MODELING OF DOCUMENTS AND FLOWCHARTS FROM SERVICE QUALITY MANAGEMENT SYSTEM

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The design, implementation and certification of a quality management system by a service organization is a necessary condition, but not sufficient one, with respect to the satisfaction of customers, employees, and other stakeholders. A main cause of this state is the documentation of the quality management system. The present main contributions are the development of models for certain defining documents and flowcharts from the service quality management system, as well as the achievement of a contextual survey.

Keywords: quality, service quality, quality management system, documentation, flowchart, survey, statistical analysis.

1. Introduction

One of the primary factors for the performances of an organization is represented by the quality of services and/or products.

The quality of services provided by the organization is perceived by customers as the extent to which the services in question satisfy their requirements. However, even at the present time, there are services of unsatisfactory or unacceptable quality.

The removal or reduction of low quality services relies mostly on rigorous implementation by organizations of the principles, methods, techniques and tools of quality management services. But, in many cases, there are representatives from organizations or/and clients which states that the implemented and certified quality management system is a bureaucratic one, that makes work harder for the employees, or, by the contrary, that exists only on paper and, in reality, the organization operates after different principles. A major cause of this state is represented by the quality management system documentation that can be too bushy, unfriendly with employees, inadequate for organization, etc.

The concept of "quality" has received a special attention in time and continues to be an important topic for analysis and development.

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Quality is "the only important driving force in the growth of companies in international markets" [1]. Analysis of the link between the elements that define quality in relation to market requirements highlights its complexity [2]. Service organizations have a degree of uniqueness that justifies a special approach to management beyond simple adaptations of the management techniques used in the productive sector Consumers' perception about the quality of service is based on a total experience and not just the explicit service [3]. Therefore, the concern for the training and employees attitude is essential for organizational management services in order to maintain and improve service quality.

J. M. Juran, one of the major world figures who launched the concept of "quality management", defines the quality management through three main features focused on quality: quality planning, maintaining quality control and quality improvement [4].

Quality management is defined as coordinated activities to direct and control an organization with regard to quality [5], and quality management system - a set of tools and associated documents.

The availability of information necessary for the implementation and operation of a quality management system is obtained by documenting it. Document is defined as a set of meaningful data and the specific support medium - paper, electronic or optical media, photographs, samples or their combinations [5].

Through quality management, an organization aims to achieve, to disseminate, to provide services that [6]: respond to the need, but also to the duty to improve service quality; satisfy needs, but also seeking for new methods to improve; comply with applicable standards or specifications; are offered at competitive prices; are obtained in terms of profit.

Quality management, in particular, induces in the organization the managerial culture of *performance continuous improvement*. The continuous improvement of performances is achieved by amelioration the causes that produce them. The process continual improvement management is documented in procedures.

The improving processes (operating mode) is achieved through projects and documented in procedures that can be reviewed [7].

A study conducted in South-Eastern Europe for determining the factors influencing the implementation of Total Quality Management, TQM, found the importance of adopting and implementing standards ISO 9000 series on quality improvement and total quality [8, 9].

Documentation of the quality management system is a very important process in accepting, but mostly in active participating of the employees in the system implementing, maintaining and improving.

Among the most common mistakes in the documentation of the quality management system, there are those related to the documents that can be framed into two categories [10, 11]: too many, too few or improperly structured levels of documentation; structuring the documentation around the standard to the detriment of the organization specific activity.

The flowcharts designed for "Complaints Handling" [12] and "Workshop Production Control" [13] procedures were applied to the related processes documentation for some organizations providing services, demonstrating their utility.

The documentation of the quality management system remains an important component in the current issue of research-development associated to service quality, in terms of a direct dependence between customer satisfaction, employee satisfaction, sustainability of the organization and quality management system.

Objective and research methodology

The objective of the present research is to develop models for certain defining documents and flowcharts from the service quality management system, with double role, i.e., as models for organizations to build their own structures, and also, as training instruments.

The main elements defining the research methodology are the followings: correlative approach and qualitative analysis of relevant matters expressed by customers, auditors, employees, organizations, reference requirements; theoretical assumption of the model's contents; implementation of the achieved structures in service organizations; configuration and carrying out a survey, statistical analysis and interpretation of the results.

2. Models of documents from service quality management system

In relation to the above, models of defining documents from the quality management system associated to service organizations are further proposed, for which the reference elements are requirements of ISO 9001: 2008 [14].

Two groups of documents from the quality management system associated to service organizations are to be considered: documents on the system level, i.e., Quality Manual and System procedures; documents on the process level, i.e., process procedures.

