

Continuous improvement of product and service quality by implementing staff development strategy. Case study S.C. Redplast S.R.L.

Anca MADAR¹

Abstract: *Quality of products / services is key to organizational success. For this quality to be appreciated by customers, the organization must implement a number of quality strategies. These include the organization staff' development strategy. The staff has an important role in achieving product and services quality, but also in improving the quality of all organization's activities. This paper presents a plan for staff training to SC REDPLAST S.R.L.Braşov as a strategy within the quality management system.*

Key-words: *quality, products/services, strategy, staff development*

1. Introduction

Quality defines a set of properties and characteristics of a product / service that helps satisfying customer requirements. According to ISO 9000: 2000, quality is "all the features of an entity that gives it the ability to satisfy expressed or implied needs". Quality management, according to ISO 9000: 2000, coordinates activities to direct and control an organization with regard to quality. The client wants to have confidence in the company's ability to provide the required quality and to maintain this quality (Neacşu N.A., 2015).

At the organizational level, achieving quality requires:

- Identifying customer needs;
- Correct reflection (by design) of these needs in product features;
- The technological ability of the company to achieve above mentioned features
- Adequate training of operational and management staff;
- A performance inspection for maintaining the planned level of quality;
- Identification of deviations and their fixing;
- Use by the organization of some mechanisms enables to continuous improvement of processes, products, structures, labor, so that to achieve the highest level of quality (Olaru, 1999).

¹ Transilvania University of Braşov, ancamadar@unitbv.ro

The managerial theory emphasizes five main functions of the company, namely: financial- accounting, marketing, operational (production), research and development and personnel, which is one of the most important. These functions are outlined following the horizontal division of management labor, being based on its organizational structures designing, being in fact the essence of the company's internal environment. On their basis, are determined the functional departments of the company and its functional specialists (economists, engineers, accountants, etc.).

To achieve the quality required by society is necessary to identify the customer requirements and expectations. In this way, customer satisfaction is achieved by identifying desired quality and quantity, and delivery time. The permanent organization of marketing researches among customers represents the basis of the development, improvement and performances expected at the level of each company (Băltescu and Boşcor, 2014).

The company's staff specialists have the responsibility to promote a correct view on the content of the activities in this field.

Usually, qualified staff plays an important role for the business success. Small businesses often cannot afford to pay the staff for the time required to participate in training during working hours. Also, business owners often find that qualification available is unspecific and inadequate for the individual needs of their business.

In order to fix this situation following improvement measures should be taken: promoting teamwork; boosting employees to solve quality problems; use of the recording documents whenever needed. Proposed improvements are primarily aimed at staff training, in various forms, depending on the nature of the job: to senior posts occupants - training modules oriented towards improving quality methods, teamwork and leadership; for executives – internal courses, practical training on participation in business improving and teamwork.

2. Presentation of the REDPLAST Company

Redplast Company is located in Brasov and was established in 1992 as a limited liability company, owned by private Romanian capital. Over the years the company has expanded continuously, increasing the turnovers and the range of products.

Redplast Company is active on the market with a wide range of products: plastic auto parts, angles and feather glass windows, plugs of all sizes, sanitary accessories, plugs for different types of profiles, etc.

The company has 48 qualified employees with experience in the plastics injection.

The company has a hall, commissioned in 2000, with total area of 4000 sqm. The building includes administrative building (352.8 sqm) and the production hall, which includes production section (injection molding) and mould - toolshed section.

Redplast Company has defined strategic objectives: to achieve the highest levels of performance in terms of quality and to maintain in the top of firms with the same activity. In terms of product quality, there has been an ongoing concern for the renewal of the product range, so that the offer to be attractive to both old and new

customers. The company aims customer satisfaction at the highest possible level and to offer a price/quality ratio in accordance with their requirements.

The main activity is the production of parts intended for vehicles for both, assembly and parts, as well as general use products.

In the company's total output, the highest share have plastic pieces, such as polyethylene, polyamide, polymethyl methacrylate, ABS, PVC, thermoplastic elastomers, etc. obtained by injection.

