QUALITY AS THE MAIN COMPETITIVE TOOL 
AND ITS ROLE IN ACCOUNTING PERFORMANCE: 
AN EMPIRICAL STUDY IN LIGHTING EQUIPMENT INDUSTRY

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Abstract
The purpose of this article is to describe quality as an instrument of managerial performance in the sense of responding to the competitive environment, and how we can measure quality costs, also taking into account compliance factors, making it easier to explain. The author demonstrated that an economic entity that does not invest in quality under the present conditions of unprecedented competition in this area risks a considerable decline in market share, revenue and profits. The paper showed that the emphasis on product quality in general, but especially concerning the production of lighting equipment, leads to a consolidation of production resulting in lower production costs, customer satisfaction and generation of future revenue, or in some cases keeping steady incomes.

Keywords: managerial accounting, quality, cost calculation, prices, lighting industry, management

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Introduction
“Placing on the first place the appreciation of the efficiency and the development of the spirit of improvement for the client at all levels of the entity requires a high quality measurement system. From now on, the judge is the client” (Tabără and Briciu, 2012). “Under market economy conditions, the efficiency of any economic entity depends essentially on the quality of management to understand and apply modern management principles, methods and techniques. Quality management is a vital condition for economic entities to gain competitive advantage and resist within the competitive mechanism. The earlier statement is all the more important as in the last few years it has been demonstrated that the main factor of a company's bankruptcy is the incompetence of managers and the mistakes of leadership caused by errors in decision-making” (Homormonea and Socea, 2011). In order to get quality, it takes a lot of work (Cocuľová, 2016). Companies around the world say they are struggling to get quality products or services. It is understood at all the relational levels of an economic entity that they must contribute, each of them, to helping management take strategic initiatives to improve quality and reduce delays when faced with various constraints. The emphasis on quality reduces costs and increases customer satisfaction. ISO 9000 quality standards have also been introduced, allowing all manufacturers to certify and attest the elements of their production processes that produce quality. Thus, the emphasis on product quality will strengthen its specialization in producing it, generate lower production costs, increase customer satisfaction (Sulphey and George, 2017;
Florin, 2014) and generate larger future revenues for manufacturing companies, and selling quality products, giving them a place on the world market. We have chosen as an empirical study the lighting equipment industry, given the fast development of technologies in industrial products, especially in this area of LED lighting production. Thanks to the innovative technology used in the production process, this is a very efficient method, making high-quality products of different sizes and models possible. Globally, LED-based lighting solutions occupied 5% of the market in 2007, and increased by more than 25% by 2015 (Hint, 2017). The main growth vectors will be improved technology and reduced product prices, energy efficiency, law regulation, as well as tax incentives offered by governments around the world. Thus, we consider the analysis of an economic entity with the field of “electrical lighting equipment” to be important, aiming to create the conditions for sustainable development, in the long run, by applying the most efficient technologies, developing an efficient product system.

**Research Methodology**

Given the role of performance in measuring quality systems and also cost management in making decisions, knowing them becomes an imperative. “Today, most policy decisions contain a scientific and technological dimension. Therefore, they must be based on transparent and accountable opinions, based on ethical research. In this context, it is necessary to strengthen the ethical bases of scientific and technological research, to assess the risks inherent to progress and to manage it responsibly taking into account the lessons of history” (Niculescu, 2011). Considering that this paper can respond to the requests of its users, we wanted to address both theoretical and practical research. From a theoretical point of view, we analyzed the literature in the field of managerial accounting (Zheng and Alver, 2015) trying to resize the existing notions for application in the lighting equipment industry. Thus, we directed our interest in practical application in this field, because in an uncertain economic environment the dynamic knowledge of costs and product quality is closely linked and becomes the main strategic component within the economic entities in this field.

From the point of view of the methodological interest, our activity focused on both the quality of the accounting and the cost management according to the investment decisions taken by the management of the economic entity S.C. Electromax SRL concerning efficient technological equipment with the aim of increasing product quality, increasing turnover and reducing costs in lighting equipment products.

