

## EFFECTS OF INTRODUCED QUALITY SYSTEM TO ORGANISATIONAL FACTORS

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### ABSTRACT

*Organizations operating on market and trying to work and make progress successfully have to act globally. Last decade of last century proved that the period of global competitiveness started, which is identified by penetration of standard of the world's market and international orientation of organizations. Introduction of management quality system according to requirements of standard ISO 9000, without and doubt, presents first serious step in every organization on the way towards provision of business and organizational excellence as well as competitive advantage. The sooner, the better!*

*The fact is that quality standards, besides their globalization and universality, are not immune to so-called "cultural factors" of every country, region as well as narrow area – all until individual organization and its "organizational factors". Introduction of quality system also brings great number of changes into organizational part such as politics, planning, organization, culture, management, etc. This work presents results of the research conducted on 204 organizations in Bosnia and Herzegovina, 31 consultants and 11 certification houses operating in the area of Bosnia and Herzegovina.*

**Keywords:** quality system, effects of the quality system, organizational factors

### 1. INTRODUCTION

Quality has become basic factor for the economic efficiency and it is considered as the most important phenomenon of our time. Whether the quality is a problem or resource of some organization depends of the basic standpoint towards quality in the organization. Today, almost million organizations in over 170 countries [2], have decided to confirm their management quality system by a certificate of quality system according to ISO 9001:2000. Later on, Bosnian and Herzegovinian organizations joined these processes. First certificates were awarded almost 10 years later than in the rest of the world (year of 1997), and by the end of 2007 number of organizations that acquired certificate according to demands of standard ISO 9001:2000 is 660 (by the end of 2008-900 organizations) [1]. Are the expectations that were offered to them prior introduction itself achieved, and do they achieve one part of everything that organizations worldwide have achieved? This work deals with the effects which B&H organizations achieved by introduction of quality system according to ISO 9001:2000 primarily in the part of organizational factors which no organization must neglect.

### 2. OVERVIEW OF PREVIOUS RESEARCHES

From the moment of appearance of standards from ISO 9000 series and certification of quality systems according to this standard the research of achieved effects started all around the world. We present some of the researches with a review to the ones which deal with researching of organizational factors:

- Research by Pivka and Uršič [3] on 177 organizations in Slovenia proved that introduced quality system ISO in Slovenian organizations has got the following influences: (marks are average marks from 1 to 7): efficiency of the process performance is improved (mark 5,82); registered

strategy of organization (mark 5,55); business plan of organization (mark 5,48); Innovation of business processes (4,89); Innovation of products or services (4,92).

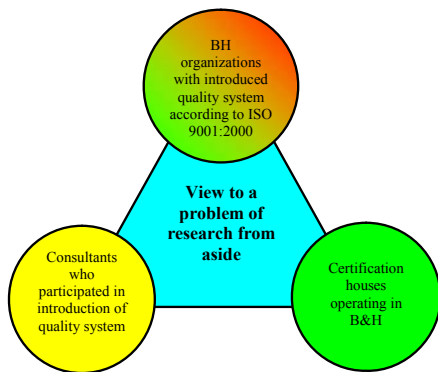
- Certified organizations mostly recognize positive effects above all at: improvement of effectiveness (99%), recognition of difficulties in procedures (95%), better control over business (95%), promotional effects (94%), increased satisfaction of customers (94%) [4];
- Research on effects of the usage of quality standard ISO which included 288 Spanish organizations [5]. Positive internal and external effects of the usage of standard were registered in 65% of organizations, 15% of them say that those were very small influences. Fourteen percent of organizations felt significant improvement in external effects (not only in internal), while 6% did not feel any external effects. Among those external effects the most expressed ones were: bigger response to demands of customers, improvement of their satisfaction and availability to new markets:
- Tan [6] stated that organizations which would have established organizational quality system will manage their knowledge easier. Also, ISO quality standard refutes great informational flow as the key to internal audits, which wins communicational limits in organization;
- Magd H. [7] conducted empirical research in Saudi Arabia on 175 manufacturing certified organizations. Research was focused on achieved effects from introduced quality system according to ISO 9000 certification, factors which influence selection of certification house. Organizations graded 24 factors. We present some factors referring to organizational factors:
  - Increment of consciousness on quality in organizations (AV=4,76 and SD=0,91)
  - Clearer working instructions or procedures (AV=4,33 and SD=0,97)
  - Clearer business responsibility (AV=2,45 and SD=1,41)
  - Positive changes in the culture of organization (AV=2,39 and SD=1,47)
- Conducting the research on effects acquired in Slovenian organizations, Piskar and Dolinšek, inter alia, conducted the influence on organizational factors [8]. Introduced quality system had the influence on the following factors: Organizational structure has changed 3,33; The culture of organization has changed 3,65; Efficiency of process conduction has improved 3,99; Strategic plan of organization is prepared better 3,74; Measures and actions of management are prepared better 3,86; Strategy, vision and mission have changed 3,54; Number of educated managers has increased 3,47; Culture of employees has improved 3,36; Communication is improved 3,77; Managing is more democratic 3,36.