The organization's external environment (Băcanu B. 2009) consists of all organizations and external factors that influence its behavior and performance, and includes: general environment and the competitive environment.

General environment refers to external factors with indirect influence on the organization. It refers to the economic, technological, social, demographic and political ambience.

Among the technological factors influencing the company are: the replacement rate of equipment, the pace of inventions development, technology transfer rate, renewal rate of products etc. The production and processing of plastics field in southern Europe is the most dynamic worldwide (<http://www.wall-street.ro/articol/Companii/41878>), which is an opportunity for Romanian companies. It is also very important for the companies to know the European laws and rules on production and recycling of plastics.

Among the economic factors that influence the organization, the most important are: market economic trends, inflation rate, and the legislative frame. The economic crisis has left its mark on the Redplast Company, the first effect being the reduction of employee's number from 54 in 2012 to 48 in 2015. Although the products prices have not changed in 2015 in comparison to 2014, the company recorded a decline in sales by about 20% in the last quarter of 2015. Economic instability and difficulties in funding caused by the crisis reduced the possibility of the company to invest. These have affected the business development and performance improvement.

The location of the Redplast Company in the area of most supermarkets and representatives of major auto companies is an advantage in developing relationships with customers and suppliers.

The Redplast Company's clients are companies of various industries: construction, car manufacturing, glazing windows, auto service and auto parts stores trading. Transactions are prevalent in the automotive and electronics companies. The most important customer, taking into account the share in turnover, is Dacia Pitesti. Other major customers are: Benchmark, Magnicom, Aspad.

The competition. The main competitors of the company are (<http://www.listafirme.ro>): Euro Business Brasov, running rubber and plastics, and Cleoplast Impex Braşov which produce plastic packaging, both included in Top 5 Business Romania, Brasov.

The suppliers. Redplast collaborates with: plastics processing companies, manufacturers of machinery and equipment for plastics processing companies, producing laboratory equipment for analysis of plastics and articles of plastics

companies. The most important suppliers of Redplast are the granules plastics, namely: Rompetrol, Basell, and Kraiburg.

Redplast Company's technology resources are adequate to its activity object and include:

- Manufacturing technologies of molds, with the following sequences:
 - Transport of raw materials;
 - Cutting;
 - Processing the machine tools (lathes, milling);
 - Indulge in molds;
- Technologies for manufacturing plastic parts by injection.

The method of processing involves heating the plastic raw material (plastic beads) to the melting and injecting the molten material into the mold. The technical process parameters (temperature, pressure, dwell time) are controlled during the process.

Technical equipment in the manufacturing section of the Redplast Company includes:

- Injection machine: Injection molding machine for manual operation (4), the automatic injection machines (12). The duration of the injection cycle on these machines does not exceed 1-2 minutes;
- Raw material dryer;

Beside core activities, the Redplast Company performs maintenance and repair activities, in the repair shop, which is equipped with the following equipment: lathes (2), universal milling machinery (2), grinding machinery (2), planer electro (1), vertical holes machinery (2) (internal documents, Redplast Company).

The analysis of economic and financial situation, dynamics of production and profitability, provide useful information to management, in funding current strategic decisions (Constantin S. 2003). This is based on data obtained from the profit and loss account, balance sheet and annexes to the balance sheet for the period 2012-2014.

As shown in Table 1, the turnover grew by 14.5% on average in 2014 compared to 2012, and profit by 9%. Taking into account the annual inflation rate, 4.74% in 2014, compared to 6.3% in 2013, the real dynamics of revenues from sales of products was higher than the turnover calculated index.

Indicators (RON)	2012	2013	2014
Turnover	3,823,174	3,968,929	4,377,928
Operating income	3,362,816	3,304,962	3,623,369
Total revenue	3,846,025	4,123,314	4,510,355
Operating expenses	2,755,574	3,103,452	3,358,519
Financial charges	155,354	147,562	152,075
Total expenses	2,948,574	3,346,278	3,528,519
Gross profit	897,451	777,036	981,836
Net profit	758,485	660,428	833,520
Equity	3,508,123	3,757,427	4,347,097

Table 1. Indicators of Profit and Loss Account, 2012-2014

The lower increase in profit compared to turnover is due to fall recorded in 2014 compared to 2012 by 14%, which is explained by the higher pace of spending growth compared to revenue growth. One of the factors that negatively impacted net income was the increase of blocked funds, in stocks. This increase of stocks appears from the difference between turnover and operating income.

