	25,00	250 000,00	7.500	25,00	187500,00	17 500	25,00	437500,00
B	10 000	50,00	500 000,00	15.000	50,00	750 000,00	25 000	50,00	1 250 000,00
C			7.500		45 000	337 500,00	7.500	45,00	337 500,00
Total	20 000		750 000,00	30 000		1275 000,00	50 000		2 025 000,00

Fig. 5. Purchases of components (in quantity and value) [16].

in special training sessions meeting the requirements of steel mills. Arcelor Mittal is the largest steel mill in the world. It produces high quality steels for all major industries, including automotive, construction, appliances and packaging. Since the Euro crisis, the demand and price of steel have fallen considerably at the global level. As a result, Arcelor Mittal needed to improve its document processes and cost structure (Fig. 5). The group looked for a partner to help them align their different levels of service, technical activities and internal flows across all countries and regions of their operations [19].

The main advantages of the method are the follows:

- Total transparency and superior efficiency, thanks to the centralization of orders, technical operations and billing.
- 30% discount on direct costs.
- The policies of using color and printing, in conjunction with the rationalization of the park, have generated significant cost reductions.

The highly efficient and centralized technical support service simplifies the processes in the event of an incident, helping to improve the productivity of Arcelor Mittal employees.

Arcelor Mittal was looking for ways to streamline document management across multiple sites and reduce costs. The solution has been able to adapt to the specific security requirements of the steel giant and optimize Arcelor Mittal's printing peripherals to improve its efficiency and reliability. Its users now benefit from a fleet management tool that reveals its potential for optimization and allows for detailed and centralized billing. The precision of the data makes it possible to identify the under- and over-used equipment, to measure in detail the consumption of the color, allowing reference analyzes between the different sites to improve the procedure of optimization. Custom service level agreements ensure consistent efficiency across all sites.

In the problematic of the implementation of an Activity-Based Costing (ABC) system within a very autonomous division (profit center) which delivers an extensive range of IT services (equipment supply, training actions, network configuration, etc.), the authors that studied internal clients deduced concluded that different processes within this division and that they are mostly cross-functional since they involve several services of the information system division and one or more other entities (internal or external to the group) [16, 17, 21]. For example, the deployment of a new ERP in the group requires mobilizing the energies of the development and trans-

formation departments (to adapt the tool to the characteristics of the company), support functions (human resources to organize the training actions) and users at the customers [19, 20]. The Director of Management Control of the Information Systems Division has therefore found it useful to apply an Activity-Based Costing (ABC) system that allows the performance of these processes to be monitored. Historically, the management system was based on cost-based cost accounting and costing by product. The main purpose of this system was to report the division's costs to headquarters, but it did not allow the performance of the unit to be monitored. The cause of costs was not drawn. The traditional system did not provide sufficiently precise information to help managers build a tariff range that takes into account the costs generated by each customer according to his demand. Reading the management accounting system according to the typology of the proposed management accounting models The Activity-Based Costing (ABC) project lasted approximately one year and can be summed up in six steps:

1. Diagnosis of the initial situation, project planning and formation of the group project,
2. Identification of the activities and interview of the managers,
3. Determination of the cost drivers and calculation of the costs of return,
4. Profitability calculation by type of service and category of client,
5. Validation, correction and analysis of results.

This methodology allowed for a more rational allocation of resources to activities, to manage activities as larger process elements, to steer costs according to the services offered to clients, to develop benchmarking measures and ultimately to steer the process [20]. Also, it is proposed an extraction of several analytical accounts, cost centers, activity proposals and services catalog. It is noted that this is a "simplified" Activity-Based Costing (ABC) system with a reduced number of activities. The model fits into a logical process with meta-activities that can cross several cost centers. As these are service activities, most of the added value generated is based on the expertise of IT teams. Also, the preferred resource driver is the time spent by these teams on the different missions of the division. It is established that logic of Activity-Based Costing (ABC) with a single resource driver; resource consumption is essentially proportional to the working time of computer scientists [15]. On the other hand, the variety of activity indicators is slightly larger with indicators retained such as the "number of customer requests", and the "number of different products per customer", the "number of interventions at a client" [22], etc. Most of the activities are transversal to the division's various departments and many of them are directly related to the clients. Also, it was find the logic Activity-Based Costing (ABC) oriented customers. The cost objects selected (the services offered) makes it relatively easy to link the costs of the activities to the customers in function of the services that they operate. The inter-organizational dimension is also present since it involves piloting processes that range from suppliers to key suppliers. The tool also makes it possible to control costs by reference to the best practices observed on the market

(accounting benchmarking). To operationalize the Activity-Based Costing (ABC) system, it is chosen the software and a tool called EPO (Enterprise Performance Optimization). The EPO tool enables the management controller to extract analytical results accounts with several dimensions: by customer, by geographical area, by type of service delivered, etc. Thus, the tool is modular and constitutes an aid to the decision to quote customers. In summary, it is considered the management accounting system to be a simplified Activity-Based Costing (ABC) that mixes several approaches: customers, processes, suppliers and time-based. Even if some difficulties have been revealed for practice research (for example the difficulty to trace certain administrative costs), it is presumed that a decision-making tool does not distort the principles of the Activity-Based Costing (ABC) [21].