**Review of Literature**

The information system has the primary role of harnessing economic information and providing information in the information network of entities involved in the economic process in order to reduce uncertainty and make pertinent managerial decisions. According to some specialists, “the information system is a set of human and capital resources invested in an economic entity to collect and process data necessary to produce information that will be used at all decision-making levels of leading and control of the activity of organizations” (Briciu et al., 2003). Other specialists emphasize the positioning of accounting within the information system under another idea. So, Homormonea (2011) wrote that accounting is an essential component of the economic information system, because by its means and procedures it offers: classifications on the past and the present of the company, orientations on the
future economic strategy, pertinent market oriented analysis, limitation of random in
decision-making, solutions and motivations for the decisions taken.

The complexity of the economic environment in recent years has led to the need
to manage change as correctly and efficiently as possible. Thus, the management of
economic entities becomes the main supporter of it in “finding its own way in
confusing environment, striving to give meaning to ambiguous messages, reading
signals, looking around and listening all the time, coping conflict and striving to
accomplish your tasks by establishing and maintaining a network of reporting and
relationships” (Andone and Tabără, 2006).

Managers of economic entities in the field of lighting equipment production need
to have an efficient system to know the existing situation, to identify their objectives
and achievements knowing the market in order to “manage the future and to report
consistently this to it” (Budugan et al., 2007). Starting from the reasoning that
accounting information can be traded, we believe that regardless the mode of
communication, end-user satisfaction must be measured and ensured at all times. This
can only be guaranteed by quality control systems within economic entities in all areas
of activity.

For the client, value is a very important element in quality management
(Mironiuk and Yatskanich, 2013). Quality is the feature of a good that gives it the
value. Quality measurement consists of quantifying the current level of performance
according to the standards in question. The quantitative measurement of one or more of
the quality characteristics is called calimetry. The name emerged following the spread
of ISO 9000 series standards. The Calimetry term was adopted by the EOQC
(European Organization for Quality) in 1971 and officiated in 1981 as the “Quality
Measurement Science” (Tabără and Briciu, 2012). Quality steps have brought
continued benefits with the first ISO 9000 certification. “By limiting progress towards
compliance with a predefined reference, economic entity especially that oriented
towards internal processes is likely to distance itself from real customer expectations.
We must then go to the search for zero defects to zero breakdowns by customers”
(Fernandez, 2013).

**Quality Control and Performance within the Economic Entities of the
Lighting Equipment Industry: The Case of Existing Products/Services and
Activities at SC Electromax SRL**

Current activity is manufacturing LED lighting equipment.

For an easier understanding of the specifics of this productive field, relatively
new in the lighting facilities and systems industry, a series of information will be
presented on lighting systems in general and on LED lighting systems in particular.

The luminaire is defined as a distribution apparatus that filters or converts light
emitted from the source and includes all the parts necessary to secure, support and
protect the source and auxiliary circuits together with the power supply connection
means but does not comprise light sources.

The light source is a device that converts electricity into light energy. According
to the nature of light radiation, light sources are classified in two categories: radiation
sources produced by heat and radiation sources produced by molecular agitation.

Luminous flux is the radiant flux emitted in the visible spectrum, assessed by the
intensity of the visual sensation. The unit of measure is lumen (lm). Light flow is a
feature of light sources.

Light intensity in a given direction is the elementary light flow emitted in an infinitely small solid angle per that angle. The measuring unit is candle (cd). Light intensity distribution is a feature of the luminaires.

Illumination characterizes the reception of light flow and represents the flow per elementary unit. The measurement unit is lux (lx). Lighting is a normal quantity, with norms and recommendations on the value of illumination on the work surface depending on the nature of the activity being carried out.

Most of the time, LEDs are used as indicators in electronic devices, but they are increasingly being used in power applications as lighting sources. The color of emitted light depends on the composition and state of the semiconductor material used, and may be infrared, visible or ultraviolet. In addition to illumination, LEDs are increasingly used for a large variety of electronic devices. The first widely sold LEDs were used to replace incandescent indicators, first in expensive equipment such as laboratory and test devices, and later for TV sets, radios, phones, even watches. These red LEDs could only be used for indication because the light emission was not enough to illuminate a surface. Over the years, other colors of LEDs have been discovered, with greater lighting capabilities. The first LED with high-capability of illumination was made by researcher Shuji Nakamura in 1993, from an InGan alloy. It was awarded in 2006 with the Milenium Technology Prize for its invention.