In 2014 the Redplast Company achieved economic indicators - revenues, profits, and financial profitability - recorded increases compared to 2012. Several factors have contributed to this positive situation:

- Actions taken to reduce company's costs: better organization of production and labor, reducing the number of personnel etc.;
- External factors: maintaining a high level of demand for plastic products, reducing costs due to increased currency power.

3. Staff training strategy implementation

To identify the functioning of the quality management system, and to implement a training program for staff in the company Redplast, it was conducted a questionnaire with 12 questions. The main purpose of the survey was to obtain information on the staff training and involvement in quality management, and to implement a training program for staff.

Research objectives are:

- 1) Assess the level of knowledge in quality management of operating staff at the Redplast Company;
- 2) Identify business concerns and ways for training;
- 3) Assess the degree of involvement of staff in the quality development and improvement.

Research aimed directly the productive staff: interview participants were 10 operators in total out of 22 operators. Direct productive employees are experienced in the injection molding industry and have a minimum 5 years' experience in the field. Having a small number of employees sampling is not required.

The questionnaire has 12 questions developed, one of which is presenting the respondent function. The other 11 questions are grouped in relation to their subject, namely: 3 refer to harness the employee's skills and staff involvement; 6 to staff training; 2 to the general perception of the quality approach within the company.

The questionnaire has 12 questions developed, one of which is presenting the respondent function. The other 11 questions are grouped in relation to their subject, namely: 3 refer to harness the employee's skills and staff involvement; 6 to staff training; 2 to the general perception of the quality approach within the company.

Responses were collected and analyzed during 16 to 20 November 2015.

Company employees, who participated in the interview, occupy positions shown in Figure 1. Of the 10 employees surveyed, three have management positions. In analyzing the data, although they are not the majority, they have had a significant influence on results.

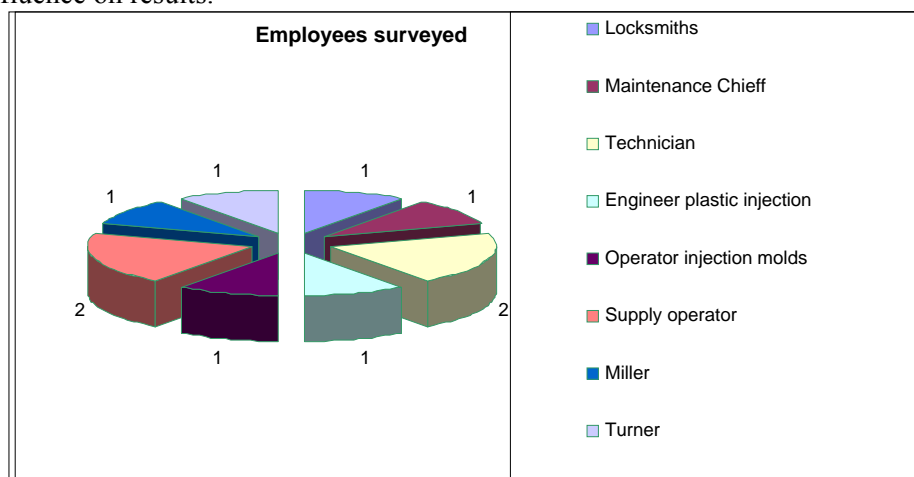


Figure 1. Structure of staff who attended the interview based on occupied posts

The data analyzed show that, in the Redplast Company there is no qualified staff on quality control of the pieces position; employees do not know their duties and responsibilities; data referring to quality are not registered in reports or in any specific documents, the standard ISO 9001 not being met; although employees have included in the job specific task of achieving quality, they do not know very well and do not know how to apply them; employees are not properly trained when new machines are in production; there are not allocated sufficient funds for employee training.

