

QUALITY MANAGEMENT OF FOOD SECURITY IN CIVILIAN AND MILITARY ORGANIZATIONS

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Abstract

The paper highlights the paramount importance of quality management as the way to survival of the modern competitive marketplace.

In that sense the application of the system for quality management is an advantage in modern civilian and military organizations as the lack of quality system will be handicap in the future market.

Achieving proper food security is a basic requirement to achieve effective control of food in the manufacturing process in all parts of the road that passes food from the creation to the consumer. According to the national strategy for food safety obligation of any organization is the introduction of an appropriate quality system which achieves harmonization with the relevant legal provisions for quality and food safety for both, civilian and for military organizations.

Key words: *Quality management, a system of quality management, food security, national strategy, control of food, military organizations.*

1. Introduction

In modern conditions the road to success of any organization is developing quality water and quality system. Quality as a concept for successful operations is not new in the history of social development, just changed level of care quality depending on the degree of social development.

For these reasons, quality is the focus of interest of all the world's leading organizations, and can rightfully say that the XX century is the century of productivity, and XXI century is the century of quality.

In this regard is the dictum of (Hoffer [1]): "In time of drastic change inherit the future those who teach. Those who think they learned everything was trained to live in a world that no longer exists".

A new approach to quality expressed by introducing a quality system, means commitment to the organization to continuously learn and change, in order to improve all aspects of its operations. Simply there is no process or phase of the operation of the organization that can not be subject to improvement.

Organization by improving quality as a systematic approach becomes: effective (doing the right things), efficient (makes them the right way, timely and with optimal costs), flexible (able to meet the changing demands of customers). In addition, improving the quality of the organization does not necessarily introduce some drastic changes as innovation of new products and services, but a change in the form of introducing a new business culture in the organization where the achievement of quality is "zero defects".

Optimization of existing solutions to improve the quality (Harrington [2]) is much more rational approach than achieving quick success through innovation, while a cheaper way for the conditions that exist in our country.

2. Fundamentals of quality

The word quality comes from the Latin word qualis, qualitas meaning "how to do".

The notion of quality is a complex concept and is a measure of meeting the needs of individuals and society as a whole. The fact that quality relates to the needs of individuals who are changing, we say that the term quality is dynamic and changing phenomenon.

2.1. Definitions of quality

Depending on existing conditions and levels of development of scientific thought, the quality is introduced different definitions:

(Deming [3]) - Quality of your goal should focus on current and future needs of users, (Juran [4]) - A set of activities with which to achieve eligibility for use of the products (quality is meeting the purpose and need), (Crosby [5]) It is consistent of quality requirements. American Society for Quality – Define the quality as a totality of features and characteristics of the product or service that have the ability to meet the explicit and implicit needs of the buyer; European Organization for Quality Control - Define the quality as a degree to which the product meets the needs of consumers or users;

According to Standard ISO 9000:2000 – The quality is as a level which the sum of the particular characteristics of the product, process or system meets the stated, in principle those means or implied needs and expectations of users and other interested parties.

The interests of producers and buyers to quality are different. The quality must therefore be considered as a part of complex system with techno-economic characteristics (Chepujnoska [6]) shown in Figure 1.

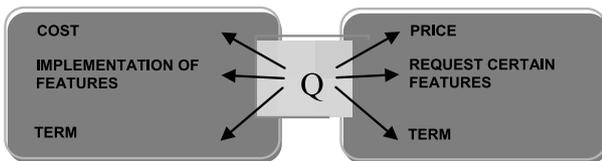


Figure 1. Techno-economic content of quality

Quality in terms of the manufacturer of the product’s compliance with existing regulations or agreements, with the cost and time of its construction and delivery.

The quality aspect of a consumer’s uses the values of the product by preserving certain features, price and date of delivery.

The organization and its products have certain performances which are objectively verified. The quality of the organization (Helena [7]) and its products are defined as a degree of satisfying the customer and relationship between their performance and expectations of the buyer:

Quality = objective performance / expectations of the buyer = customer satisfaction

Each purchaser has different ways to assess and evaluate the performance of certain quality of an organization and its products. Because the buyer is one who observes and evaluates the organization and her products, we need to know which elements to assess and evaluate these performances. So you can question the quantitative characteristics such as price and material as well the qualitative characteristics confidence, speed of response, persuasiveness and charm.