Informational Flow of SC Electromax SRL

The complexity of Operational Manufacture Management, the variety of methods and techniques used, requires a large amount of information that is mainly found in the technical and economic documentation of the design (technological sheet, list of materials). This information can be classified as follows:

1) Information on products to be executed:
   • Nomenclature and quantity of products and semi-finished goods to be delivered to customers;
   • The delivery terms corresponding to the contracts;
   • The constructive structure and the degree of incorporation of different components into the product;
   • The degree of integration of manufacturing (which components are executed in the economic entity and which are obtained from outside);
   • Operational Management Parameters on stage (by sections) and stages of the production process and its components.

2) Information on manufacturing technology:
   • The technological flow and its stages corresponding to the production structure of the economic entity;
   • Manpower consumption or time norms on production links or jobs;
   • The type and characteristics of the equipment necessary to perform the operations;
   • Nomenclature and consumption norms of necessary materials;
   • Nomenclature and standard consumption for TVDs and utilities.

3) Information on the actual conditions and the system of production organization;
• Size of available production capacity;
• Size and structure of available workforce;
• The amount of material and energy resources needed.

Stages of Operational Production Management

The elaboration of the necessary works for the Operational Production Management must be done in a certain succession, as it influences the use of resources and the viability of the programs to be achieved.

In the first stage, the production tasks resulting from the contracts and orders concluded, taking into account the evolution of the demand, take place in time. The executions in advance or unachievable tasks will be taken into account, as well as differences between the actual demand of the period and the forecast. The results of this stage are reflected in the development of programs for the next 2-4 months. They will be the basis of programming and other auxiliary and serving activities. Depending on the type of production, the nature of the production process and the delivery time, a global succession of the tasks is set out in the schedule of the first programming month.

In the second stage, the monthly units of the industrial unit are broken down into production subunits (in space) in the form of operational programs that provide for the tasks and delivery times of different sections. In the case of an enterprise with an on-object structure, this activity consists in the breakdown of the products, quantities and deadlines in the monthly program of the economic entity.

For the economic entity with a technological structure, the program of the final section will correspond to the economic entity program and will be expressed in finished products. The programs of the other sections will be expressed in seminished products or parts that must be correlated quantitatively and over time, each section being regarded as supplier or beneficiary. Depending on the overall succession established in the first stage, the sequence of execution of the sections' programs is determined, the result of which is to ensure the internal delivery times between the production subunits.

In the third stage, the programming at the same time and space takes place detailing the tasks of each section on the structural component elements (workshops, working groups). The objectives set are for time periods and take the form of operative production charts. In order to ensure the material and organizational conditions necessary for the switch to the actual manufacturing, a series of works are carried out, the resulting information being used for the preparation of the launch documentation. Having all the technical, material and organizational conditions ensured, we proceed to the actual manufacture.

During the execution, the monitoring and control of the fulfillment of the programs are performed. This information, correlated with the evolution of demand, is used to correct the operational program of the period.

The products manufactured by Electromax SRL, as mentioned earlier, are of the nature of LED lighting systems. These lighting systems are highly innovative and are constantly evolving and changing due to the continued emergence of new technologies and improvements in LED operating parameters.

Here are the main categories of products manufactured by Electromax SRL, depending on the scope: LED outdoor lighting; LED interior lighting; safety lighting;
lighting for potentially explosive atmospheres; designing systems for commercial lighting with LED; projector systems for commercial lighting with LED; street lighting systems; beacon lighting; lighting for airports.

The products for general lighting in explosive atmospheres are designed for general lighting in the zone of explosion hazard due to gases and dusts for Group I and II, zone 1 and zone 2.

Reference Standards
- SR EN 13237: 2004 – Potential explosive atmospheres. Terms and definitions for equipments and protective systems intended for use in potentially explosive atmospheres;
- SR EN 60079-0; 2005 – Luminaires. Part 0: General requirements and tests;
- SR EN 60529: - Degree of protection provided by enclosures IP code.

The Current and Future Technological Flow of Electromax SRL
At present, the technological flow of the company for the manufacture of various products of the nature of LED lighting systems consists of a series of production phases, some of them outsourced to third parties, Electromax SRL not having the technical capacity to achieve them. The raw materials used in the production of LED lighting systems are: power supplies and electrical equipment; LEDs and LED holders; cables and wiring systems; printed circuit boards and various electronic components; extruded aluminum profiles cut to size and sheet metal. The LED lighting systems produced by Electromax SRL are made up of the following main components: casing, fixing system, light source and power supply. A first phase for casings is the cutting of extruded aluminum profiles. At present, this phase is outsourced to third parties due to the fact that the company does not have a blade cutting machine. The management of technological equipment decides to implement a European financing project by acquiring the latest technological equipment. Following the implementation of this project, Electromax SRL will have the technological capacity to realize its present and future technological flow, namely The CASING.