In the company there is not a very clear perception of quality management, and company management has not found yet suitable methods for creating a culture of quality and for continuous quality improvement. It is therefore necessary to implement a training program for employees and creation of posts for final quality control.

Staff training was conducted under the operational procedure "Staff training". This included: training conducted within the organization, external courses, conferences, briefings etc. Staff organization has been evaluated by the heads of departments or divisions in part to determine its level of training. The emergence of non-compliances in activities / processes relevant to quality provides the data necessary to establish additional training needs. Redplast Company has provided initial training of general orientation for all new employees. This training includes explanations on how the quality management system functioned. The employees have been aware of the relevance and importance of their work and how they will contribute to achievement of company quality objectives.

Quality of company personnel management depends directly on the quality of each personnel activity, taking into account the implications thereafter.

For the company, the most significant staff activities are: staff planning, staff recruitment and selection, staff training and development.

Training is a learning process through which employees acquire new knowledge and skills, to help them to fulfill the specific work tasks of their current job. Staff training has implications for both current and future company success. A major problem is the training of personnel whose knowledge and skills have become outdated.

The main components of the training of staff are professional training and development. Development aims to develop new skills, while training aims to improve existing capacity. The effectiveness of these two processes depends on the concern for application of issues studied. If the application fails, the two processes are worthless.

Effective training is an investment in the company staff, with both immediate and long-term effects. A good training helps employees to successfully cope with organizational and social difficulties, and technological change.

The staff training in an organization is necessary:

- For employment ;
- To transfer to a new job or entrusting new tasks;
- If the employee does not have the knowledge and skills necessary for the job given.

The training must be done under a program in which development must take into account the number of classes, the starting level (level of knowledge and ability to absorb) of the learners and the results evaluation system. It should also be established learning methods, means of instruction, course content, location etc. The trainer must generate change in students' attitude using simulation methods, by interpretation of roles, case studies and role plays.

Evaluation can be done by comparing the results and objectives set for the training, or expressing training costs and the benefits. The evaluation of training can be also conceived as a process that measure the following: reaction or behavior of those trained to the forms and quality of the training program; knowledge gained in the training process; changing the behavior of the trainees; outputs, outcomes that are obtained as a result of the training.

Training project organized by the Redplast Company comes in a context where, for the period 2014 - 2020, it is necessary to deepen the knowledge quality of the entire production staff in order to improve the production process.

The implementation of this project will lead to improved staff knowledge to achieve products according to ISO standards implemented in the company, the use of machinery in good conditions and the deepening of procedural steps of production.

Risks assumed by the company during implementation of direct productive staff training are:

- Technical failures of equipment available to the lecturer during training;
- Failure to comply with deadlines and financial provisions of the proposed activity;
- Different level of knowledge among the participants in the training sessions.

The results that are intended to be achieved by the provider (lecturer), are:

- Evaluation of the trainees;
- Training issues;
- Final evaluation.

The training sessions are conducted at the company, in the hours set by the lecturer together with the management, further communicated, starting from 01/02/2016. The duration of the courses will cover three sessions, each session for each shift separately. Each session will have 3 training modules. All shifts must go through each session and each module.

Training will cover a period of 3 months. At the end of each month the knowledge gained will be tested for three sessions for module 1 (February), module 2 (March) and module 3 (April). The training will be attended by 3 people in each shift, designated by the manager. These people will be the same throughout the course. At the end of training, they are obliged throughout year 2016 to train the other employees, according to schedule training discussed and approved by the manager. At the end of the year the manager shall appoint from among those who attended the course, three officers who will oversee the quality and inform both employees and management for each change occurring in the production process.

Each session will take 3 hours working time and sustained month-end tests will last 2 hours and will be supported in the last 2 hours of the working program.

Training materials including training sessions agenda will be sent to the management company by the lecturer. The company will provide to the lecturer the materials necessary to conduct the briefing.

Prior to instruction, the lecturer will provide to the management:

- Description of training materials;
- The methodology of performance;
- The activities organization and planning.

The training schedule is presented in Table 2.