For "Quality Manual", a major document of quality management system, the proposed structure is shown in Fig. 1.

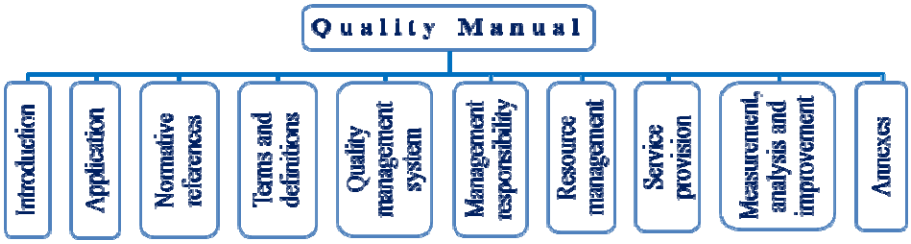
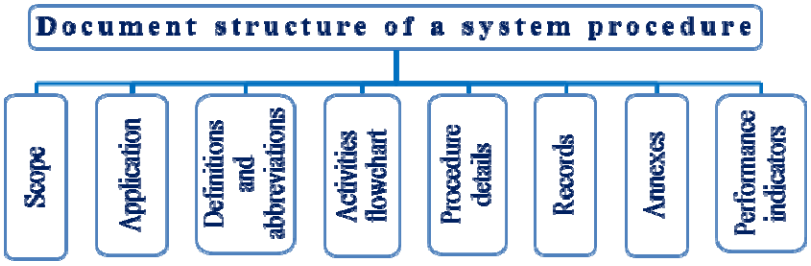


Fig. 1. A Quality Manual structure for service organizations

For "System procedures", the system procedures categories are presented in Fig. 2a, and the document structure of a system procedure - in Fig. 2b.

a.



b.

Fig. 2. System procedures categories (a) and document structure of a system procedure (b)

For "process procedures", the process categories that require the maintenance of "records" [14], for which there are proposed documented procedures, are presented in Fig. 3.

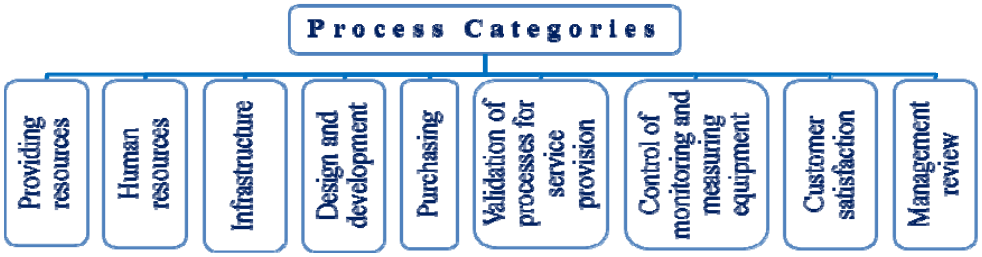


Fig. 3. Processes categories for which there are proposed documented procedures

3. Flowcharts of procedures from service quality management system

Let flowchart be considered as sequence of actions and decisions which, in relation to the assumed objective/ specific input data, are leading to predefined results/ output data.

Flowcharts for some system procedures have been created and proposed. A number of items - documents, records, information on responsibility, etc., which can be used for designing the flowcharts associated to the system procedures, are presented in Table 1.

Few flowcharts have been determined, Tables 2 – 4, as models for the flowcharts which can be used by organizations in relation to their objectives and commitments.

Table 1

Items used within system procedures/ Code: Significance

Documents & Records/ AR: Archive Registry; ER: Existing Records; FNR: Found Nonconformity Report; LL: Legislation List; NSR: Nonconforming Service Report; PL: Processes List; PNR: Potential Non-conformity Report; QMS-D: Quality Management System Documentation; R: Records; SP: System Procedure; WI: Work Instruction.
Other Data/ A: Action(s); AT: Archive time; D: Deadline; ERD: Effectiveness Reviewing Deadline; NPPS: Nonconforming Product associated to the Provided Service; NS: Nonconforming Service; PA: Preventive Action; PN: Potential Nonconformity; S: Step; ST: Storage Time.
Responsibilities/ ARs: Archive Responsible; CR: Corrective Responsible; E: Employee; GM: General Manager; IR: Implementation Responsible; MD: Department Manager; MR: Management Representative; PO: Process Owner; Rs: Responsible.

