Knowledge management as intrinsic part of the process of implementation of QMS Quality management systems

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Abstract. *This paper constructs a theory model in order to study point of strength for knowledge management process during implementation process of Quality Management System (QMS). Model presents interaction of internal and external partecipants during the process of implementation of Quality management system including partecipant's individual characteristics, cultural burden, business ethics ecc. Knowledge management include need for education and achievement, risk propensity and locus of control; innovativeness, risk taking and proactiveness.*

Keywords. knowledge management, QMS, education, innovativeness

1 Introduction

Knowledge management [2] is now a widely known concept and is practiced in many organizations, and it's useful to look back in time on this "old" and the "new" term and see how the parts of the area are developed. Knowledge management [4] and each other system has its value in the past and in the present, and that combination with new ideas "that are already known" gives to the people, who use it, the possibility of a new view of things.

While exploring new profitable opportunities, which should replace existing services, knowledge management should be an answer to real social and economic trends: globalization, the everywhere present informatisation and centralized view of the knowledge that an organization has.

The Globalization [5] is the clearest, and most obvious culprit. The complexity and the volume of global trade, the amount of global participants, products and distribution channels is bigger than ever. An acceleration of all elements of global trade, as a result of informational technology and the decline of centralized economy has created a confusion within organizations that are trying as quickly as possible to offer new products and services on the market. This situation of global proportions, leads the organization in front of the question, " What do they know?" "Who knows?" and "what is not known, but should be?".

The consequence of all present and transparent informatisation is expensive knowledge that can not be digitized, encrypted and isn't easy to distribute. As the access to information is growing, people have access to the information they need at any time and any place and for little or no indemnity. Values of cognitive abilities are still irreplaceable

Consequently, the components of knowledge such as judgement, design, management, better decisions, the capability to negotiate, innovation, aesthetics, wit and a dose of humor become more valuable than ever before. Knowledge management is partly created from the knowledge less digitized factors and it is quite clear that we should find out how to take advantage and to profit from them.

Less obvious but no less important trend is the appearance of the centralist view of the knowledge in organizations if we look on the organization as a coordinated set of capabilities associated with its history and the limited effectiveness of current cognitive and social skills. Knowledge is the fundamen-

tal "brick" from which these capabilities are built, especially knowledge that is tacit and specific to the organization. Picture 1 shows the aspects of knowledge in the organization.

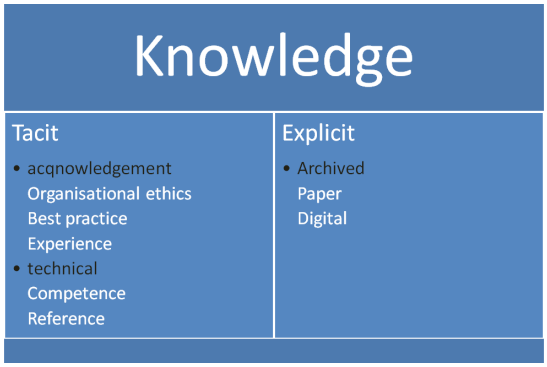

Figure 1: Organisational knowledge aspects

The awareness of the quality of products or services is becoming increasingly present and customers are becoming more sensitive to the notion of quality. They want to be sure that the business with partners will meet their needs. Certified Quality Management System ensures the quality and customer satisfaction, the internationally recognized way.

2 Business rule definition

Business rules [6] definition represent basic approach to the standardization process of every kind. Business rules should first be specified at the conceptual level, using concepts and languages easily understood by the business domain experts who are best qualified to validate the rules. Although [8] business rules come in many varieties they may be specified using graphical and/or textual languages.

This paper give an overview of more 100 implementation processes experience within companies who work on Italian, Croatian, B&H and Montenegrin market reality. Implementation models include ISO 9001 as a fundamental standard requirement, in various cases, upgraded with other ISO standards. This experience has made possible to construct theoretical model of QMS implementation using KM concepts of business processes.

3 QMS implementation process

Management of Organization that decides for implementation of Quality Management System as a component of its business processes, must proof its willing for practicing quality by appointing the responsible person for controlling of QMS.

Quality policy must be a part of Organization Policy, and should be implemented in all organization levels.

After establishing Quality Policy it is necessary to inform the participants of implementation process, about the content of process activities. The participants of implementation process are all employees. Therefore it necessary to organize a lecture about following implementation process, as a most efficient way of informing at all organization levels.

The activities of implementation are defined in Gantt chart of activities. They must include human resources and facilities connected with time line of activities. That should ensure more effective process monitoring.

Recommended activities in the first step are:

- opening lecture
- acceptance of activities plan
- forming the Quality Team

4 Knowledge management within QMS implementation

Steps of implementation of QMS in organization are:

1. Process analysis and process mapping
2. Business rules documenting
3. Documentation application

Picture 2 presents steps of implementation [3] of QMS in organization through the Knowledge Management

4.1 Organizational process analysis

This phase represent a DISCOVERY AND CAPTURE OF organizational knowledge [7].