The evolutions described, first from the literature, then with reference to a case study, seem to indicate several trends in the evolution of management accounting tools (Fig. 6). In the first case, the Activity-Based Costing (ABC) method is clearly a reference and is not distorted. In the second case, is it a renouncement of CBA principles? If the research is based on an observation of the Activity-Based Costing (ABC) technique, it will be possible, for example, compared with a study is underway within company ERDF Burgundy.

The Activity-Based Costing (ABC) under construction is part of logic of economic steering and would be based on logic based on equivalent time. The simplified approaches described (outgoing and lean management accounts, Activity-Based Costing (ABC) lead to questioning the principles of a finer division and a multiplication of inductors. But these approaches are in agreement on an essential point with what the precursors of Activity-Based Costing (ABC) wanted, namely to propose a tool for steering the decision rather than conforming to accounting rules. This is the main contribution of the Activity-Based Costing (ABC) method which, in our opinion, aims to contribute to development management accounting. The observed Activity-Based Costing (ABC) applications also want to introduce modularity into the analytical systems of companies and expand their scope (spatial and temporal).

Elements	C1		C2			Total
	Amount	Unitary price	Amount	Amount	Unitary price	
Buy price	20 000	37.50	750 000	30 000	42.50	1 275 000
Supply costs	750 000	0.10	75 000	275 000	0.10	127 500
Direct labor (min)	150 000	100/60	250 000	150 000	100/60	250 000
Assembly	150 000	4.00	1500 000	150 000	4 00	600. 00
Production cost	10 000	167.50	1675 000	7500	300.33	2 252 500
Administration / Distribution	1 800 000	0.10	180 000	3 000 000	0.10	300 000
Cost of connect	10000	15530	1855000	7500	34033	2 552 500
Turnover	10 000	180.00	1 800 000	7500	400.00	3 000 000
Result			-55 000			447 500
% of sales			-3%			15%

Fig. 6. Cost of review and results – method of complete [18].

These techniques testify to management's search for increased learning, creative abilities and dialogue in organizations. The case study proposed goes in this direction and testifies to a simplified Activity-Based Costing (ABC) system. It would be relevant to carry out exploratory studies in other organizations to deepen our analysis of developments in management accounting and their impact on the dissemination of knowledge [22]. The choice of activity drivers may seem arbitrary and questionable as are the choices of work units in the traditional method (Fig. 7). The ABC method does not guarantee the "truth of real costs". However, it makes it possible to improve their analysis and to identify the progress of certain expenses in order to safeguard the competitiveness of the company.

By identifying the resources consumed by each activity, it makes it possible to assess its efficiency and to encourage ways of improving productivity. It broadens the role of management accounting in the optimization of production and distribution processes. Its mission is no longer focused solely on cost evaluation but also to identify all activities that generate value for the company and its development. Management accounting is thus more in line with the company's overall strategy. With the activity accounting method, the result appears more balanced between the two products. This is due to the "series tai lle" effect, of different volume, which modifies the load distribution. Thus, the scheduling and shipping expenses are divided equally between the two series manufactured for an amount of € 4,500. When these series are of large size (which is the case for C1 with 10,000 units), the amount charged to each unit manufactured is therefore lower. As a result, the result on C1 is higher than for C2 (7,500 units) compared to the other method. Taking this effect into account allows the accounting of activities to better reflect the economic reality of costs in production companies.

6. CONCLUSIONS

This article discusses and raises a topic of great interest, due to the current socio-economic context, when government priorities are based on identifying new and sustainable solutions to accounting issues. Advanced proposals throughout the thesis are intended to be a catalyst for improving models of cost analysis and financial-accounting results in future research. Therefore,

Elements	C1		C2			Total
	Amount	Unitary price	Amount	Amount	Unitary price	
Buy price	20 000	37.50	750 000	30 000	42.50	1 275 000
Direct labor (min)	150 000	100/60	250 000	150 000	100/60	250 000
Market Management	750 000	0.04	30 000	1 275 000	0.04	51 000
Reception / Control	20 000	2.43	48 600	30 000	2.43	72 900
Scheduling / Shipping	20	4 500.00	90 000	100	4 500.00	450 000
Assembly	150 000	2.80	420 000	150 000	2.80	420 000
Administration	1 800 000	0,0625	112 500	3 000 000	0,0625	187 500
Cost	10,000	170.11	1 701 100	7500	360,85	2 706 400
Turnover	10 000	180.00	1 800 000	7500	400.00	3 000 000
Result			98900			293600
% of sales			5%			10%

Fig. 7. Cost of review and results – ABC method [17].

the issue that is going to be researched in the future work concerns the creation of a model for the analysis of the costs and the financial-accounting results and its implementation in a society in the processing and metal coating industry. This aspect could be a point of interest for collaboration in this area, for academic research.

The Sidex example showed that the manufacturing industry in Romania is on a downward slope, caused by the global economic crisis, suggesting that the manufacturing industry must be stimulated, access to external markets must be improved, ensuring competitive conditions fair imports for raw materials and product exports, and, very importantly, innovation concepts need to be stimulated, both in terms of manufacturing technology, sustainable development, and the use of costing methods. Activity-based costs are more relevant for different reasons: The distribution of indirect costs is more credible because it better reflects the consumption of different resources, It better takes into account the complexity of production processes and the multiplicity activities, it better represents the complexity of certain products (many components, manufacturing batches), it avoids the inconvenience of the traditional method which sometimes involves "subsidizing one product for the benefit of another". However, this method is complex to implement. It focuses on indirect charges.

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