### 3. METHODOLOGY OF RESEARCH

Research of the effects of BH organizations which have introduced and certified their quality system according to demands of standard ISO 9001:2000 we can define as empirical research because we have chosen direct observation of selected segment from the real environment and analysis of collected information in it. For collection of quantitative information we used one of four main ways – questionnaire. We shaped the questionnaire in the way to have it as simple as possible (for usage and understanding), thorough and reliable, made in the way of claims and questions so that its filling needs as less time as possible. In the view of time dimension the research is limited only with one time point, i.e. research of the time review, while from the point of view of originality the research goes towards research with primary performance because it is based on original empirical data. It is one of the first researches on that area in selected environment (Bosnia and Herzegovina) and in such volume. The research is structured in the way to enable comparison or possible repeated performance after certain time, and in time it could become starting research (starting point) of study which could be continued on that “follow-up study” [9].

#### 3.1. Triangulation method

This work uses triangulation method. Triangulation refers to the usage of more than one approach in procedures of researches in the purpose of strengthening of trust into results of researches. Webb and Denzin defended the fact that *the hypothesis verified-experienced by more methods is more worth from the one that is verified-experienced by only one method*. Denzin recognizes four sorts of triangulation [10]: methodological triangulation, data triangulation, triangulation of research and theoretical triangulation. In this work we used and decided for the **data triangulation** in the way that we gathered information on the same issue from various sources, as well as the usage of different kind of information (qualitative



and quantitative) collected by various methods. Information that refers to the problem of research of effects acquired by organizations in B&H was given by the following sources (Picture 1):

1. Organization with certified quality system according to ISO 9001:2000,
2. Consultants who worked on preparation of those organizations for introduction of quality system, and
3. Certification houses that certified those systems.

Picture 1. Overview of triangulation method used in work [1].

### 3.2. Conduction of the information collection plan

The postal questionnaire was selected for information collection. The Table 1 shows described conduction.

Table 1. Conduction of the information collection plan [1]

Statistical population - for the organizations - for the consultants - for the certification houses	- organizations in B&H in 2008 which posses introduced quality system according to requirements of standard ISO 9001:2000. - consultants who operate in the area of B&H - certification houses which operate in the area of B&H
Unit of the sample	Individual organization, Individual consultant, Individual certification house
Limits of sampling - for the organizations - for the consultants - for the certification houses	660 organizations from the population 70 consultants, addresses from our own register 14 houses from our own register
Size of the sample - for the organizations - for the consultants - for the certification houses	- planned out of 120-150 units – 204 units achieved - planned and achieved 31 units - planned 10 units – 11 units achieved
Procedure of sample choosing	Random sampling inside the population
Researching instrument	Structural questionnaires
Acceptance of the researched factor	Mark of the factor > 3,70
Method of information collection	Combined postal method, supported by their own phone calls and contacts through certification houses and ministries
Method of information processing	Statistical processing with the usage of MS Excel 2003, with defined criteria for the information overview per requested criteria, that is filters;
Time for poll conduction - for the organizations - for the consultants - for the certification houses	from March 2008 to July 2008 from July 2008 to December 2008 from December 2008 to February 2009
Time of established situation	End of 2007 / beginning of 2008.

