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Aspects of improving the organization directed to the quality

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ABSTRACT

Purpose: A new approach for organization connected with system approach, process approach, quality improvement has been presented.

Design/methodology/approach: The possibility of estimation of organization quality is connected with system approach and improvement in organization. Interdependence of quality rules and quality methods in management processes has been taken into account.

Findings: At the present time the enterprises should manage and control all its activities in systematic way. Such kind of strategy will enable to achieve success for these companies.

Research limitations/implications: Described system approach, quality management principles can be employed in company. The possibility of improvement of organization with certificated Quality Management System has been presented.

Practical implications: Analytical Model of the Quality Evaluation of the Business Administration can be used in company for evaluation of the quality indicator of organization directed to the quality.

Originality/value: Describing and estimating the level of organization quality with usage of Analytical Model of the Quality Evaluation of the Business Administration has been presented. This method is a propose of new strategy of efficiency and efficiencies activities of all organization.

Keywords: Industrial management and organization; Quality management; Analytical model of the quality evaluation of the business administration; Quality indicator of organization

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MATERIALS MANUFACTURING AND PROCESSING

1. Introduction

We can define the organization as socio-technological unit composed of persons which aim at achieving determined purposes. It requires combining joint efforts of employees and the employer, in other words the team work. Getting effects of this work also requires the coordination and integration. In consequence such thinking should determine structure of action. This structure is nothing else but defined processes and structure of the team [1]. Considering aspects mentioned above of defining the organization one should treat it as the system.

The organization treated as the system is a separate part of surrounding real world. It possesses internal hierarchical structure according to management rules, determining mutual relation [2]. Fundamental process of managing is constituted decision-making process of the transformation. This process can be also diversely defined according to chosen management styles. The integrity of dynamics of the influence of variables creates the integrated system scheme, representing their multilevel relations and conditioning [2].

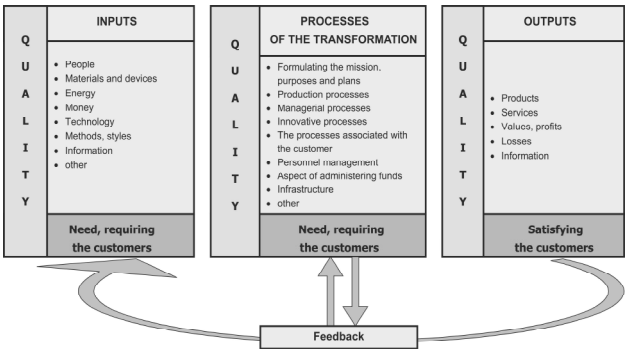

Fig. 1. Organization as the system [2]

The versatility of concept of the system organization allows to analyse and to streamline every field of the enterprise. This concept is facilitating analysis of all processes and their interrelation, as well as connections with environments. In other words the system organization and its improvement become an indicator of the future of the enterprise. Thus the modern organization will take above mentioned aspects into quality management philosophy [2-4].

According to ISO 9000:2005 standard - point [5]:

2.11 Quality management systems and other management system focuses - "The quality management system is that part of the organization's management system that focuses on the achievement of results, in relation to the quality objectives, to satisfy the needs, expectations and requirements of interested parties, as appropriate. The quality objectives complement other objectives of the organization such as those related to growth, funding, profitability, the environment and occupational health and safety. The various parts of an organization's management system might be integrated, together with the quality management system, into a single management system using common elements. This can facilitate planning, allocation of resources, definition of complementary objectives and evaluation of the overall effectiveness of the organization. The organization's management system can be assessed against the organization's management system requirements. The management system can also be audited against the requirements of International Standards such as ISO 9001 and ISO 14001. These management system audits can be carried out separately or in combination".

Ability of creating the modern system of managing the organization and it continuous improvement is a key to the success. Such organization should integrate - process approach, innovation, creativity, quality management, the environment management, the safety of the work, managing the knowledge and intellectual capital - with competent strategic development, tactical, operating and marketing operations of the organization [6-8].

In this day and age of the globalization, market competition there exists urgent demand for methods enabling objective determining the level of organization quality and it activities. So the Analytical Model of the Quality Evaluation of the Business Administration is a proposal of indicator for functioning of the organization directed to the quality.

