

# QUALIFICATION OF STAFF AS A QUALITY STRATEGY FOR S.C. SCHAEFFLER ROMANIA

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**Abstract:** *Particular attention is given in the present paper to the strategy of continuous improvement. This is considered an integrating strategy, an across-functional strategy of the enterprise and it envisages the gradual, continuous improvement of products and services quality, as well as productivity and competitiveness, with the participation of all staff. This strategy has been defined in Japan under the name Kaizen. The Kaizen strategy is oriented towards the employee, who is considered the main factor of enterprise success.*

**Key words:** *quality strategy, Kaizen strategy, trained employees, German Vocational School Kronstadt.*

## 1. Introduction

Schaeffler Romania was ranked 63 in the Top 100 most valuable companies in 2011 having a value of 206 million Euros. In Top businessmen Romania, the company is ranked first. Therefore, it is one of the leading employers and investors in Braşov County. Some of the company's goals are to be the leader in quality, technology, reliability and economy, and the creation of effective methods of delivery and service.

Schaeffler Romania invests large sums in technology and production processes in order to improve the products and services they offer. Therefore, we believe that the company is an interesting case study regarding the quality field. The company is a major local investor, allocating budgets incomparable with those of other operators in the industry regarding the quality field,

having a major impact on the local community.

## 2. Quality management

Quality management can be defined as a management system whose objectives are to ensure the highest level of trust related to the fact that the quality requirements in a given system will be maintained at all times and at the lowest cost possible.

There are eight principles underlying the quality management system:

- orientation of the company towards the customer;
- leadership;
- staff involvement;
- processes approach;
- systematic approach to management;
- continuous improvement;
- decisions based on facts approach;

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The most important concept of the eight principles is based on the concept of total integration. Consciously applied throughout the organization these principles will generate optimum performances, superior to the performances results from a series of individual optimized activities and will lead the organization towards management excellence [3].

Competitiveness of contemporary organizations, regardless of size and nature, originates in the quality strategies they adopt and apply. Companies that excel in the quality of services are able to avoid differences that may arise in their management performance or to minimize them as much as possible [1]. Particular attention is given at present to the strategy of continuous improvement. It is considered an integrating strategy, cross-functional strategy of the enterprise and it envisages gradual, continuous improvement of products and services quality, as well as productivity and competitiveness, with the participation of all staff. This strategy has been defined in Japan under the name Kaizen, representing the starting point of competitive strategies which will function at the level of the world economy [2]. Kaizen strategy is oriented towards the employee, who is considered the main factor of enterprise success.

The most significant aspect is the fact that the first and main concern before product quality is the quality of employees. They should be helped to acquire the Kaizen "conscience", to understand the necessity of continuous improvement, so that it becomes a state of mind of each employee.

The main difficulties in implementing the Kaizen strategy could be brought about by:

- managers' reluctance towards open recognition of problems. This recognition

represents the starting point of all the steps for improvement;

- often the cross-functional nature of the problems to be solved;
- resistance shown by workers to change, considering that they might be harmed;
- poor communication between managers and workers [3].

### 3. Company overview

Schaeffler Romania has operated as a subsidiary of the Schaeffler Group since October 2002 [5]. The activity of the company, according to CNE (classification of the national economy) 281, is the manufacture of general purpose machinery and the core activity (CNE 2815) is represented by the manufacture of bearings, gear boxes and gear mechanical transmission elements.

The number of employees has increased significantly, from 2,843 people in 2009 to 3,756 people in 2011.

Schaeffler Group operates through its three strong brands INA, LuK and FAG, and is based primarily on great innovative force, on the global approach to the client, and the highest quality of all processes and products. Headquartered in Herzogenaurach, Germany, the Schaeffler Group designs and makes about 160,000 products across 60 branches, the most prominent being the automotive industry, industrial machine building industry (special branches being the wind industry and railway applications) and aerospace industry.

There are two types of customers within the Schaeffler Group: Direct customers - goods go directly to end customers, most are OEM (Original Equipment Manufacturers = first fitting equipment: chassis, engine, transmission). Indirect customers - goods are bought by distributors and then by end customers (Aftermarket Division - spare parts).

Automotive products produced in Cristian, Braşov, go entirely to Western plants of the Schaeffler Group, where they are assembled and then delivered to beneficiaries.

The automotive industry is the main customer of the Schaeffler Group with a share of 60% of turnover. The group of customers in the automotive industry includes prestigious companies such as Mercedes Benz, Audi, Volkswagen, BMW, Toyota, Porsche and Daimler Chrysler, and for Maybach models the company produces under the "special orders". In Romania, customers in this field are: Ford, Renault, Dacia and Continental (being OEM customers) and Autonet, Trost, Elit and Autototal (Aftermarket Division customers). The Schaeffler Group received the award for the best Porsche supplier in 2011, and in 2012 they received it from Toyota, General Motors, Nissan and Ford.