Table 2

Records Control

INPUT DATA	*ACTIONS AND DECISIONS*	*OUTPUT DATA*	*Rs*
QMS - D; PL; LL; ISO 9001:2008 requirements.	S1. ER identification	PL filled in section R.	PO, MR
QMS - D; PL; LL.	S2. ST & AT establishing	PL filled in sections ST and AT for each R.	PO, MR
ER; ST according to PL; Storage facilities.	S3. R storage	R kept and protected during ST.	PO, MR
R kept during ST; Storage facilities; ST according to PL; Internal/ external audit reports; Employees, authorities, customers' notifications.	S4. Verification of R during ST	R verified to be legible, identifiable and retrievable.	MR
	Legible, identifiable and retrievable? Yes	Yes - SP continues with S5; No - FNR/ PNR filled in and SP with SP – Corrective Action and/ or SP – Preventive Action from S2.	PO, MR
R kept during ST; AT according to PL; Archive facilities; AR.	S5. R archive	R kept and protected during AT; AR filled in.	PO, MR, ARs
R kept during AT; Archive facilities; AR; AT according to PL; Internal/ external audit reports; Employees, authorities, customers' notifications.	S6. Verification of R during AT	R verified to be legible, identifiable and retrievable.	MR
	Legible, identifiable and retrievable? Yes	Yes - SP continues with S7; No - FNR/ PNR filled in and SP with SP– Corrective Action and/ or SP – Preventive Action from S2.	PO, MR
R kept during AT; AT according to PL; Disposal methods; AR.	S7. R disposal	R disposal; Minute for disposal R; AR filled in.	PO, ARs

Table 3

Control of nonconforming service

INPUT DATA	*ACTIONS AND DECISIONS*	*OUTPUT DATA*	*Rs*
WI- NS correction; NSR form; Other forms according to the main processes R.	S1. NS identification	NS identified; NPPS identified; NSR filled in.	E
NPPS identified; WI - NS correction.	S2. NPPS containment	Action taken to avoid NPPS original intended use or application; NPPS isolated.	E
NSR; Available resources; WI - NS correction; Internal order form.	S3. A, Rs and D establishing	A, R and D established; NSR filled in; Internal order (if necessary).	MD, GM
NSR; WI - NS correction.	S4. A implementation	A implemented; NS corrected.	CR
NS corrected; WI - NS correction; NSR; Other R according to the main processes.	S5. Verification of the NS corrected	NS corrected verified if it was effectively dealt; NSR filled in.	CR
	NS corrected? Yes	Yes - SP continues with S6; No - Repeat S4 or restart SP from S3.	CR
NSR; Other R according to the main processes.	S6. Maintaining R	NSR file.	MD

Table 4

Preventive Action

INPUT DATA	*ACTIONS AND DECISIONS*	*OUTPUT DATA*	*Rs*
Internal/ external audit reports; Customer complaints; QMS - D; R; NSR file; PNR form.	S1. PN identification	PNR filled in.	E, MD,MR
PNR filled in; Internal/ external audit reports; Customer complaints; NSR file.	S2. PN root cause analysis and determination	PNR filled in.	MD
PNR filled in; Available resources; Internal order form.	S3. PA, Rs and D establishing	PNR filled in; Internal order (if necessary).	MD
PNR filled in.	S4. PA implementation	PA implemented.	IR
PNR filled in; PA implemented.	S5. Verification of the PA implemented	PNR filled in.	MD,MR, IR
	PA implemented? Yes	Yes - ERD established, SP continues with S6; No - Repeat S4/restart SP from S3/S2 - root cause.	MD,IR
PNR filled in; Internal/ external audit reports; Customer complaints; NSR file.	S6. PA effectiveness reviewing	PNR filled in.	E, MR,DD
	PA effective? Yes	Yes - SP continues with S7; No - SP continues with SP – Corrective Action, from S2.	MD,IR
PNR closed.	S7. Maintaining R	PNR closed file.	MR

Certainly, the flowcharts of different system procedures have similar structures, but also specific differences. Thus, for example, process flowchart associated to "Preventive Action" has the same logical steps of the flowchart associated with the "Corrective Action", the differences consisting in the absence or existence of corrections.

4. The importance of quality management system implementing in service organizations

In order to confirm the developed documentation system and, also, to identify opportunities for improving the quality management system design, implementation and maintenance, a survey had been undertaken between March and July 2013. It included a national sample of 90 organizations, each with 1-2 different respondents, resulting in a total of 115 filled questionnaires covering various fields in the area of service: architecture; trade; construction; management consultancy; education; waste management; delivery, installation and service equipment/ facilities; oil and gas; HR recruitment; restaurant/ fast food; workshop; banking; accounting and financial analysis; security and protection services; media services; medical services; water supply and sanitation public services; social services; transport; tourism.

