

SUPERVISOR'S ASSESSMENT AS AN ELEMENT EFFECTING TECHNOLOGICAL PROCESS IN CHOSEN METALLURGICAL COMPANY

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Abstract

The success of the metallurgical industry depends on personality of its managers, their personal ability, and charisma. A manager is someone who makes important decisions concerning the company and its operations, who determines the purposes and prepares plans for the future. Production process of metallurgical products, especially of ribbed bars, is quite tough, it is usually conducted in a four-shift system, the results are impossible to be corrected. For high quality products, the appropriate production technology for the manufacture of these products should be used. Therefore the manager should properly organize the rolling process, predict possible production problems and motivate in good way his employees. Poorly organized work, lack of coordination in procurement of materials, incorrectly selection of materials, the reluctance of employees have a very big impact on the final quality of the ribbed bars and later can cause that the building reinforced with them does not meet the relevant requirements. The aim of this paper is to indicate positive and negative feature of supervisor of chosen rolling mill of the Polish steelwork according to 4E+1P principles, 12 golden rules and 8 features according to the 3rd Toyota principle, described by his staff. The research presented in this paper was a part of the bigger survey. The survey concerned employee satisfaction from work, and an additional part of this survey was exactly assessment of superiors.

Keywords: Supervisor's assessment, manager's features, metallurgical industry, rolling mill, ribbed bars

1. INTRODUCTION

The steps of management are the appropriate leading and motivation of employees. A manager is someone who makes important decisions concerning the company and its operations, who determines its purposes and prepares plans for the future. A manager is not only educated person who should have relevant experience in the field, which has to manage. The interpersonal skills of a manager, his leadership qualities and charisma have an influence on what leadership style is used and how it affects employees and technological process [1-3].

A particularly important role the manager plays in the metallurgical company. Production process of metallurgical products, especially of ribbed bars, is quite tough, it is usually conducted in a four-shift system, the results are impossible to be corrected. Appropriate properties of these bars will decide whether the products are considered to be of good quality, and same time, find customers in the market. This will affect the position of the metallurgical company on the market. For high quality products, the appropriate production technology for the manufacture of these products should be used. Therefore the manager should properly organize the rolling process, predict possible production problems and motivate in good way his employees. Especially that the rolling process of the ribbed bars is a continuous process, in which the material is rolled in all the rolling stands, and at the same time it can be inside the equipment of QTB and partly cold storage.

Different types of errors or negative features of manager may negative affect the work of employees. It can be an element of de-motivation. That is why it is important to point out the negative characteristics of leaders and

try to improve them, to minimize the risk of failure. This means that the supervisor should not follow the principle of "the boss is always right," but he should listen to employees. Appropriate relationship "manager-employee", not only demands from employees, also listening, appropriate motivation system becomes a good motivator to work [4-5]. Mistakes in the management of the metallurgy companies can have a big significance. Poorly organized work, lack of coordination in procurement of materials, incorrectly selection of materials, the reluctance of employees have a very big impact on the final quality of the ribbed bars. In the research rolling mill, the ribbed bars which are used in building industry, are produced. The poor quality of these bars can cause that the building reinforced with them does not meet the relevant requirements.

The aim of this paper is to indicate positive and negative feature of supervisor of chosen rolling mill of the Polish steelwork according to 4E+1P principles, 12 golden rules and 8 features according to the 3rd Toyota principle, described by his staff. The research took the form of survey and besides the assessment of supervisor, included the assessment of employees' satisfaction with their work and respondent's particulars. Features of the superior in the research rolling mills, indicated by the employees in the survey, have a very large impact on the work of these employees, and thus the rolling process and the quality of finished ribbed bars. Therefore, the results of research will be useful in decision-making in the field of personnel management and in work on improving the personality of the superior in that mill.

2. LEADERSHIP IN METALLURGICAL ENTERPRISES

Management of various resources is a key element for the functioning of the enterprise. This is particularly difficult in the case of metallurgical enterprises. The changing raw material prices on the market, the changing economic situation and demand for steel products, strong competition are the elements that have a large impact on this process and decisions of managers.

In Poland, after political changes a huge restructuring of metallurgical industry took place. Until then, this industry has operated under a centrally planned economy, management decisions and management style depended on this plan. In the early 90th century Polish steel enterprises were faced with the necessity to adapt to the conditions of market economy. The big challenge for the industry was excess production capacity, but also obsolete equipment, high share of open-hearth steel, high rate of casting steel into ingot molds, overstaffing and low productivity, state ownership and management style.

The restructuring led to many changes. They related to the equipment, structures of production, enterprise's structure etc. One of the major changes was the change of ownership, steel mills have become private enterprises, often with a foreign investor and thus the change the management of such enterprises was needed. Unfortunately, ownership changes also caused massive layoffs in this sector. A very positive development was the fact that over time improvements in the education of employees was noted, but unfortunately in the same time their aging.