2. Business administration based on the quality

The quality being a dynamic category, expending in the time, influences that the organization as the system tidied up of activities from a quality point of view can be better or worse. Quality activities are both a care of the organization about product and providing right relation organizational unit - customer. Such approach requires the awareness of continuous improving and adapting from the enterprise to quality expectations of the market. Organization should provide the observation of markets and market trends [9].

The future of enterprises depends on the possessed and obtained information. This organization becomes more elastic, dispersed and task oriented, being aimed at raising the value of the enterprise, as well as achieving the competing advantage. The quality management in the enterprise is being carried out by managing processes of organizations which concern two issues: of the structure and functioning of processes and the quality of the product, the service and the information processed in processes [9-11].

According to ISO 9000:2005 standard – point [5]:

2.1. Rationale for quality management systems- "Quality management systems can assist organizations in enhancing customer satisfaction. Customers require products with characteristics that satisfy their needs and expectations. These needs and expectations are expressed in product specifications and collectively referred to as customer requirements. Customer requirements may be specified contractually by the customer or may be determined by the organization itself. In either case, the customer ultimately determines the acceptability of the product. Because customer needs and expectations are changing, and because of competitive pressures and technical advances, organizations are driven to improve continually their products and processes. The quality management system approach encourages organizations to analyse customer requirements, define the processes that contribute to the achievement of a product which is acceptable to the customer, and keep these processes under control. A quality management system can provide the framework for continual improvement to increase the probability of enhancing customer satisfaction and the satisfaction of other interested parties. It provides confidence to the organization and its customers that it is able to provide products that consistently fulfill requirements".

Processes management is fulfils itself both on the strategic and operating level.

According to ISO 9000:2005 standard – point [5]:

2.4. The process approach - "Any activity, or set of activities, that uses resources to transform inputs to outputs can be considered as a process. For organizations to function effectively, they have to identify and manage numerous interrelated and interacting processes. Often, the output from one process will directly form the input into the next process. The systematic identification and management of the processes employed within an organization and particularly the interactions between such processes is referred to as the process approach".

In the general tendency the organization should implement philosophy of Total Quality Management what constitutes the

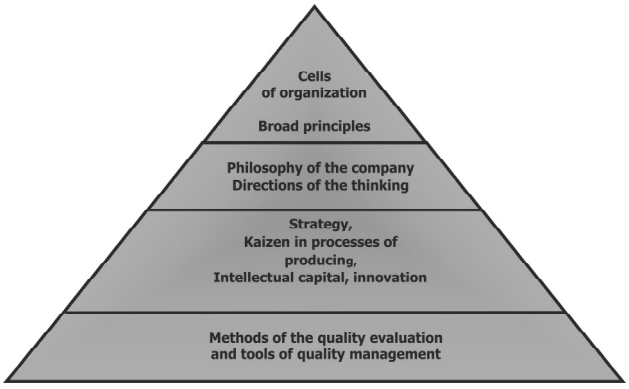

Fig. 2. Processes management in the organization directed to the quality [12-13]

global knowledge of the business administration. This methodology contains the elements: of philosophy, of the strategy and tools, of techniques of creating the value. The processes management realizes the system which was introduced on Fig. 2 [12-13].

For realizing superior values specific strategies are essential: of evolutionary improvement (of Kaizen) and of revolutionary improvement (reengineering). Right methods of the quality evaluation, quality tools and techniques, aspects of quality metrology are accompanying these strategies.

Management process according to PN-EN ISO 9001:2001 can be defined therefore as closed chain in aim of qualification of requirements, supplies and processes (Fig. 3) [13]. Thus, in the enterprise competent teams should be assigned to every level of the organizational structure connected with the improvement and improving processes [13-14].