The statistical analysis of survey data reveals that "QMS development and implementation" is perceived as the main improving method for the organization's activities, followed by "Teamwork" and "Brainstorming" (Fig. 4).

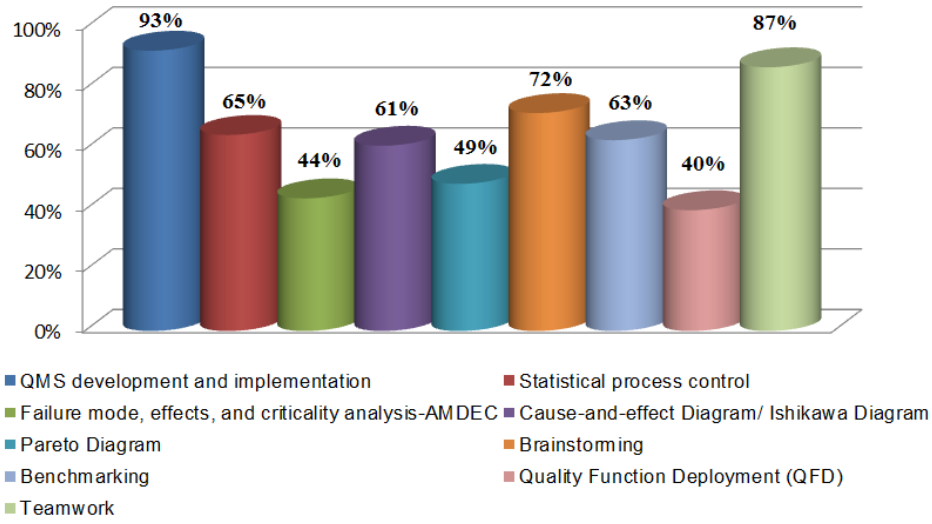


Fig. 4. Methods, techniques and tools for improving
the quality management system in service organizations

The conducted case study reveals the types of processes found in management systems implemented by the responding organizations. Their statistical analysis shows the relative level of importance given to each by the organizations, on the first place being placed *documents and records control*, as well as *preventive and corrective actions* (Fig. 5).

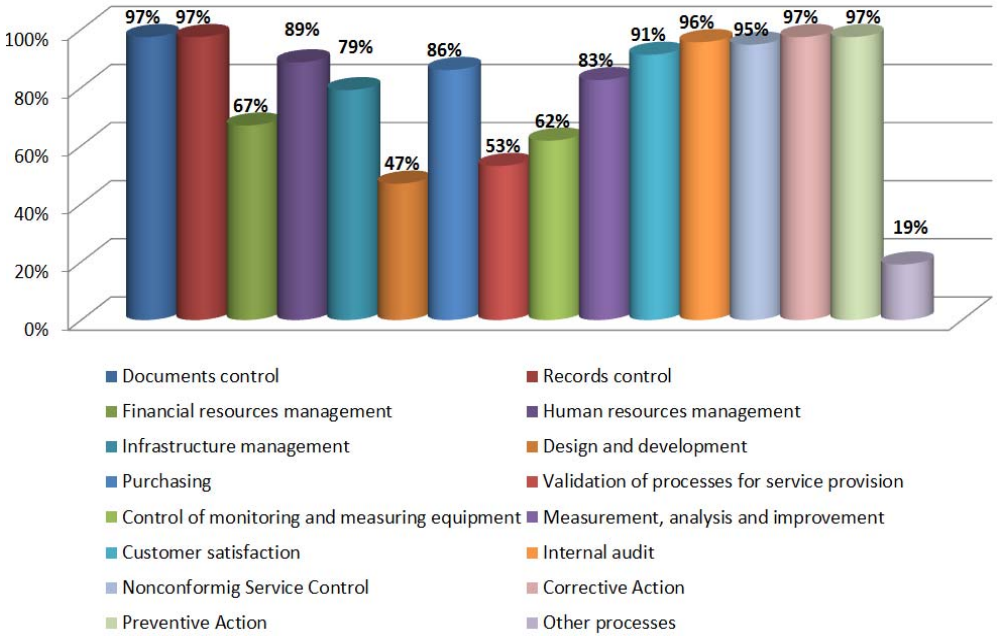


Fig. 5. Types of processes found in quality management systems implemented by the service organizations

Another indicator aimed by the case study relates to benefits brought to the responding service organizations by implemented quality management systems.