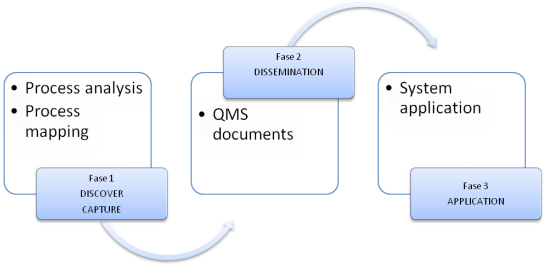

Figure 2: QMS Implementation steps

Quality management system is based on customer's satisfaction and out doing its expectations. Customer's demands are inputs for business processes of the company. The result of the processes can accomplish the basic demands of the system, or not.

Business processes are structured to find the way to satisfy customer's needs. Structuring of business processes considers process logic as the best model to accomplish customer's satisfaction.

Organizational structure defines basic business processes, but it does not define its cohesion and bottlenecks, eventually.

Organizational structure is demonstrated by flowchart that shows organization units and incorporated functions of the company.

4.2 Process markings

Definition of business process that includes organizational position and purpose of the process. It also represents its connection with other business processes in and out of the organization.

4.3 Process involving

Process participants are executants of operational activities that should accomplish certain result. Process inputs consider materials and information as a fundamental condition for running processes.

4.4 Acceptability criteria

Acceptability criteria determine level of acceptance for material and information input flows, within the process.

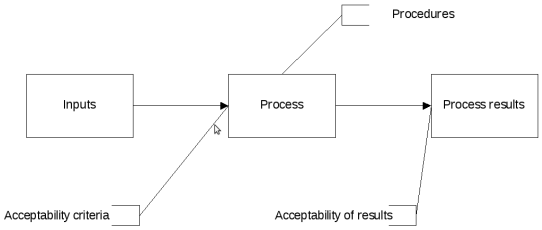

Figure 3: Acceptability criteria

4.5 Process goals

Defining business objectives that process attains in organization business domain, and its importance in relation to the other processes.

4.5.1 Rules definitions

This phase represent a DISSEMINATION of captured knowledge within previous phase.

Rules for business processes are set of methods, working procedures, customs and profession rules that determine running of business processes and enable reaching goals of the process.

The procedures in running core-business processes are well known and defined, but in tacit form. During standardization process tacit form should be settled to the explicit form.

One of the possible ways is a graphical representation of process by using flowcharts.

Recommended steps are:

- Designation Process
- Definition of routine activities
- Development of written procedures
- Reasoning written procedures
- Adoption
- Defining system management procedures
- Dissemination of defined procedures
- Testing procedures
- Final adoption of procedures

4.5.2 Documentation application

This phase represent APPLICATION process of acquired knowledge during previous phases.

The organization with structured processes and defined interactions between them should have strong cohesive factor for incorporation of organizational uniqueness, considering essential goals of entire organization and its employees.

System integrity and its strength must be imperative of the organization. Picture 4 represent [1] QMS cohesion within organizational texture.

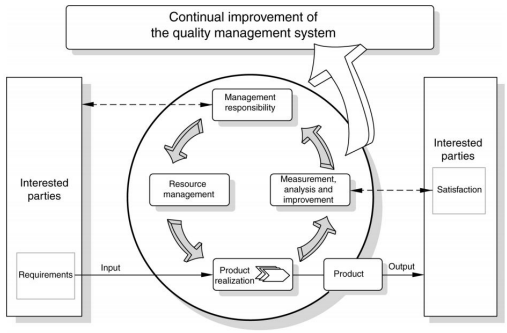

Figure 4: Organizational cohesion

Recommended actions in this phase are:

- Lectures by organizational units
- Resolving ambiguities
- Define channels of communication
- Demystification of responsibility
- Internal audit
- Management review
- Certification

After certification, QMS gets cohesive coupling characteristics of knowledge and people within the organization who work together to achieve organizational objectives.

The mission of the organization becomes the primary goal; so personal goals of the employees must be adjusted to the mission

The circle of knowledge [9] within an organization that has adopted the QMS can be displayed as shown at picture 5:

Figure 5: Knowledge circle

5 Conclusion

The company organization works only when there is a maximum balance and synergy among all key segments: working environment, work roles and responsibilities, procedures and rules and the motivations of employees.

The daily activities are focused on collecting data of the amount of work and the activities that are repeated or be missing and on their comparison with the policy and strategy of the company in order to draw the conclusions about the current organizational aspects and its possible shortcomings.

The proposal presents precise definition of working places characterized by basic knowledge and professional competence, that are capable to solve complex problems of organizations nowadays.

One of the methodologies to adapt the organization for more complex conditions of functioning is the methodology of business process reengineering1 (BPR).

BPR is a critical review and analysis of business processes, fundamental thinking and radical redesign in order to achieve:

- Reduce costs of all processes
- Achieve the status of the best in class, improving key processes
- Change existing and create new rules of the best in class, which will be valid for other competitors

It will permit a transformation from conventional to learning organization which build and develop proper knowledge baggage with all relevant mechanisms to discover, capture, disseminate, share and use organizational knowledge.

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