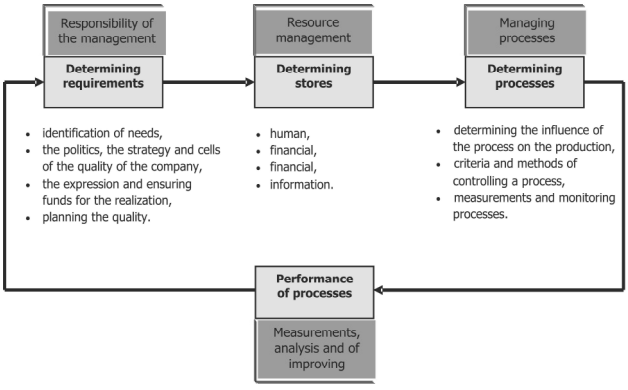

Fig. 3. Chain of managing processes [13]

Managing processes requires understanding what the process is above all, what processes appear in the organization that is appropriate identifying them as well as defining them, along with determining connections between different processes [15].

One should simultaneously define the owner of the given process, to elaborate proper documentation, to determine ways and the frequency of the measurement so-called indicators of the process and one should define methods of continuous improvement [15,16].

3. Improvement of the organization with certificated Quality Management System

The modern organization directed to the quality is one which is able to create the knowledge. According to Japanese approach creating the knowledge is not only "processing" of objective information, it is also creating the new knowledge being based on reaching to latent and often of very subjective observations of employees, their intuitive beliefs and premonitions and making these reflections available to the entire company so that it is possible to verify them and to use. A man is always the source of the new knowledge [17-19].

Creating the enterprise which wants to be in a group of the most competing enterprises on the market, requires from management staff and every employee a great commitment both at the individual as well as team work. Determining the strategy plan of the organization and implementing it into "live" is a main purpose for the accomplishment. Acquiring the knowledge and managing it are becoming a base of creative thinking, moving the organization for the higher stage of functioning [11,13,17].

In the industrial organization possessing implemented and certificated quality management system the improvement should be a common habit. The organization set to the quality will be carrying its aims and improve it processes, being guided by 8 principles of the quality management [5,10-23]:

- Customer focus.
- Leadership.
- Involvement of people.
- Process approach.
- System approach to management.
- Continual improvement.
- Factual approach to decision making.
- Mutually beneficial supplier relationships.

First of them which is very essential in the operations of the enterprise is a "Customer focus". Enterprises should be aware of needs of the customer in the age of the free market economy, to accomplish requiring of customer and to aspire to like of the greatest degree of customer satisfying [5,10-23].

The second principle, which one should mention is "leadership", the leaders establishing the unity of purposes and the direction an action of the organization. They are encouraged to create and keep the inner environment, in which people can fully commit itself to achieving goal of organization [5,10-23].

The third principle is "involvement of people". Very important factor are people in Quality Management System. It is necessary to turn the special attention not only to the management staff, but also for all other ranks created by employees, because they are a base of the enterprise [5,10-23].

The fourth principle is "process approach". It is as the factor associated with correct functioning of processes of quality management. The desirable result of the work is achieved, when activities and resources associated with them are being managed as the process [5,10-23].

A system approach to management is the fifth principle. Collecting all processes in the enterprise into one consistent

system increases the effectiveness of activity of the enterprise of purposes in achieving planned aims [5,10-23].

The sixth principle is "continual improvement". It is recommended that continuous improvement functioning of the entire organization should be the permanent aim of the organization [5,10-23].

The seventh principle is "factual approach to decision making". Effective decision taking must always be based on detailed analysis of reliable date assessed in the enterprise e.g. with the help internal audit. One should also elaborate forms of effective assessment of the all kinds of information [5,10-23].

The eighth principle is aiming at "mutually beneficial supplier relationships". The enterprise must hold as the most beneficial connections with suppliers, for better of good cooperation. Therefore the enterprise should implement activity being aimed at one side at a commitment of suppliers into the activity of the enterprise, on the other side should assist in solving problems of these suppliers which the enterprise cares about [5,10-23].

According to ISO 9001:2008 standard [22]: " Organization shall plan and implement the monitoring, measurement, analysis and improvement processes needed:

- To demonstrate conformity of the product.
- To ensure conformity of the quality management system.
- To continually improve the effectiveness of the quality management system.

This shall include determination of applicable methods, including statistical techniques, and the extent of their use".

The ISO 9001:2008 standard imposes to use such elements in order to quality improvement as [22]:

- the quality policy and quality purposes,
- outcome of an audit
- review of the management,
- data analyses,
- prevention active and corrective active.