The change the management style and an indication of a leader who would be able to motivate employees were necessary. It was difficult, because the leaders had to face resented of employees because of massive layoffs so they had to gain their trust. Another task of the leaders were associated with changes in the orientation of metallurgical enterprises with production oriented on market orientation, and introduction of modern management systems. An important task of the leader became a search for suitable methods of motivating employees to work.

The leader rank increased but in the same time the range of his duties and responsibilities increased. It is the leader who is responsible for employees, as well as the metallurgical production process, which takes place in the department managed by him. He must therefore find a balance between properly conducted metallurgical process, its high efficiency, high quality of products, satisfaction of employees.

3. METHODOLOGY

The research presented in the paper is a part of bigger research which took place in a rolling mill of the Polish steelworks. In the research the employees of this rolling mill took part. It had form of a survey. The full survey consisted of three parts: supervisor's assessment, job satisfaction assessment and respondent's particulars. The survey was already conducted in other metallurgical companies and their results communicated to management [6]. The feedback on these results from management was also delivered. Managers of metallurgical enterprises met the opinion of their people and found out what features should be improved to strengthen cooperation with employees. In addition, they expressed the opinion that such survey in the metallurgical companies is needed because it provides a lot of information about the management style of metallurgical processes in Poland, especially if the company belongs to larger groups.

In case of job satisfaction assessment, which is the aim of this paper, the employees were asked to answer "YES" or "NO" to the given statements, which were divided into 3 groups. This research allowed to indicate main feature of supervisor of the research rolling mill according to the employees. They could indicate positive features of supervisor which should be used and negative features, which must be reduced or change in order to improve management or the rolling process. The supervisor's assessment was based on 3 following groups of statements [6]:

- 1) Assessment according to 4E+1P principles, based on 5 features: My leader 1E - Is full of enthusiasm all day long, 2E - Is able to encourage others to take actions, 3E - Makes decisions fast if it comes to production process, 4E - Knows how to implement decisions, 1P - Cares for the success by co-workers.
- 2) Assessment according to golden rules, based on 12 features: My leader 1GR - Sets good example, 2GR - Communicates about goals of actions, 3GR - Informs about news in production process, 4GR - Asks staffs about advice connected to correct metallurgical production, 5GR - Gives support during performance of tasks, 6GR - Directs and requires, 7GR - Allows to improve work independently, 8GR - Prizes for good work, 9GR - Thanks openly, 10GR - Criticizes in discreet manner, 11GR - Forgives and encourages to achievement of good results, 12GR - Is open to ideas by the staff.
- 3) Toyota's principles, that is what leaders do?, based on 8 features: My leader 1TP - Improves work in his team, 2TP - Cares if the team lives by rolling mill's vision, 3TP - Influences with energy and positive attitude, 4TP - Is open, 5TP - Is confident while decision-making, 6TP - Cares if his questions are followed by actions, 7TP - His behavior inspires for learning, 8TP - Is success-driven.

4E+1P principles [7] very often are used for assessment of the candidates during interviews for managerial positions. Twelve golden rules [8] contain comprehensive characteristics of a person and can be successfully used during investigations. Toyota has developed leaders' traits (8ZT), which can also allow for revealing a number of supervisor traits [9]. Previous researches have shown that such assessment is also necessary and useful in case of the metallurgical companies [6].

4. RESEARCH OBJECT

The research steelwork is a modern company with a stable production process, organizational system, and friendly for the surrounding environment. The mission of the steelwork is to strengthen the company's position in Poland and abroad as the most efficient producer of long steel products with high quality. The rolling mill of the research company is a continuous average type of rolling mill. It was launched in 1999. At the beginning its assortment included rounds flat steel bars, round steel bars and reinforced bars. The research rolling mill is equipped with devices from the company Danieli Morgardshammar. It is one of the most modern rolling mills in Europe, and the most modern in Central and Eastern Europe. In this rolling mill it is possible to implement the stringent requirements of designers connected with engineers or technical parameters and quality of ribbed bars, for both domestic and foreign market. This rolling mill is still modernized in order to meet the requirements of the customers [10].

5. RESULTS

In the research 29 employees of the research rolling mill took part. Answering the following questions (statements), they were supposed to determine the characteristics (features) of their supervisor. Results for the individual groups of statements are shown in a graphical manner in a form of histogram. Results of characteristics of supervisors based on the 4E+1P principles are presented in **Figure 1**.