Purchasing a state-of-the-art profile cutting machine, which will use technologies younger then three years, the company will internalize this flow phase, which will reduce dependence on the companies currently providing these services, and production times will be considerably reduced, canceling the transport and waiting times of the cast aluminum profiles; The second phase of the technological flow required for the casing is represented by the mechanical processing of the cut extruded aluminum profile. These machining operations consist of drilling, threading, turning,
CNC machining, performed with the mills and lathes provided by Electromax SRL, but it should be noted that these machines are outdated, have high production times, produce a large amount of scrap due to imprecision and inefficient use of raw materials. In this case, the management of economic entity decides to acquire a universal lathe and a universal milling machine that will use modern technologies. The production times will be reduced by 20%, with direct effects on productivity gains and at the same time by increasing the technical endowment society, will increase production capacity. Also, due to the precision of operating of both equipments and low power consumption, production costs will decrease. Corroborated, increased productivity and production capacity, as well as lower costs will implicitly increase turnover and profit. Field painting: consists of electrostatic painting of casings.

This operation consists in powder-painting the pieces in a specially arranged space within the production hall. Once painted, the casings, as a semifinished product of various shapes and sizes depending on the manufactured product, are prepared to be part of an LED lighting system. Fastening system: represents the first phase required as a component part of the LED illuminating systems, consists of the cutting of sheet metal plates. If the product does not require high precision cuts, we use the guillotine of the company. This machine is very used physically and morally and has a very high margin of error. In most of the cases, cutting operations of metal plates to the size required for manufacturing the product are made by third parties using a water jet cutting machine. The implementation of the investment involves the purchase of a numerically controlled waterjet cutting machine. Thus, the operationalisation of the investment will lead to the internalization of this phase of the technological flow. The effects of commissioning the water jet cutting machine consist in lowering shipping times and canceling costs for third party services. At the same time, the technology used by this equipment, newer than three years, will lead to an increase of about 30% in productivity. The second phase is the bending of the parts according to the product's technological data sheet. This operation is carried out with the hydraulic press supplied by Electromax SRL. Then, the pieces cut and bent according to product specifications are welded. The welding operation is outsourced to a third party. Purchasing a welding plant will enable Electromax SRL to achieve this phase of flow within the company. At the same time, the exhaust system proposed to be purchased by the entity's management will absorb the gases emitted during the welding process, preventing the accumulation of noxious matter inside the production hall. Subsequently, the welded parts are deburred so that they can then be painted in the electrostatic field. Once dyed, the fastening systems are considered ready to be part of an LED lighting system. Light source: It is consists of an integrated LED system on a circuit board, along with a series of electronic components designed by Electromax SRL. A first phase in the manufacture of a light source consists in planting the components in the printed circuit boards. Planting is done with an automatic planting machine by third parties and involves placing all components and LEDs in the places established by the product data sheet. In this respect, the entity's management decides to purchase an automated component planting machine, which will lead to the internalisation of this process, which is currently being carried out at a very high cost by other companies. Due to the technology used, the component planting machine will allow positioning the components in the preset locations, assisted by specialized software.
The planting capacity of the machine, thanks to the state-of-the-art technology employed, is 5000 parts per hour. Power Supply: is part of the LED lighting system produced by Electromax SRL, and is acquired by the company from distributors specializing in other products. After the four components of the LED lighting system are manufactured or purchased, the next stage is the final assembly. It involves the integration of these components into a unitary product on assembly tables specifically designed for this operation. The LED lighting system can now be referred to as a finished product and is therefore subject to quality control. Quality control is done with control tools and devices. After the product has passed the quality tests, meeting the operating parameters, it is assembled and delivered to the customer. The investment proposed by the management of the economic entity focuses on the internalization of several phases in the technological flow due to a “Buy or Make” analysis of the company management representatives. At the same time, the commissioning of the equipment acquired through the established project will considerably increase the production capacity, productivity, the quality of the products sold and, implicitly, the turnover and the value of the profit.