Modules	Month	Shift	Session	Groups	Week I	Week II	Week III	Week IV
Module I	February 2016	S1	Session 1	x	x	z	y	x -test session 1, 2, 3 module 1
		S2	Session 2	y	y	x	z	y -test session 1, 2, 3 module 1
		S3	Session 3	z	z	y	x	z -test session 1, 2, 3 module 1

Modules	Month	Shift	Session	Groups	Week I	Week II	Week III	Week IV
Module II	March 2016	S1	Session 1	z	z	y	x	z -test session 1, 2, 3 module 2
		S2	Session 2	x	x	z	y	x -test session 1, 2, 3 module 2
		S3	Session 3	y	y	x	z	y -test session 1, 2, 3 module 2
Module III	April 2016	S1	Session 1	y	y	x	z	y -test session 1, 2, 3 module 2
		S2	Session 2	z	z	y	x	z -test session 1, 2, 3 module 2
		S3	Session 3	x	x	z	y	x -test session 1, 2, 3 module 2

Table 2. The graph of staff training

The payment of training service will be done to the lecturer within 30 days of signing the qualitative and quantitative reports.

Supporting documents on which payments will be made by the provider are:

- Invoice;
- Activity Report for benefits made.

The estimated value of the staff training project is presented in Table 3.

Estimated value excluding VAT (Lei)	40,131
from which:	
Lecturer cost	16,131
Lecturer accommodation excluding VAT (53 nights)	6,360
Materials made available to the lecturer	1,500
Other (losses, delays, etc.)	16,140

Table 3. Estimated value of the project

Benefits after applying the training project:

- Disclosure of documents approved to all employees and explaining the necessity of making changes;
- Developing internal training modules for all levels and categories of staff;
- Creating the legal framework for quality management based on proposed documents;
- Implementation of all procedures and best practices in quality management processes;
- Motivated and professional employees;
- Internal and external communication;
- A better image of Redplast.

4. Conclusions

Achieving quality in a company is made through a quality management system which is based on its main components: management responsibility, resource management, product realization and measurement, analysis, and quality improvement.

Currently, the success of a company depends largely on the degree of innovation, adaptation to current market requirements, especially the professionalism of employees. Their training has a direct impact on the company performances. Effective training is an investment in the company staff, with immediate and long-term effects.

Good training helps employees to successfully cope with organizational and social difficulties, and technological change.

The strategy of implementing a training program to improve the quality of production in the company involves systematic actions oriented towards planning and validation of production processes, production control, respectively. The requirements of ISO 9001 are a referential in addressing these issues.

Exploratory research based on questionnaire was conducted in order to determine the direct productive staff knowledge and involvement in achieving quality. Survey results reveal that employees conduct a wide range of activities, which is a negative aspect of the company. Company management is interested in suggestions from employees, which is a good thing. There were identified also deficiencies that lead to poor communication within the company, about quality improvement. Employees believe that only those with explicit quality tasks should take steps to improve quality, which is a negative aspect.

5. References

- Băcanu B., 2009. *Management Strategic. Lecture Notes*. Braşov.
- Băltescu, C.A. and Boşcor, D., 2014. The Assessment of Hotel Services in Poiana Braşov Resort. *Bulletin of the Transilvania University of Braşov*, Series V, 7(56), No.2, pp. 65-70.
- Constantin, S., 2003. *Diagnosticul și evaluarea firmei*. Braşov: Informaket, p. 96.
- Neacsu, N.A., 2015. Implementation of ISO 22000 - a tool to increase business efficiency and customer satisfaction. Case Study: SC Prodlacta Brasov, *Bulletin of the Transilvania University of Braşov*, Series V, Vol. 8(57) No. 2, pp. 105-110.
- Olaru M., 1999. *Managementul calităţii*. Bucureşti: Ed. Economică, pp.206-209.
- Documente interne, S.C. Redplast S.R.L.
- <http://www.wall-street.ro/articol/Companii/41878/Piata-de-mase-plastice-din-sudul-Europei-cea-mai-dinamica-la-nivel-mondial.html>
- <http://www.infocompanies.com/firme/companiromaniadetali.php-c=d.c.17.html>