2.2. Criteria for evaluating the quality

Although there are many definitions of quality that are focused on different elements of quality which has almost no major significant difference between them.

The criteria for assessing the quality are: attributes of products, customer requirements, value for customers, technical criteria and subjective criteria. The criteria for defining quality (Ivanichevich [8]) are shown in Table 1.

Table 1. Criteria for defining quality

PRODUCT-BASED CRITERION	Track is a collection of attributes of the material and product service necessary to meet the requirements of users. Quality is a function of values of certain attributes. Higher quality products whose attributes have greater measures to satisfy users. Attributes must be made measurable.
USER -BASED CRITERION	Quality is defined in terms of expediency or the degree of fulfillment of the requirements for quality. If the user is satisfied the quality level is no satisfied. The demands of users and purpose of the product are the basic criteria for defining quality.
VALUE-BASED CRITERION	Quality is the result of the level of satisfaction of users and the price of the product. According to this criterion, the goal is a sufficient measure to satisfy the demands of users and to achieve a cheaper price than the competition. The greatest benefit for consumers is achieved at the most favorable combination of quality and price.
MANUFACTURING-BASED CRITERION	The quality means achieving the set standards and norms, or ensuring compliance with specified quality parameters. The tendency of this criterion comes down to production without errors.
JUDGEMENTAL-BASED CRITERION	Quality is synonymous with excellence or superiority, and is universally recognizable. This criterion is based on the idea of building a recognizable image of certain products and organizations. The notion of excellence is abstract and subjective and therefore the standards of excellence vary among different products and organizations.

2.3 System quality management

Management system or quality management system of quality is a modern tool for ensuring the quality that defines the obligations and responsibilities for the quality of all employees in the organization.

Given the fact that the quality system should be integrated into the overall process of an organization, there is no universal model that can be applied to any organization. Each organization should build its own quality system in accordance with the vision that sets the top management at strategic level. At the same time the approach to quality is dependent on technical and technological development of a country.

The introduction of the system of quality management should be a strategic decision of the organization. Design and implementation depend on the different needs, preset targets, the products obtained, the processes used and the size and structure of the organization.

Design and implementation of quality system, it's not a classic quality control of products, but also involves the design and implementation of appropriate standard operating procedures and guidelines, as well as changing the organizational structure that integrates quality (Crosby, [5]) as function.

2.3.1 Need to introduce a quality system

The need to introduce a system of quality management and quality assurance in all areas of industrial production and in services is greater than ever before.

It is impossible to produce a product with the required quality and also to maintain a constant long period of time to market without having to introduce a system for quality management. It is the biggest leap in access to quality, in terms of control.

The classical approach relies on the quality front, intermediate and final control, which sets out the defects, the need for processing, similar complaints and negative consequences of the operation.

According to the classical approach, quality assurance is achieved by operating when the fault has been made. Quality can not be examined in the product or service after they finished. Deming said, "Don't look for quality in the product because it is already there".

The modern approach to quality through the introduction of a system of quality management activities are directed towards:

- prevention rather than control;
- providing conditions to prevent failures;
- prevention of causes that lead to poor quality.

Possession of a quality system in the present conditions means a market advantage, but not possessing the quality system will be a handicap market in the near future.

2.3.2 House of quality

Designing a quality system is complicated because the necessity of harmonization between people,

technologies of work, machinery and equipment methods of work in order to satisfy the needs of customers.

One model for designing a quality system is called "house of quality" (Chepurnoska [9]). In this model the fundamental pillars of the house represented by standardization, statistical methods for preventive quality control, cost analysis, education and motivation. House is based on measuring the quality from which we receive information about the level of quality that we get. Roof of the house is management that protects the pillars and the base.