The Decision to Invest in State-Of-The-Art Technology – Increase the Economic Competitiveness of Electromax SRL

By making the investment operational, the economic entity will equip itself with a series of machines fitted with systems to optimize consumption at all levels. Thus, the objective of sustainable development will be achieved precisely by developing an effective and efficient activity, which requires the maximum use of existing potential and the continuous improvement of processes in order to achieve superior performance, exploiting the same resources. At the same time, in order to diminish the negative impact on the environment, the entity is concerned with the establishment of an Environmental Management System, which involves new ways of recycling or reuse of some of the waste produced in the production process. Therefore, in relation to the above mentioned objectives, through the decision to invest, we will aim to increase the economic competitiveness of Electromax SRL, to develop a technological flow with a high level of productivity and to offer a diversified portfolio of products using competitive technological machinery and equipment. These machines meet the requirements of international quality standards (according to the quality requirements specified in the ISO 9001 and ISO 14001 standards), which allows a high degree of innovation. The implementation of the proposed investment results in the development of a competitive advantage superior to the majority of the existing competitors on the market, having the possibility to fulfill the following objectives: Production in large quantities and selling on the national and international market a wide range of LED lighting systems, with comparable features and even superior to other similar products manufactured worldwide; the possibility of fast adaptation of the range of products offered to the requirements of the potential customers (the European and international market) as regards the economic and qualitative competence of the products offered.

Financial Projections, Financial Indicators, and Operational Investment Plan

The operational plan of investment is based on attracting new customers both on the domestic market and on the foreign market for the production. It is obtained as a result of the acquisition of the new equipment, as it is currently under the following
conditions: staff available - 34 employees; hourly productivity per person 120 lei / hour; working regime - 1 shift X 8 hours / day; annual time fund - 250 days / year; capacity utilization rate: 70.37%, currently increasing to 79.20% in the third year of operation. Thus, the current production plan estimated over a 5 year period is presented in Table 1.

Table 1. The Estimated Production Plan over a Five-Year Period

<table>
<thead>
<tr>
<th>Current operational plan</th>
<th>Units</th>
<th>Year 0</th>
<th>The first year of investing</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff available</td>
<td>People</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Exchange personnel</td>
<td>People</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Number of shifts</td>
<td>No.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Work Regime</td>
<td>Hours / day</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Annual time fund in days</td>
<td>Days / year</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Degree of use of production capacity</td>
<td>%</td>
<td>73.37%</td>
<td>72.48%</td>
<td>74.66%</td>
<td>76.90%</td>
<td>79.20%</td>
</tr>
<tr>
<td>Number of hours without investment</td>
<td>Hours / year</td>
<td>47,852</td>
<td>49,288</td>
<td>50,767</td>
<td>52,290</td>
<td>53,854</td>
</tr>
<tr>
<td>Value of hourly production</td>
<td>Lei / hour</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Annual production value</td>
<td>Lei</td>
<td>5,472,282</td>
<td>5,914,550</td>
<td>6,091,987</td>
<td>6,274,747</td>
<td>6,462,989</td>
</tr>
</tbody>
</table>

Table 2. The Estimated Production Plan for a Period of Five Years after the Investment

<table>
<thead>
<tr>
<th>Current operational plan</th>
<th>Units</th>
<th>Year 0</th>
<th>The first year of investing</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff available</td>
<td>People</td>
<td>34</td>
<td>34</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Exchange personnel</td>
<td>People</td>
<td>34</td>
<td>34</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>Number of shifts</td>
<td>No.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Work Regime</td>
<td>Hours / day</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Annual time fund in days</td>
<td>Days / year</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Degree of use of production capacity</td>
<td>%</td>
<td>73.37%</td>
<td>72.48%</td>
<td>76.17%</td>
<td>79.93%</td>
<td>83.89%</td>
</tr>
<tr>
<td>Number of hours without investment</td>
<td>Hours / year</td>
<td>47,852</td>
<td>49,288</td>
<td>54,840</td>
<td>57,551</td>
<td>60,397</td>
</tr>
<tr>
<td>Value of hourly production</td>
<td>Lei / hour</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>Annual production value</td>
<td>Lei</td>
<td>5,472,282</td>
<td>5,914,550</td>
<td>6,580,802</td>
<td>6,906,102</td>
<td>7,247,667</td>
</tr>
</tbody>
</table>