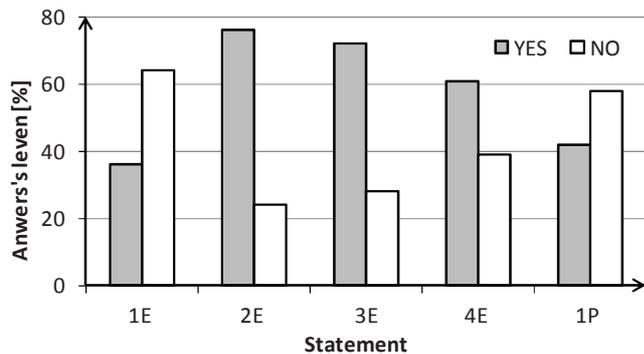


Figure 1 Assessment's structure according to the 4E+1P principles in the research rolling mill [own study]

Analyzing **Figure 1** it can be seen that in case of three statements the employees definitely answered YES. Most of them considered (75% answers YES) that their superior "is able to encourage others to take actions", and according to 70% of respondents the supervisor "makes decisions fast if it comes to production process". These are two very important features. The main role of the supervisor is to influence in an adequate way his employees to make them willingly performed their work.

Although the rolling process is an automatic process, however, the participation of employees in this process is still significant. The setting up of machines and their parameters are a manual process. It must be carefully controlled because it has an influence on the correct parameters of finished bars and their quality. Higher position of the supervisor means the need for decision-making and fast decision-making means rapid response to changing market conditions. In the rolling mill changes in production process, problems in the production process, which is automatic, must be implemented very quickly.

According to the respondents, their supervisor "is not full of enthusiasm all day long" (over 60% answers NO) and "does not care for the success by co-workers" (almost 60%). The second statement is very important, since the possible success of co-workers (employees); their development is an important part of their motivation. Lack of employees motivation can have an effect on a slower and less accurate work, and this in turn can cause that the finished ribbed bars will not be delivered on time or do not meet all the required parameters.

Results of characteristics of supervisors based on the 12 golden rules are presented in **Figure 2**.

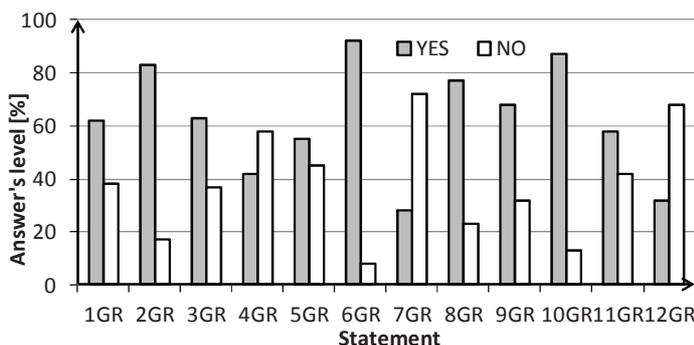


Figure 2 Assessment's structure according to the 12 golden rules in the research rolling mill [own study]

Analyzing **Figure 2** it is easy to see large variation in responses for the individual statements. As the most important feature of supervisor, the respondents indicated that he "directs and requires" (over 90% answers YES). Further positive features was that the superior "criticizes in discreet manner" (over 85%), "communicates about goals of actions" (over 80%) and "prizes for good work" (slightly below 80%). The main task of every supervisor is to direct and require in an adequate way. Some supervisor, despite of their position, do not have this feature. Each employee which is hired in the rolling mill, should have defined a very specific production tasks and know who his direct superior. Very often during the rolling process decisions are made very quickly, so a situation when workers do not know whom to listen is forbidden.

Suitable criticizing and rewarding of employees is the right element of motivation. But motivation is not everything. To make employees know what they have to do, the supervisors should communicate about goals of actions in clear and open way [11]. A well-defined plan of rolling is the most important thing in planning of production process in the rolling mill. The employees must know the order of diameters of the robbed bars, rolling material and setting up of the rolling machines.

Unfortunately not in case of all statement respondents gave positive answers. According to them their supervisor "does not allow to improve work independently" (over 70% answer NO) and "is not open to ideas of the staff" (almost 70%). One of the motivational tools is exactly giving the employee the possibility of taking decisions and a bit of freedom in making decisions, proposing new ideas or improvement of their work. During the rolling process the employees control all rolling machines, often have to make quick decisions that affect the result of the rolling process. Therefore, this situation should be corrected.

Results of characteristics of supervisors based on the Toyota's principles are presented in **Figure 3**. Analyzing **Figure 3** it can be concluded that in case of three statement 80% of employees answered YES. According to the respondents their supervisor is confident while decision-making" (almost 90% answers YES), "is open" and "cares if his questions are followed by actions" (over 80% for both statements). It is also important that he "improves work in his team" (over 75%). Again, the respondents emphasized the fact that the decision-making and confidence in such situation is very important. They stated that for the supervisor it is important that his commands and questions were performed by the employees because these are their duties. The metallurgical production, especially rolling production, is a process that require quick decisions, changes in the production program, improvement of parameters. All these elements affects the final quality of the ribbed bars, and as a result decide about the quality of buildings in which these bars have been used.