2.3.3 Concept and model introduction of quality system

The initial methodology for the introduction of quality system consists of combining two or three compatible concepts (and Chepurnoska Chepurnoski [10]), as this concept which is compatible: **the concept of the circle of quality** (quality circle, QC) and **the concept of causes and consequences** (cause and effect, CE). Both concepts applied to every level of the pyramid of hierarchical management in an organization by defining all the elements and factors relevant to the execution of tasks by all employees to create **the model for the introduction of quality system** called QC-CE-pyramid mode.

The concept of quality in the circle of literature known as the **PDCA cycle** (plan-do-check-act) should be applied at each stage of production.

Concept or diagram of the causes and consequences (Ishikawa, [12]) is suitable for inclusion of all elements and factors that are important to perform the task.

The order form of questions that are essential for carrying out the assignment: "What", "Who", "How", "When", "Where" and "Whom"?

Actually it is the basis of creation the standard operating procedures (standard operative procedures, SOP) in the form of current maps, shown in Figure 2.

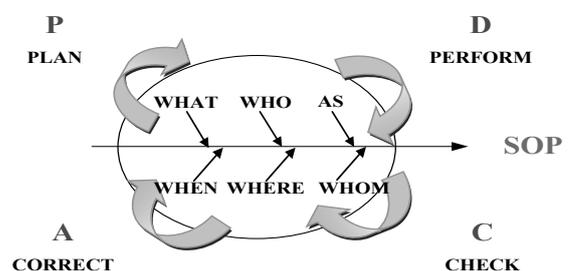


Figure 2. QC-CE approach in preparation of SOP

The design on a standard operating procedure on the selection process of the bread production "**Working Guide for selection and stacking bread**" is shown in Figure 3. The procedure consists of several activities aimed at selection of bread after baking performed for detection of products that have inconsistent quality.