For the realization of the operational investment plan, as we can see in the
estimates made previously according to Table 1 and Table 2, they were made in the variant without investments and following the implementation of the investment. The effects of the investment were isolated by the incremental flow method; estimates of revenue and expenditure were made in constant prices (Year 2015). Year 0 is conventionally the Year 2016; it was introduced to link historical information (2015) and the period of investment implementation (conventionally represented by Year 2018). The investment was completed and put into operation at the end of the 6th month of Year 0, so the effects of the investment will only come out in the first year of its implementation. Only financing from internal resources for all expenses was considered.

**Forecast of operating expenses for operation and investment alternative proposed by Electromax SRL**

Operational and maintenance costs are determined on the basis of historical data, so that values recorded in Year 2015 are considered to be representative in this respect. Thus, in order to produce 1000 lei turnover from the current activity, the expenses required by categories are presented in Table 3 (obtained by reporting the value of each item of expenditure recorded in Year 2015 to the value of the turnover, the result being multiplied by 1000).

**Table 3. Expenses for 1000 Lei Turnover in the Historical Period (2015) and in the Investment Alternative**

<table>
<thead>
<tr>
<th>No.</th>
<th>Specification</th>
<th>2015</th>
<th>Expenses/1000 turnover during the period of 2015</th>
<th>Expenses/1000 turnover for the alternative with investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TOTAL TURNOVER</td>
<td>5.569.963</td>
<td>1000,00</td>
<td>1000,00</td>
</tr>
<tr>
<td>1</td>
<td>Expenditure on raw materials and consumables</td>
<td>2.234.748</td>
<td>401,21</td>
<td>386,21</td>
</tr>
<tr>
<td>2</td>
<td>Other material expenses</td>
<td>79.379</td>
<td>14,25</td>
<td>14,25</td>
</tr>
<tr>
<td>3</td>
<td>Other external costs</td>
<td>36.925</td>
<td>6,63</td>
<td>6,63</td>
</tr>
<tr>
<td>4</td>
<td>Expenditure related to wares</td>
<td>26.751</td>
<td>4,80</td>
<td>4,80</td>
</tr>
<tr>
<td>5</td>
<td>Wages</td>
<td>334.038</td>
<td>59,97</td>
<td>59,97</td>
</tr>
<tr>
<td>6</td>
<td>Expenditure on insurance and social protection</td>
<td>96.751</td>
<td>17,37</td>
<td>17,37</td>
</tr>
<tr>
<td>7</td>
<td>Depreciation</td>
<td>231.318</td>
<td>41,53</td>
<td>41,53</td>
</tr>
<tr>
<td>8</td>
<td>Expenditure on external benefits</td>
<td>492.540</td>
<td>88,43</td>
<td>88,43</td>
</tr>
<tr>
<td>9</td>
<td>Expenses with other taxes and fees</td>
<td>30.153</td>
<td>5,41</td>
<td>5,41</td>
</tr>
<tr>
<td>10</td>
<td>Expenses related to damages, donations and ceded assets</td>
<td>52.795</td>
<td>9,48</td>
<td>9,48</td>
</tr>
<tr>
<td>11</td>
<td>TOTAL OPERATING EXPENDITURE</td>
<td>3.615.398</td>
<td>649,09</td>
<td>634,09</td>
</tr>
</tbody>
</table>

Among all the expenditure items, the expenses for adjusting the value of current assets, those for adjusting the risk and expense provisions, the indemnities, donations and ceded assets were neglected, on the ground that they are either negligible in value or are non-repetitive. Thus, they will not find themselves again in the activity of the economic entity. Depreciation costs will also be calculated in an analytical manner, taking into account the gross value of the fixed assets, their amortization period and annual depreciation. As a result of the implementation of the investment, the new
equipment will contribute to the efficiency of the activity, thus the expenses for 1000 lei turnover were reduced in the following way: Expenditure on raw materials and consumables was reduced by 15 lei to 1000 lei turnover (401.21 to 386.21). Costs of maintenance and maintenance of the investment are included in expenditure on external benefits and represent approximately 10% of their value.