Discussed stages of management processes should form integrated mechanism based on uniform principles, thanks to, which the organization constantly is adapting its system to still changing conditions.

Amongst methods of improving the process it is possible to distinguish [4]:

- method of improving processes,
- reorganization of processes.

Improving processes leads to the modification of the existing state. Such activity as a result increases the efficiency and the productivity of the process.

Efficiency, according to the ISO 9000:2005 standard is relationship between the result achieved and the resources used [5].

The reorganization of processes leads to for the radical change in the realization of the process and thus its efficiency and effectiveness [4]. And so the reorganization has wider character and is often tied with designing the course of the process from the beginning, assumptions on the base made and requirements of the customer [9].

In the model of the process approach (Fig. 4), with placed in ISO 9000:2004 standard, an idea of continuous improvement proposed by W. E. Deming was used [5].

W. E. Deming stated, that in order to get the improvement in the level of the quality one should in the deliberate way realize the known method as "Plan - Do- Check - Act" (PDCA) [16].

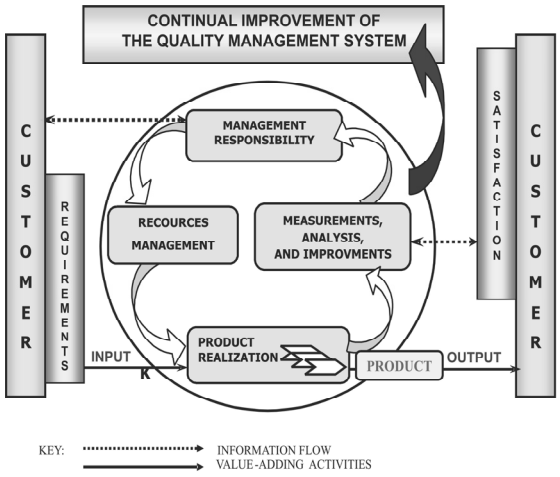

Fig. 4. Model of a process-based quality management system [5]

According to the new standard in the enterprise principle of process approach is leads to [9,11,13]:

- systematic assessment of activities essential to achieve the assumed result,
- reducing costs and shortening times of the cycle of product processes thanks to effective resources usage,
- establishing distinct responsibilities
- analysing and measurements of the ability of main activities,
- identifying influences between main activities and between different functions in the organization,
- concentrating on factors - so as resources, methods and materials - which main activities of the organization will correct,
- evaluations of the risk, the consequence and influences of activities on customers, suppliers and others.

This process approach provides to define improvement strategy of the organization. There should appear suitable and efficient model making possible analysis of realizations of such activities (Fig. 5) [9,11,15].

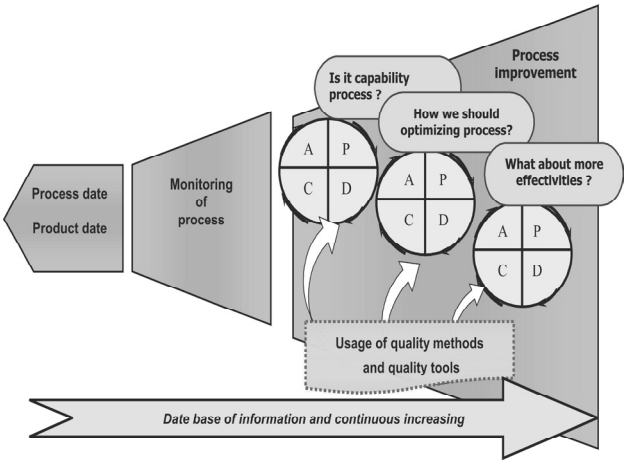

Fig. 5. Continuous improvement of process [9]

Important aspect is skill efficient connection of cycle PDCA - Plan - Do - Check - Act- with use of quality methods, techniques and tools (Fig. 6) [15,16].

Suitable selection of tools and methods, orientation in which point of process we are, realization of suitable measurements will make possible analysis and understanding the reasons of errors forming in working processes, and what behind this goes in all firm, and this in turn will permit identifications and use of correcting activities [15,16].