In the aerospace field, Schaeffler is the main supplier for Airbus A 380 and Boeing 787 Dreamliner; other customers are: General Electric, NASA, Snecma, Pratt & Whitney.

Customers in the industrial sector are separated in areas such as: steel - Alro, Mechel, Arcelor Mittal, Stainless Steel, Tenaris; cement - Holcim, Lafarge, Heidelberg Cement; railways - CFR, Alstom, GFR (Romanian Railway Group), Astra; thermal power stations - CET Rovinari, CET Craiova, CET Işalniţa, NCLO (National Company of Lignite Oltenia); machine tools - WMW, Titan, Emsil; electric motors (consumer products) - Electroprecizia, Bega, UMEB; refineries (oil and gas) - OMV - Petrom, Rompetrol; area food: Coca-Cola, European Drinks, BAT, Phillip Morris etc. To all these customers Schaeffler Romania delivers goods straight from the company, except for machine tools and electric motors.

Competitors are companies' that Schaeffler Romania competes with and satisfy the same customer needs, being perceived by customers as an alternative, namely manufacturers of bearings and automotive components for the auto industry. Among them one can be mention the world leading manufacturers of bearings already present on the Romanian market such as the Japanese company Koyo, the U.S. company Timken or the French company SNR, which invested in production facilities.

The leader in this market is the SKF Group, followed by the Schaeffler Group (second place) and Mondial Timken (third place). Other competitors are: NTN, NSK, Koyo Seiko, etc. and on the Romanian market there are: Alstom General Turbo, Koyo Romania, Timken Romania, Rulmenţi Bârlad, UCM Reşita etc. However, Schaeffler is the leader in selling bearings for wind mills.

The Schaeffler Romania Company is working with 450 local suppliers providing the raw material that Schaeffler needs, and the services that help to create a favorable climate for successful production. Of these, 234 firms are in Bucharest and 188 are in Braşov County. Schaeffler Romania suppliers are well known companies working successfully on the Western European market (examples: DEV, Ire Omba, Gerda Sibenol, Ascometal) and Eastern Europe companies, especially the local market (examples: OMK Russia - provides bar; Forja Neptun, ASAM Iasi - forgings; Becotek Braşov, Metalsid Braşov - brass; Matec CNC, Comis Vălenii de Munte - cutting processing). To these one should add domestic suppliers within the Schaeffler Group which offer parts (cage, rollers) received for the production of components and elements in the village of Cristian.

#### **4. Quality Strategies–Vocational School Kronstadt**

In the medium and long term, the school will provide the company employees trained in their field, who know German and will be familiar with the style of work and machinery used by the company.

The German Vocational School Kronstadt (GVSK) is the first and only school with legal personality in Romania.

Its main field of activity (according to CNE code 853) is secondary education, and the main activity is secondary, technical and vocational education.

The original partners of this school are: the German Economic Club, Braşov County School Inspectorate; Braşov City Hall, Schaeffler Romania and 11 other leading companies in the Braşov area.

The German Vocational School Kronstadt has a specific vocational and technical curriculum, and teachers come from both the Technical College "Mircea Cristea" and the company. Internships taking place in the company are chosen by students when completing the application for registration at GVSK. Students are trained by some practice tutors, i.e. people who belong to the company chosen for work practice. The target group consists of graduates from the 9<sup>th</sup> grade aged between 15 and 16 years, the age limit being 18 years.

GVSK offers the following advantages to attract people: monthly scholarship during schooling for all students, worth 400 lei: 200 lei from the state and another 200 lei from firms; priority employment after graduation in the company chosen by the student; transportation and meals provided during practice; nationally and internationally recognized degree; possibility to continue studies to obtain the baccalaureate; support students with outstanding results in further studies with an emphasis on practical training [6].

The school began as a pilot project, and was inaugurated on 17 September 2012. The language of instruction is Romanian. The school will operate on the German model, compiled with the Romanian model, so the school period is 2 years: the first year - 40% theory and 60% practice, and in the second - 25% theory and 75% practice.

In the 2012-2013 school year, there were 130 students enrolled, of which 79 guided by Schaeffler Romania, 13% of them being girls. Of the 79 students, 40% come from Braşov and 60% of other places around Braşov or from the other counties such as Iaşi, Maramureş, Covasna, Buzău or Vaslui. The 130 students who are currently in the 11<sup>th</sup> grade, were joined by other 133 10<sup>th</sup> grade students, of which 70 were accepted by the company Schaeffler to prepare the practical work. Of these, 45% come from places around Braşov and 38% come from counties like Vaslui, Covasna or Prahova [4].