**Forecast of the Annual Revenues Generated by the Implementation of the IT Application after the Investment at Electromax SRL**

The object of activity of Electromax SRL is the manufacture of lighting equipment. The basic hypothesis used to achieve the separation of the effects of the investment is represented by a double realization of the projections, separately on the two alternatives for analyzing the activity of the economic entity: 1) Alternative without investments, in which case the economic entity continues to operate in the same structure as it does today, without technologies being upgraded; 2) The alternative in which the economic entity will invest and upgrade the technology, which allows the increase of the production capacity and the expansion of the assortment range.

The starting point in estimating the future evolution of sales value is their growth rate compared to sales recorded in Year 2015 from the point of view of management of Electromax SRL, in each of the two potential alternatives. Thus, the management forecast of S.C. Electromax SRL indicates an evolution of the revenues from the production of lighting equipment, which will evolve according to the following rhythms in the period following the implementation of the investment and its exploitation.

In the case of the non-investment alternative, the economic entity will continue to run only the current business on the basis of the technology currently available, the value of future sales having the following evolution (Table 4).

<table>
<thead>
<tr>
<th>Year 0</th>
<th>Year 1 implementation</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>

In the case of the alternative with the proposed investment, the activity of the economic entity will develop from a technological point of view. Thus, sales of the economic entity will increase as a result of the introduction of advanced machinery in the manufacturing process and the increase in production capacity as shown in Table 5.

<table>
<thead>
<tr>
<th>Year 0</th>
<th>Year 1 implementation</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>3%</td>
<td>3%</td>
<td>10%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

An increase in turnover in the first year of the operating period is foreseen in the

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alternative with acquisition of technological equipment as compared to the previous period due to the increase of the production capacity. However, the efficiency of activity is as a result of the investment. This increase will be achieved both on the domestic market and by expanding sales outside of the country, ie by starting exports.

Out of total production revenue sold in Year 2015, as a result of the analysis, we saw that about 21% was obtained from exports. In the period of investment operation, the exports will increase as a share in the production sold at least 20% of the first year of operation, in second year the exports will be at least 25%, and in the third year of operation, they are expected to they reach 30%.

Conclusions and Future Research Prospects
Following the analysis of the specialised literature and the empirical study conducted within an economic entity in the field of production of lighting equipment, we can conclude that the quality approach has brought a number of advantages since the first ISO 9000 certification. It is imperative to align ourselves to customer expectations and to look for zero defects by customer.

Quality management must meet quality requirements by developing systems to ensure the quality of goods and services in order to meet customer needs.

Control can be accomplished through a series of control tools and methods from data collection and recognition to identifying causes that determines problems and controlling the process in accordance with control procedures by presenting data analysis through a series of correlations and the results through an analysis and control sheet.

As can be seen from all operations related to the activities, the most important is data collection, as no decision-making process can be adopted without a data log based on controls in the production flow.

Following the stages of the quality system from static compliance to dynamic performance measurement within the luminaire industry, certifications in recent years have brought a number of advantages that are geared towards satisfying customer requirements.

In the empirical study presented above during this work we can see that the economic entity Electromax SRL is in compliance with an open system, using the principle of repeatability because the activity is carried out in good conditions, having the ability to produce products according to the clients' references.

The studied economic entity is autonomous. It measures its processes according to the chosen improvement objectives. The system is dynamic and focuses on the direction of progress following an internal judgment, which is capable of engaging customer satisfaction measures.

The economic entity generally takes into account the quality perceived by the client, adapting and anticipating the market continuously, due to its customers. Because of this, the economic entity relies exclusively on a certification system.

Following the decision to invest in technological equipment on these coordinates, the economic entity will have the opportunity to develop a competitive advantage over the majority of the existing market players, based on the following objectives: production in significant quantities and selling on the national and international market; the possibility of rapid adaptation of the range of products offered to the requirements of potential customers.
All these aspects will lead to increased customer satisfaction. It based on the firmness, flexibility, acuity, consistency and superior quality offered, to their loyalty, to the improvement of the image of the economic entity in a high technology field and obviously to the increase of the entity's competitiveness on the market where they are operating.

In this case, we can talk about an in-depth reform, a dynamic management, in order to have chances for success. This reform will be carried out in agreement with all the partners and respecting the culture of the economic entity.

Within these types of entities, a special place is reserved for stimulating creativity, and the performance measurement system remains the main element of this reform provided that these basic rules are respected.

References