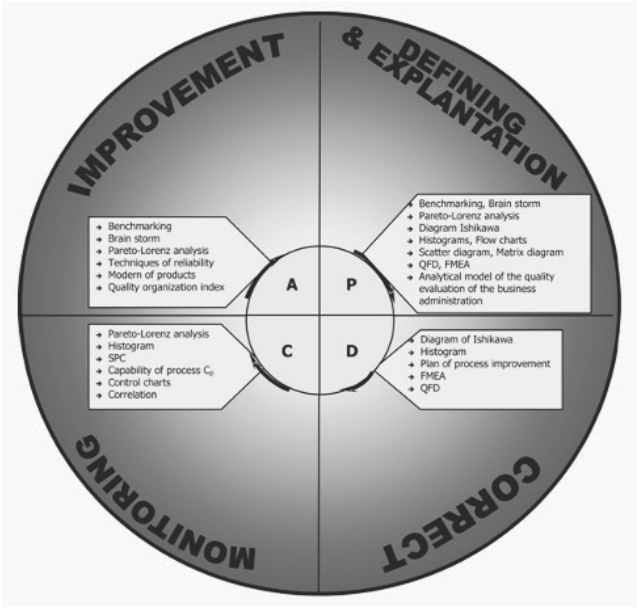

Fig. 6 Model PDCA connects with quality methods and quality tools

Correctness of decision, and in this use of suitable quality research and estimation methods will influence process continuous improvement of quality product.

Performed research permitted to concluded, that there are methods of essential in improvement of quality and productiveness in cycle of product life.

4. Estimation of quality enterprises – assumption of the method and own research

There can be many possibilities of the evaluation of the modern enterprise directed to the quality and the knowledge. In literature we can find many opinions, rates, criteria of the evaluation such as low costs, increasing profits, satisfying customers, quality of the final product, minimization of defects.

Analytical Model of the Quality Evaluation of the Business Administration seems to be a good proposal of indicator for functioning of the organization directed to the quality.

This Model takes into account a lot of aspects mentioned above. This Model was improved by application of weight coefficients of quality individual factors in each of criteria (Table 1).

The defined standard consists of five most important groups of criteria (Fig. 7) taking into account 28 quality factors.

The weight coefficients were obtained on the basis of conducted research of questionnaire. Fifty production companies were filled to a questionnaire.

Organizations assessed the importance of quality factors according to the scale from 0 to 1 (1 highest granted evaluation in the given group).

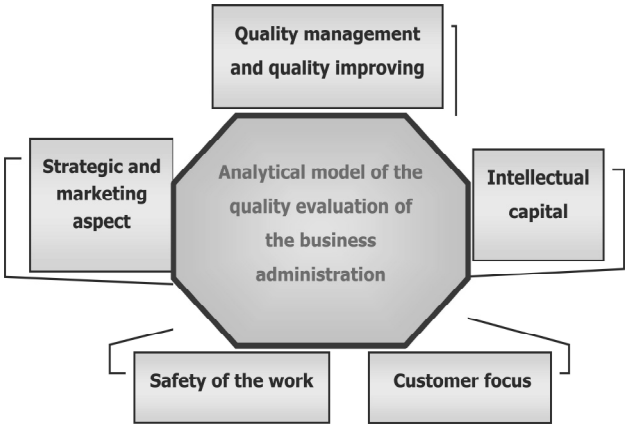

Fig. 7. Five most important groups of criteria of defined standard

At the same time organizations were notified of the assumption that every made criterion constitutes the 100% values of the evaluation, i.e. the maximum evaluation of quality factors in the given criterion is taking out 1.

On the basis of data obtained from the enterprise weight coefficients of every defined criterion were calculated.

The next step was to calculate an overall value as a sum of individual values (Table 2).

For estimation of quality factors the proper scale of evaluation was defined (Fig. 8).