The selection procedure to become student in this school takes the form of a files selection. If the number exceeds the number of students enrolled permitted by the Ministry of Education for this school, the economic agents involved will intervene by supporting interviews with those who want to join, and also testing them. Also, when a student chooses to practice at one of the companies involved, these are able to carry out their own selection process. Following completion of the two years of study in the German Professional School Kronstadt, students have the opportunity to specialize in:

- Operator CNC machine tools;
- Electromechanical machine tools and industrial facilities and CNC tools;
- Mould toolmaker;
- Sewer of pieces of leather and substitutes.

The purpose of the program is that the students acquire a professional qualification certificate which is

recognized both in Romania and in the European Union. Also, after completing the program they receive a certificate of completion of compulsory education that allows them to continue their education to high school (11<sup>th</sup> grade).

A quantitative marketing research study was also performed called "The usefulness of the Schaeffler Romania investment in the German Vocational School Kronstadt". This research used a survey based investigation, and the basic tool by means of which these data were obtained was the questionnaire. The research was conducted in January last year, and the population studied comprised of GVSK students, who chose Schaeffler Romania Company for their practical placements (79 people). Students had to choose between being operators for electromechanical machinery and equipment or for tools with numerical control machines, the distribution within the company Schaeffler Romania being 17 and 62 students, respectively. When asked "How do you find Schaeffler Romania regarding quality, seriousness, modern technology, professionalism, ecology, qualified employees, effective management, motivation of employees", the best score was obtained for quality (4.87). This was followed by seriousness (4.86), modern technology (4.81), professionalism (4.77), ecology (4.63), skilled workers (4.51), effective management (4.48), and the lowest score was registered by the motivate of employees, with an average score of 4.46. Generally, students feel good about Schaeffler Romania. The question was performed with semantic scale, encoded from 1 to 5, 5 - meaning "very good" and 1 - "very low". When asked to express their opinion on the following statement: "After graduating from GPSK we have more employment opportunities than students who graduated from another technical schools", most students agreed with this

statement the total score average being 4.6 (5 – means strongly agree and, 1-strongly disagree). The students agreed with the statement "After graduating from GVSK, given both the theoretical and practical knowledge gained, I consider this knowledge useful to start my job in their chosen field", thereby obtaining the average score of 4.37. In both statements, none of the students questioned said they did not agree with them.

According to the research from the perspective of these 70 students, the most attractive benefits of the enrolment in the German Vocational School Kronstadt are: nationally and internationally recognized diploma, priority in employment after graduation and focus on practical experience. Aspects considered less important were: monthly scholarship of 400 lei, helping students with outstanding results; the lowest score was registered by transportation and meals provided during practice. The research showed that the German Vocational Kronstadt School is more effective and more efficient than an ordinary school because it has extensive work practice, so theoretical knowledge is implemented, it is equipped with advanced technology and has qualified teachers. But students are disappointed by the teaching method used by teachers, for the theoretical part. Students also prefer specialized disciplines, to the detriment of general knowledge disciplines that are taught to give students the opportunity to continue their studies. Asked why they chose disciplines from one specialization or the other, students mainly stated that they believe these will help them in the future, but also that they are easier to learn, or they have more knowledge in that field. Research showed that 24 of the 70 people surveyed strongly want to continue high school and obtain a baccalaureate degree after graduation from the German Vocational School Kronstadt. In contrast,

only 11 of the 70 students will not get high school diploma. Also, 15 out of 70 people strongly want to finish their studies and get a degree, and 17 of those surveyed want to make this to a great extent.

The fact that a large proportion of the young people who study in the German Vocational School Kronstadt and who have chosen Schaeffler Company for the practical placement, have expressed their willingness to continue their studies can represent both an opportunity and a threat for the company. It would be an opportunity if young people want to commit to Schaeffler, the jobs requiring higher education, because they will know the company to the smallest details and will know how to address those works as operators, but they will also be specialists in the field who have obtained a degree. The risk arises in the cases when young people will choose to work elsewhere. This may happen both if the students complete their higher education, and if they do not. Schaeffler has invested a significant amount in their development, and if they work with other companies in the field, it is a loss for the company. This research has revealed the relevance and impact that the school has on its students. It has also shown that investment by Schaeffler and the other partners is beneficial for the community of Braşov, but also for people living near Braşov County.

SC Schaeffler Romania SRL has chosen to invest in this vocational school, because it wants to prepare future employees and to enhance their loyalty, given the high rate of retention, especially on CNC operators.

