

TOTAL QUALITY MANAGEMENT METHODS AND PRINCIPLES IN PRODUCTION

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ABSTRACT

The paper deals with the roles and importance of some methods and principles of TQM in the field of production. The focus lies in human resources management and its methods and tools. The paper presents the author's view of the problems concerned with the wrong steps in implementing concept and strategy of quality within a firm. The view is supported by the analyse and understanding of the new process approach in the new set of ISO 9000:2000 standards, Business Excellence Model etc.

Keywords: quality, production, human factor

1. INTRODUCTION

The benefits of implementing of any quality management system model covers many areas, including the improved quality performance, measurement, reduced operating costs, better financial performance, increased access to markets, regulatory relief, fewer accidents, enhanced community relations, improved customer relations, and employee involvement and education. When we speak about quality in the firm, this involves automatically all activities, including such an important activity (process) as the production and measurement. In industrial and especially manufacturing environment measurement technique delivers essential information for the completion of good-quality products and about working condition and status of processes.

One decade of experiences - it is sufficient time for evaluation and analyse, what was good or bad in the effort of managers to build the quality in the firm. And why was necessary revision of the standards and have created the new models? In authors' opinion it is human resources management system, which has direct influence on the quality management system efficiency in each area. The matter, which is often underestimated from the side of managers. Therefore we can find the emphasis on the human factor in the new concept of ISO standards, EFQM Excellence model and TQM principles. Quality of the firm in all areas including the production activities means the quality of the people, who are working in that areas. From top management to down, all employees must focus on doing the right things, the right way, each and every time. In the field of production this statement is valid especially. The quality management is impossible without good quality production. Every employee is responsible for quality of his work at each step of the workflow. But he/she must be well motivated, there must be good co-operation, good interpersonal relationships, good communication, right firm culture, ethical behaviour mainly from the side of managers etc. We can say, there is necessary to apply the *soft method* of people leading. That is the matter of the human resources management or personal management in the firm.

2. FIRM CULTURE – BASED STONE FOR QUALITY OF THE FIRM

The importance of national and firm culture was long underestimated. But now the situation is different; firm culture is one of the significant outcomes of the any quality management model. The people in a business are always considered to be the source of competitive advantage. The firm

culture has an eminent impact to the effectiveness of management styles and success in the firm. Firm leaders should not ignore the firm culture creating, because it is very important for the their firm environment. They could be vigilant about maintaining or changing their cultures. Such factors as the firm's mission, vision, and goal statements closely connected with the firm culture are of great significance as far as the firm success is concerned. Therefore, these should be emphasised in a firm by means of training and company communication, motivation, interrelationship etc.

There are five critical factors that managers should respect:

1. Mission and vision of the firm
2. Mentality of people
3. Shared values in the firm – according to national culture “Heroes” of the organisation – personifying the values and the strength of the firm
4. The nature of the firm competition
5. Style of communication in the firm

They offer no account of individual ways of thinking within a given culture, the purpose being not to analyse the structure of individual attitudes, but to compare managerial nationalities. These results led to the main working hypothesis of the subsequent qualitative structured interviews, namely, *that the national and firm culture in which a manager is socialised affects his/her perception of the strategic change management process.*

2.1. Why must be created the firm culture?

Creating or having the adequate firm culture means:

- better internal (but external also) communication
- introducing of the basic principles, which are the common general criterion for decisions on the all management levels
- feeling increasing internal identification of the employees not only with particular tasks and activities, but with the whole firm
- higher motivation of the people
- good environment for implementation of the new methods, forms and tools, and introducing of the changes to the firm etc.

We can say, that creating of the firm culture means the exercising of the total quality management principles too. For the implementation of the firm culture and for implementation of the total quality management principles as well must be evident following:

- There must exist a clear vision of the basic development of the firm, everybody in the firm must know *what and where wants the firm to be, what are its mission and goals.*
- There must exist a global strategy for achievement the firm goals, what is necessary *to do better and other way*, what are the planned changes.
- There must be formulated *the principles of firm culture*, resp. the claimed manners of the work and social behaviour („quality handbook of employee“).

2.2. Elements of the firm culture

When is mentioned above fulfilled, then for the successful implementation of the QMS is suitable to perform the following activities (as the elements of the firm culture):

- to formulate the firm's mission from point of view of quality management
- to create and accept the ethical principles for behaviour of the people inside and outside of the firm (the orientation to the internal and external customers)
- to know the needs of the employees
- emphasise the commitment of management to the quality
- to anticipate, to identify and solve the problems (it must be the basis of the TQM philosophy)
- to remove the tension in social and working relations (among single departments and among single management levels)to apply the motivation theory, tools and techniques of quality assurance, quality management and measurement to the firm
- to lead all workers to the participation, responsibility etc. in the quality movement in the firm
- to assure the information flow (top-down and bottom-up) as the main communication means in total quality management

- to respect the basic principles of the quality assurance, quality management (it must be uncompromising).

Very important is to remember, that:

1. Quality of managers has the biggest influence on the good results of the firm.
2. The all rules of the quality management and environmental management must be as easy as possible and must be for all workers intelligible.
3. What is not suitable, must be changed or destroyed (it is not substantial, whether it is product, process or worker).
4. Training and education is one from the first assumptions of the environment creating, accepting the changes (total quality management begins and finishes by training and education!). The quality and style of management are very significant in order to form employee's visions that will respond to the standard culture values and business strategy of a firm.

Firm culture is one important tool that is used by the top management to improve the communication and motivation of the firm, to make decisions, to provide for loyalty of employees etc. This could help the firm to implement a different management style. By the way, very important for the profit and image (or quality) of the firm is customer satisfaction. When are customers satisfied? If there are implementing duties based on customer-oriented viewpoint through all the processes in the firm. Firm culture is one of important elements which can maximise work efficiency and profit of the firm. We can see dependence between customers and employees satisfaction with the firm culture.