In further analysis a specimen of the sheet of the evaluation of the quality of the business administration was drawn up. They also determine that the maximum evaluation of the quality of organization was equivalent to 45 points. The next step was calculating the quality index of business administration as offered. This index - Jp determined by the pattern (1).

$$J_p = \frac{\sum(A...E)}{45} * 100\% \quad (1)$$

J_p - quality index of business administration
Σ (A ...E) - sum of value of each criterion (A..E) according to weight significance and estimation scale of each factor

Table 1
Sum of individual criteria

A	Quality management and quality improving
A1	Evaluation of quality management systems
A2	Level of using quality methods and quality tools
A3	Quality Costs
A4	Audit
A5	Level of improving the quality of the organization
B	Intellectual capital including organizational and human capital
B1	Productivity of processes
B2	Culture
B3	Innovations
B4	Human relationships
B5	Ability to deal problems with
B6	Quality of qualifications of employees
B7	Ability of the work in the team
B8	Number of trainings
C	Strategic and marketing aspect
C1	Strategic plan
C2	Influence of environmental on functioning of the enterprise
C3	Level of realization of defined strategic activity
C4	Marketing plan
C5	Promotion of products
D	Customer focus
D1	Time of realization of customer's order
D2	Number of the customer complaint
D3	Optimum price of the product
D4	Add the prompt completion of the accomplishment
D5	Time of realization of customer's order
D6	Compliance with the customer's order
D7	Relation : the customer - organization
E	Safety of the work
E1	Ergonomics of workstations
E2	Level of the noise
E3	Easy to understand of the instruction of work place

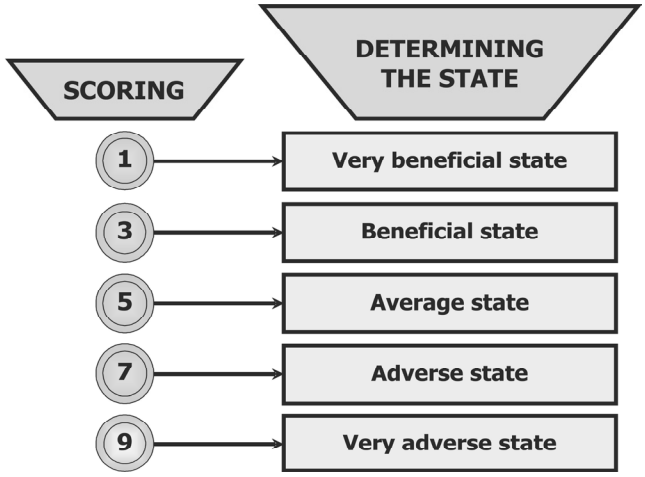

Fig. 8. Scale of evaluation

Table 2.
Model of calculating the sum of points

*	Accepted criteria
A	Quality management and quality improving
A = 0.2*A1+0.2*A2+0.15*A3+0.3*A4+0.15*A5	
B	Intellectual capital
B = 0.2*B1+0.1*B2+0.2*B3+0.15*B4+0.05*B5+0.1*B6+0.1*B7+0.1*B8	
C	Strategic and marketing aspect
C = 0.3*C1+0.1*C2+0.15*C3+0.15*C4+0.3*C5	
D	Customer focus
D = 0.1*D1+0.2*D2+0.1*D3+0.15*D4+0.1*D5+0.15*D6+0.2*D7	
E	Safety of the work
E = 0.5*E1+0.2*E2+0.3*E3	
Σ (A...E) max : 45 Sum of obtained points S = Σ (A ...E)	
* Sum of value of each criterion according with weight significance and estimation scale of each factor	

Analytical Model of the Quality Evaluation of the Business Administration with quality index Jp has been presented on Fig. 9