The need for vocational education was notified by Schaeffler, following a survey in Romania, where it was observed that the laboratory practice in technical schools declined from 800 hours of practice (1989) to 300 hours (2010). The offer consists of students with technical specialisation, but

this does not cover the demand of big companies for positions such as CNC operator, electromechanical, mould toolmaker and sewer of leather and substitutes pieces [7].

Investing in this vocational school offers a number of opportunities for Schaeffler Romania, but also a number of threats:

#### *Opportunities*

- trained employees, familiar with the used technology;
- loyal employees who will complete this vocational school, because they will be brought up in the spirit of the organizational culture of the company;
- implementation of a series of resources shared with other partner companies, so the cost to prepare the students is lower;
- decrease of the costs related to the integration of students into the company, because they will already be familiar with the company culture.

#### *Threats*

- students can complete this school and choose to go abroad and engage in other business, which would mean awasted investment for Schaeffler;
- slower return on the investment made if students choose to continue their high school education and only after finishing these studies they choose to engage on the completion;
- students may choose to continue with college and then they want to commit to a superior position and not to the positions as CNC operator which the company requires to be covered by.

These threats, however, are reduced by the framework agreement concluded between Schaeffler Romania, parents of children who learn at Kronstadt School and have practical stages in the company and students of this school.

The initial investment for German Vocational School Kronstadt was about 16 billion lei. An amount of 10 billion lei was invested by Braşov City Hall who

restored the building and executed repairs and thermal insulation. Also, Braşov City Hall still gives a monthly operating expense. Other expenses, representing nearly 6 billion lei were made by businesses involved in carrying out this project. A percentage of about 35% of the total initial investment made by the companies, or about 2,000,000,000 lei belonged to S.C.Schaeffler Romania. The investment of the traders covered the following initial outlay:

- Costs of equipping laboratories with modern equipment;
- Expenditure on equipping classrooms;
- Expenditure on schooling teachers;
- Personnel expenses involved in this project: project coordinator, who made the selection process, those who have dealt with the promotion and so on;
- Vocational School Kronstadt promotion expenses-materials used.

Also, operators are granted a monthly amount for the teaching process, depending on the number of students enrolled to have practical placements in the company and business people who are the trustee of these students. Schaeffler Romania has the following monthly expenses:

*Monthly expenses* Table 1

| Expenses             | Approximate amount          |
|----------------------|-----------------------------|
| Scholarship          | 200lei × 149 =<br>29,800lei |
| Students transport   | ~ 1,000lei                  |
| Students meal        | ~ 4,100lei                  |
| Students trustees    | ~ 20,000lei                 |
| Other staff involved | ~ 10,000lei                 |
| Promotion expenses   | ~ 200lei                    |
| <b>TOTAL</b>         | ~ 65,100lei                 |

The strategy used by Schaeffler company, will bring the company' not only proficient employees but also a better image in the community of Braşov,

because in addition to schooling, the company will also offer them jobs or internships in Germany.

The results can not be visible yet, in terms of labour productivity growth since the first generation of students, have not graduated yet, in order to make the transition to the labour market, but the results are expected to occur in late 2015, when students will already be employed by the company.

This is the medium and long term strategy, as students can choose to work in the company at the end of the two years of study or continue their studies, and apply for a job offered by this company. The company has the opportunity to recover the investment made in 2-5 years after the first generation of students finishes studies.

## 5. Conclusions

Since Schaeffler Romania is a subsidiary of the Schaeffler Group (which is the market leader in terms of quality), it took from the beginning a high degree of responsibility for the quality policy it holds. As a forward looking company, Schaeffler Romania emphasizes quality and professionalism. Using the latest technology and continually investing in the professional development of the employees, the company has demonstrated that its team is part of a professional elite whose maximum professionalism and exceptional results are a dedicated work style.

Thus, in addition to trying to induce the quality policy to current employees, they also try to prepare the potential future employees, investing in schools and making a series of activities that seek to empower and to attract them to this company.

The Schaeffler investment in the German Vocational School Kronstadt is actually a strategy to improve the quality of human resources. In order to have proficient

future employees, not only the schooling process is important, but also the basis that students studying in this school have. So the process of selection is an important step. In addition, the teacher training is important, as revealed by the research conducted among school students. In order to enrol a number of promising students at this school, a strong promotional activity is needed.

To attract new students, the school should rely - on the strength that it has, i.e. the image the population has about Schaeffler Romania and to organize an open day for both students and their parents. In this way they manage to know more details about the company they may work with. This event may be extended with an open day in the German Vocational School Kronstadt for those interested to see the conditions of teaching in this school.

Another opportunity for the German Vocational School Kronstadt could be the use of the internet and social networks for promotion. The school has a Facebook page, but it is not used to its full potential. The school website is well structured and contains the information needed to convince parents and students to take a decision regarding enrolling at the school, but it is not promoted enough locally.

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