The statistical analysis of the given responses reveals the relative level of the benefits impact for organizations, the first two places being taken by "Activities are organized more efficiently" and "Employees have a better knowledge on their duties and responsibilities" (Fig. 6).

Also, in the conducted study, a question was "To what extent the documenting quality management system for service area positively influenced your organization's activity?" It has been found that the documenting quality management system positively influences the organization's activity, respectively, 26% responded "greatly" and 47% - "a lot", i.e., overall, 73% of respondents have considered a positive influence over the "average" (Fig. 7).

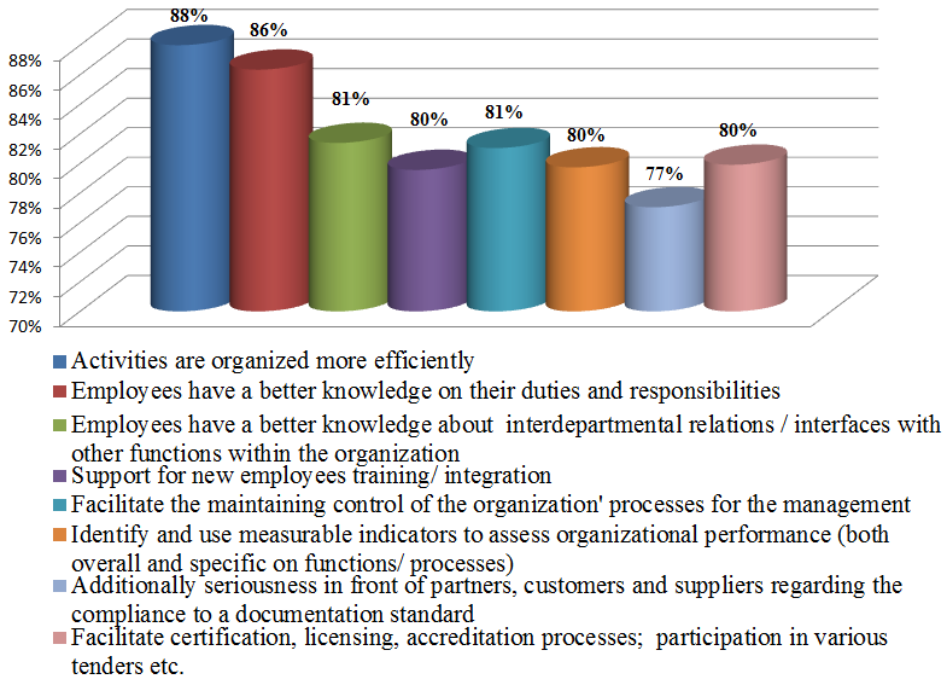


Fig. 6. Types of benefits brought to service organizations by implemented quality management systems

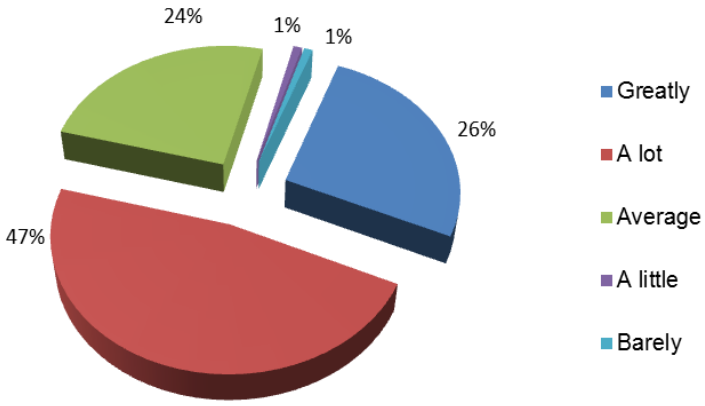


Fig. 7. Relative level of the positive influence of the quality management system' documentation on services organization activity

Research results have been revealed, also, that some quality management principles were under used by organizations, such as *engagement of the people*.

6. Conclusions

The documentation is perceived by many organizations as a discouraging element in the implementing process of a quality management system.

Organizations providing services have to continuously improve their implemented and certified quality management system. Thereby, the quality management system documentation remains an important component in the quality of services actuality.

Documentation fulfills its functional role if it answers to the demands of the employees, auditors or clients without generating new questions.

Models of defining documents and procedures flowcharts from the quality management system, which were implemented in services organizations, there have been developed, as main contributions presented in this paper.

The undertaken survey confirms the applicability of the new proposed models and reveals the importance level of different improving methods, techniques and tools, types of processes related to quality management systems from services organizations, as well the benefits brought to service organizations through the design, implementation, certification and use of quality management systems adapted to the specific services provided by the organizations.

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