As for the phone and personal contacts we limited ourselves to remind and ask people to fill questionnaires and return them. We think that in this way we fulfilled one of the key conditions for objectivity of research.

## 4. RESULTS OF THE RESEARCH

Introduction of quality system brings many changes in organizational part as well, such as the policy, planning, organization, culture and similar. We posed 10 questions on the influence of quality system to organizational factors.

Table 2 shows parallel analysis of answers from certification houses, consultants and functional managers in organizations. They gave answers to 10 identical questions. As it can be noticed there are **prety large differences in opinions** between these three categories which estimated given factors. According to all of them the Democracy of managing is on the last place, and this is the only factor which certification houses marked bellow established passing mark of 3,70. Certification houses identically marked factors “Efficiency of process performance has improved” on the first place (which

was also marked as the first place by the consultants, and on the third place by the functional managers), as well as “Communication is improved” (which was also on the second place given by the consultants and functional managers). Certification houses gave the third place to “Change of strategy, mission and vision of organization” (which was put on the fifth place by the consultants). Differences in marks are pretty big and varies from 0,23 points given by the functional managers, to 0,40 given by the consultants. Pretty big difference can be also noticed on factors of “Measures and actions of management are planned better”, which were marked “negatively” by consultants, and marked as very good by functional managers and certification houses.

Table 2. Parallel overview of the influence of introduced quality system to organizational factors (organizations-consultants-certification houses)

	Factor/Marks	Answers given by the organizations			Answers given by the consultants			Answers given by the certific. houses		
		AV	SD	rank	AV	SD	rank	AV	SD	rank
1.	Organizational structure has changed	3,70	1,01	9	3,93	0,87	3	4,00	0,67	4
2.	Culture of organization has changed	3,83	0,86	7	3,87	0,73	4	4,00	0,77	4
3.	Efficiency of process performance has improved	4,08	0,57	2	3,97	0,56	2	4,18	0,40	1
4.	Strategic plan of organization is prepared better	3,98	0,70	4	3,72	0,88	7	4,00	0,63	4
5.	Measures and actions of management are prepared better	4,16	0,58	1	3,66	0,90	9	4,00	0,63	4
6.	Strategy, vision and mission have changed	3,86	0,97	5	3,69	0,85	8	4,09	0,54	3
7.	Number of educated managers is increased	3,72	0,96	8	3,79	0,77	6	4,00	0,45	4
8.	Culture of employees is improved	3,83	0,75	6	3,82	0,61	5	3,82	0,40	9
9.	Communication is improved	4,03	0,68	3	4,07	0,64	1	4,18	0,60	1
10.	Managing is more democratic	3,66	0,83	10	3,45	0,95	10	3,45	0,52	10

AV – Average Value; SD – Standard deviation;

## 5. CONCLUSION

Introduced quality system in B&H organizations positively affected most of researched organizational factors. It can be generally said that introduced quality system did not affect factor of “Democracy of managing of organization” which was confirmed by all persons questioned in questionnaire. Consultants dealing with preparation of organizations were a little bit more critical so they estimated two more factors (“measures and actions of management are prepared better” and “Strategy, vision and mission have changed”) below the limit of 3,70. This can be understood through the time when consultants participate in process (introduction of quality system itself) when these two factors were not active completely in the practice. There is still space for improvement for these three factors (effects), on which the organizations should and could work more in future period because one of the principles of ISO 9001:2000 standard is exactly constant improvements.

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