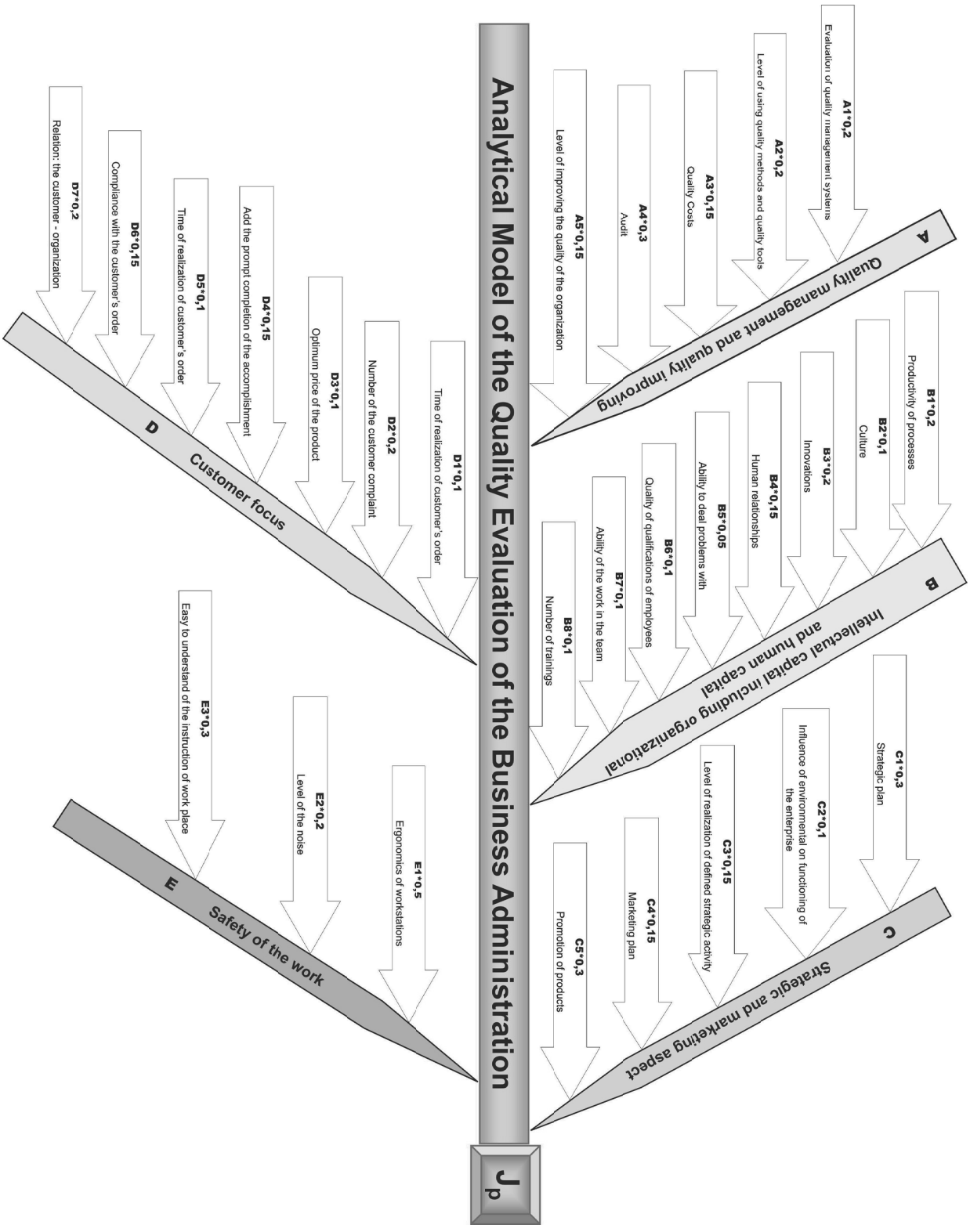

Fig. 9. Analytical Model of the Quality Evaluation of the Business Administration with quality index Jp

5. Summary

Superior aim of every organization possessing implemented and certificated the Quality Management System is improving all areas of the operations of the organization with special attention to requirements and needs of the customer.

Future of efficiency and effective functioning of the organization, became one of guidelines for drawing up the "Analytical model of the evaluation of the quality of the business administration".

Considering this standard crucial quality factors will be possible to use while making a decision for proper preparing the production, of correct leading the manufacturing process as well as of permanent supervising in the destination of continuous improvement and improving the quality. This Model is could also be helpful in making a decision as for the right effect of the organizational unit, and in it above all of management staff in the destination of correct managing the organization including the aspect of managing the knowledge and intellectual capital.

According to Peter Drucker sentences we can resume: "(..) No institution can possibly survive if it needs geniuses or supermen to manage it. It must be organized in such a way as to be able to get along under a leadership composed of average human beings (…).Efficiency is doing things right; effectiveness is doing the right things (…)"

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