National competitiveness depends on the productivity of economic resources and the quality of the output that those resources generate. Quantifying quality we can with Customer satisfaction index that measure quality of economic output. But there is continuity between firm culture and customer satisfaction, because culture is a shared system of meanings which dictates what we pay attention to, how we act and what we value. Organisations take to create a Q-customer service program with the help of knowing of type firm culture. The determination and understanding of firm culture can help to managers identify the critical success factors and critical processes of the firm, to find effective leadership, to develop appropriate strategy and after this manner to ensure of customers satisfaction and profit of the firm.

3. QUALITY MANAGEMENT AND HUMAN RESOURCES MANAGEMENT

Quality of the firm means the quality of its people. As mentioned above, all employees in the firm must focus on doing the right things, the right way, each and every time. Every employee is responsible for quality at each step of the work-flow. But he must be good motivated, there must be good co-operation, good interpersonal relationship, good communication etc. That is the matter of the *human resources management* in the organisation. Developing solutions to quality problems and instituting quality improvements are not dependent on the availability of spare time and extra resources. The great part in this matter can and must play management of the human resources, it means to put the attention on the motivation, communication, ethical behaviour, co-operation and teamwork, training and education, commitment of top management etc. We can see, the majority of these things are basic principles of total quality management. It is logical, because total quality management is the management philosophy that seeks continuous improvement in the quality of performance of all the processes, products, and services of an organisation. It emphasises the understanding of variation, the importance of measurement, the role of the customer and the involvement of employees at all levels of an organisation in pursuit of such improvement. A feature of the new philosophy is that management must play the key role. Total quality management lays the burden of responsibility for the bulk of the waste, error and that the bulk of the gains from quality improvement must come.

3.1. The meaning of the communication and motivation

The basic slogan of the Japanese philosophy KAIZEN is:

„Wherever in the firm occurs an improvement, finally it leads to the quality improvement of the resulting production“.

That's the reason, why everybody in the organisation must know *what to do, how to do it, why to do it, when to do it, where to do it, ho has to do it?* Everything is the question of the motivation, communication, quality strategy, training and education and it is in the competence of managers. We

suppose, every manager knows how important is *communication* for the successful building of the quality system in the firm. Every worker must know, what is his working filling, what is his responsibility, what is his authority etc. in the quality management process. Somebody must say it, there must operate the communication „from top to down“ and „from down to top“. The second mentioned way is not obvious in our organisations. TQM is the philosophy how to change this situation (on the base of the change of management behaviour). The quality *motivation* is the major task for modern business management. Without quality motivation it is impossible to implement TQM. There is many ways for better motivation of the people, e.g. job rotation, job enlargement, job enrichment, bonus systems, quality campaigns, economics rewards, quality circles activities etc. The quality system serves the quality management, which calls for involvement, competence, responsibility and understanding between the employees. Therefore the mangers must be orientated to the people, uniting people and tasks in an adequate way, motivating, inspiring etc. Good working people are good motivated people.

To materialise in the organisation total quality management it means more than to fulfil the demands, which are in the standards ISO family 9000. Majority of the basic principles of TQM emphasises the working and importance of the *human factors*. The whole organisation quality will be equivalent to the quality of people, that are performing particular activities. Besides the concepts *hardware* and *software* acquires even greater importance the concept *humanware*.

3.2. Ethical Awareness

Ethical behaviour is an area that also requires top management attention. It is also a factor, which has the influence on the implementation of total quality management and the excellence of any organisation. Ethical behaviour in the relationship firm - customer and managers of the firm - employees mostly absents in our firms. The explanation for the lack of ethical behaviour can be that firms are singleminded in their pursuit of short-term profits, another explanation can be the failure of business education. People that enter business careers are not adequately prepared for ethical reasoning. In thinking about strategy, the managers should consider the use of moral or ethical reasoning. And when we can speak about the *ethical issues*? Ethical issues arise when a person's behaviour holds consequences for another person, especially when that other person is an unknowing or unwilling party to those consequences. Strategy decisions often hold consequences for people other than the strategy makers. Therefore, strategy issues often are ethical issues. The time to use ethical reasoning is when a decision's consequences have impact on others. Strategic decisions (and the implementation of total quality management in the firm is the strategic decision) always have an ethical component.

4. CONCLUSION

The personal ethical perspective of a firm, the standard of the communication and motivation, personal relationships between the people, firm culture etc. depends on the personal belief and values of its top managers. Therefore for managers is necessary to think about the costs and benefits of the socially responsible and ethical behaviour. The task of the managers are too great in total quality management.

5. REFERENCES

- [1] Dibley, D.: Introduction to the improved EFQM Excellence Model. Proceedings of the Quality'99, Ostrava, CR, 1999.
- [2] Freeman, E.- Gilbert, D.R.: Corporate Strategy and the Search for Ethics. Englewood Cliffs, NJ: Prentice Hall: 1988.
- [3] Hekelová, E.: Quality Improvement in Manufacturing. Proceedings of the Metrology for Quality Control in Production, Vienna, A, 1998.
- [4] Hekelová, E.: Motivation in TQM. Proceedings of the Marketing and Quality, Bratislava, SR, 1999.
- [5] Hekelová, E.: What is Common in the Demands of EFQM Excellence Model, Standards ISO 9000:2000 and TQM? Proceedings of the ICPR 16, Prague, CR, 2001.
- [6] Chopin, J.: Quality Through People. Pfeiffer @ Company: 1991.