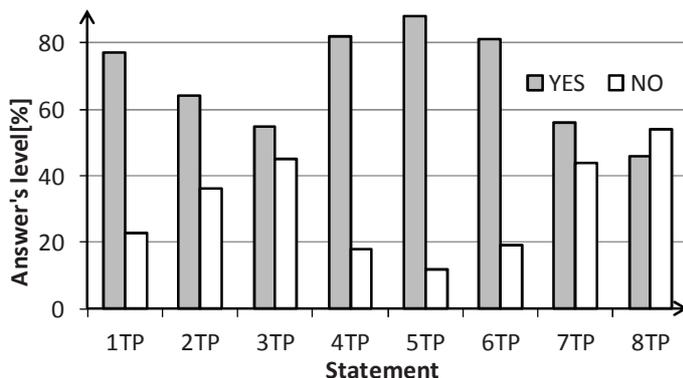


Figure 3 Assessment's structure according to the Toyota's principles in the research rolling mill [own study]

The supervisor also knows that the improvement of teamwork may affect the rolling mill's performance, which is also very important to him. The production process in the research rolling mill is carried out 24/7, in four-shift system of work. Individual employee on each shifts has very specific duties that need to be coordinated with work of other employees. A very important factor of teamwork in the rolling mill is production experience of the supervisor. In the research rolling mill the supervisor has a metallurgical education, starting his work in this mill he worked as a production worker, met the duties and the type of work at each stand in the rolling line. The

employees can't imagine a situation that are led by a person who is completely unrelated with the metallurgical industry.

Only in case of one statement answers NO dominated. It means that according to the respondents their supervisor "is not success-driven" (almost 55% answers NO). So he does not always show his positive joy as a result of his work or completed tasks, successes of others. However, it should be emphasized that the differences between answers YAS and NO was quite small. Perhaps this situation is due to the fact that the supervisor is directly involved in the production process, a large part of the day he spends on the production floor close to the rolling line and rolling machines. Like other employees he also works physically. The rolling mill of the ribbed bars requires high attention and forces from all employees. It should be noted that directly on the production floor no woman works, they can appear but these are women working offices. Hard work can cause then the fact that the supervisor is simply tired and does not have power to show that he is success-driven.

It should be underlined that the supervisor who as assessed in the survey has been performing his function for many years. As shown in paper [12] in the period preceding the assessment of the supervisor in the research rolling mill low material consumption and energy consumption of the rolling process was noted. What's more, low waste's generation factor was also observed. Other important factors: high time efficient machine operation and high productivity of employees was also recorded. It can be concluded that management style of the supervisor, his personality had a positive impact on the technological process in the research rolling mill.

6. CONCLUSION

In the paper with use of grouped statements according to 4E+1P principles, 12 golden rules and 8 features according to the 3rd Toyota principle, the most important positive and negative features of supervisor of the research rolling mill were indicated by the employees. In this research the survey, including three parts: supervisor's assessment, job satisfaction assessment and respondent's particulars, was used.

The employees of the research rolling mill described in the surveys their supervisor, indicating following features: is able to encourage others to take actions; makes decisions fast if it comes to production process; directs and requires; criticizes in discreet manner; communicates about goals of actions; prizes for good work; is confident while decision-making; is open; cares if his questions are followed by actions; improves work in his team. These features were positively assessed by the respondents. But unfortunately the same time their supervisor: is not full of enthusiasm all day long; does not care for the success by co-workers; does not allow to improve work independently; is not open to ideas of the staff; is success-driven. These are the features which were negatively assessed by the respondents. For the supervisor it means that he should rethink his behavior when it comes to these statements, and try to draw appropriate conclusions. The change of his behavior can have positive influence on the work of the respondents. Despite the negative characteristics it can be concluded that personality and management style of the supervisor in the research rolling mill had a big influence on the process in the test bar mill, which results from the production factors relating to the period preceding the survey.

The manager of the rolling mill should properly organize the rolling process, predict possible production problems and motivate in good way his employees. It should be remember that work in the rolling mill is not easy and pleasant. The work in four-shift system requires that the manager is ready to take production decisions, to come to the rolling line in case of any problem. Therefore he is not always able to show his enthusiasm and dedication to the work. The most important thing, however, is that he has professional metallurgical education, started his work at the research rolling mill from the lowest levels of work, which is why he has respect for the work of production workers and tries to positively motivate them to work.

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