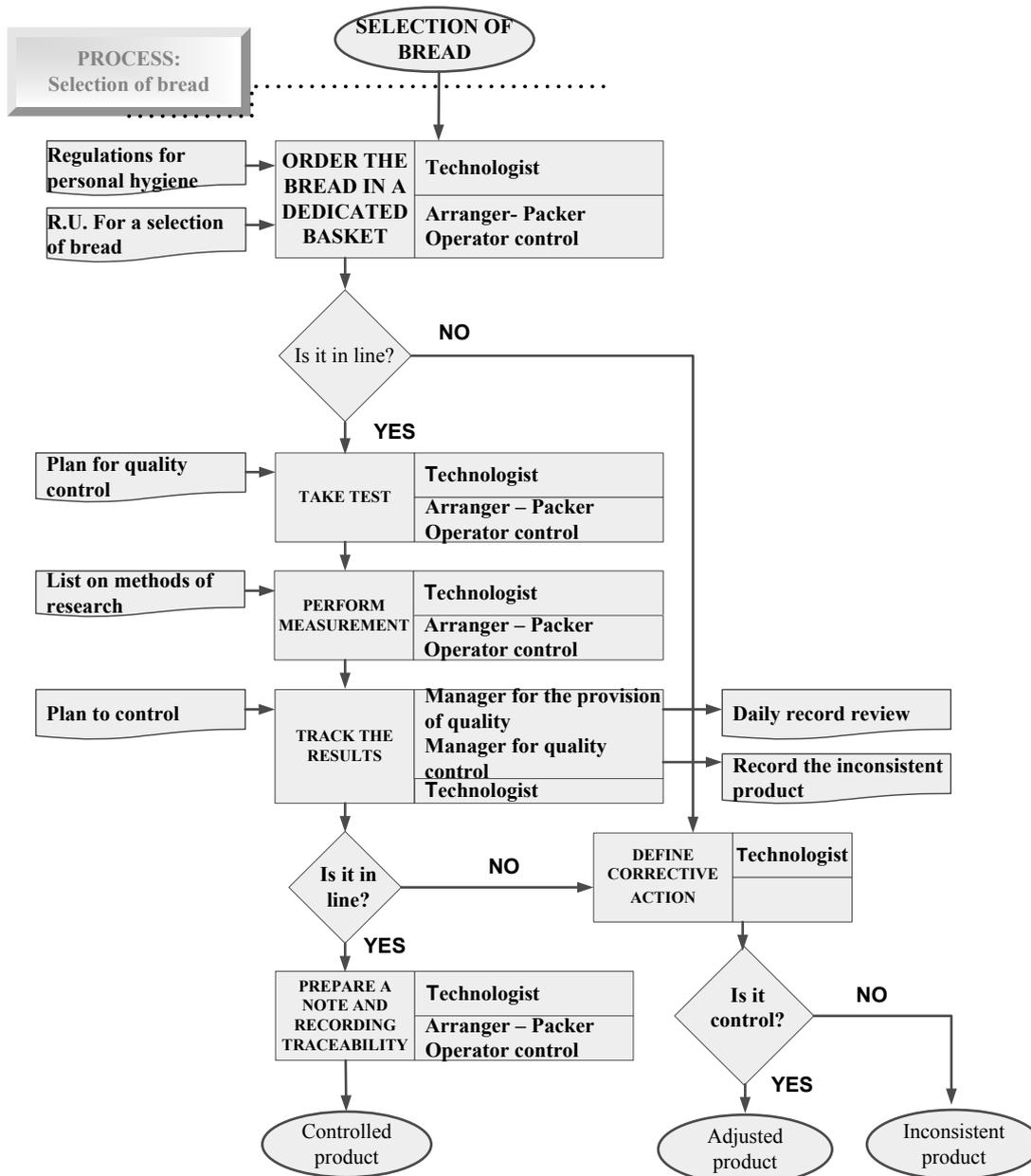


Figure 3. Projected standard operating procedure of selection of bread

For a definition of SDR are necessary stages from production being associated with certain documentation which should provide definition of the projected level of quality as a verification and validation throughout the manufacturing process.

All manufacturing employees in the civilian and **military organizations** have their own responsibilities and obligations under the standard operating procedures by defining the obligations and duties of employees ensures that all activities are carried out as planned. **It is the foundation of the system for quality management.**

2.4 The quality and standards

The standards are represented on universal language in the world of business that helps properly and fully understanding the people or a leader who says **“what”** should be done to have a quality system. When it does not answer the question **“how”**, to do because there is no universal model of quality system.

How do you get a quality system depends on the activity of the organization, the technology of manufacturing process, technical equipment, personnel structure and others. The standards are a compromise agreement

between production, trade and consumers in one country at a certain time period.

Standardization is a flattening of the operations whose final product should meet certain qualities or standards. With the introduction of standards allowing comparisons on specific grounds that objectivity is achieved.

2.4.1 Specifics of the standard ISO 22000:2005

Standard BS EN ISO 22000:2005 is **the basic standard** for achieving security in the technology of the food industry. With its introduction is achieved: an interactive communication system (compatible with ISO 9001 standard), used the principles of HACCP standard.

Performs integration of standards: ISO 9001 and HACCP. In this way the standards ISO 9001 and HACCP in one integrated concept of food security to: the provision and implementation of quality of products, managing production processes, use of procedures to reduce risks and increase the safety of final products in terms of presence of biological, chemical and physical agents and reduce production costs.

The HACCP standards govern the security of the food in all links from production to storage and transport, which made protection of users (clients).

3. Conclusions

- The determination of every civil and military organizations, that are part of the road that passes food from hers production to the end user, should be the provision of products and services that will fully satisfy the demands of consumers for quality and safe food.
- The race and the survival of the modern market conditions, winners will be represent those organizations that have accepted the new approach to quality expressed by introducing a system for quality management.
- That signifies in every civil and military organization the determination to continuously learn and change in order to improve all aspects of the operations.
- Quality should be understood as a continuous phenomenon which is unlimited to the promotion or its endless process or in that sense we saying that "Quality is a journey but not a destination".
- In future, if the organizations want to ensure the quality and security of the food, they must introduce a quality system according to standard BS EN ISO 22000:2005, who integrated the standards ISO 9001 and HACCP, which provides quality and security production in the food industry, through identification, analysis, evaluation and control of

hazards prior to their appearance.

- The concern for quality is the task and commitment at the highest level of leadership that defines roles and responsibilities of all employees in the organization.

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