

**Aleksandar Marić<sup>1)</sup>**  
**Slavko Arsovski<sup>2)</sup>**  
**Olga Ristic<sup>3)</sup>**

1) Fakultet za poslovno  
industrijski menadžment  
Kruševac, mail:  
alekmaric@gmail.com

2) Mašinski fakultet  
Kragujevac, Sestre Janjić 6,  
mail: cqm@kg.ac.rs

3) Tehnički fakultet Čačak,  
Svetog Save 65, mail:  
olgar@tfc.kg.ac.rs

## QUALITY MODEL OF BAKING INDUSTRY IN THE REPUBLIC OF SERBIA

**Abstract:** *Due to changes in policy and organization of the economy, which today is our reality, the atmosphere of competitiveness and privatization of management of the firm who accepts a job, as quality top priorities, may be a change in work culture and implementer of the overall efficiency and the company. Therefore will affect and improve the quality of the community. Model quality bakery industry in Serbia encompasses primarily the interests of all stakeholders. Based on the current state of the bakery industry, thereby respecting the global trends in the field of food industry, described the model provides guidelines for development concrete bakery in our area. Realization of competitive advantage in the market can be achieved by forming clusters, where the initiative should come from the bakery management organizations.*

**Keywords:** *Quality of Organization, Quality of Industry, Stakeholder, Cluster*

### 1. INTRODUCTION

The concept of quality has three dimensions: market, business, quality of life (life). Quality of life is most difficult to define and depends on the culture general level, level of science and technological development, gross national income and covers health and safety, environment protection, and natural resources conserving. The final goal in the field of quality is the quality of life - quality people.

Comprehensive implementation and quality improvement should contribute to achieving the overall quality of life improvement, which involves the improvement of living standards, environmental protection and occupational health and safety. Baking industry has a special place as seen in the light of these aspects. Bread has long been the symbol of

our area social peace, as the most consumed food product has a direct impact on the quality of human health, and therefore the quality of life.

Organization in baking industry are summarized all the key processes of critical success factors and their related processes with a more extensive view of quality. The key processes that determine the bakery industry are: procurement and storage, production and distribution, and finally are sales.

In this paper, the study relates primarily to baking industry organizations in Rasinski district is characterized by:

- Low level of utilization of installed capacity,
- Stagnation in production,
- Deterioration of production equipment and vehicles,
- Low quality of the line parameters
- Relatively small range of industries,

- Incompetence and insufficient number of personnel in relation to the number of plants,
- Low level of knowledge innovation,
- Absence of specific processes, functions
- Increase in external processes especially in small bakery operation,
- Low level of standardization,
- Continuously variable quality of products.

Baking industry has a wide range of products that are sold daily in market, and whose products quality evaluated by members of all ages. Constant product quality is difficult to maintain. Position in the market are difficult to acquire, but very easy to lose. When it comes to so sensitive production and strong competition, as is the case in baking industry, in order to maintain the existing position is necessary to maintain existing levels of competitiveness. Competitiveness is usually expressed through three main factors: quality, time and price. These factors usually are the main criteria why consumers choose certain products. However, consumers are accustomed to the common taste, with already formed criteria of quality. Uneducated consumers for quality often do not know themselves exactly what they want.

Analysis of logistics costs participation in total company revenue in the USA, showing that foods take a stake of 29.6%. In the UK over 30% of the working population engaged in the implementation of these processes, while the implementation of these processes occurred 55% of all personal injuries.

Implementation of standards on food safety in our country, which should become part of the legislation by 2009 year, would ensure continuity of quality.

## 2. BAKING INDUSTRY STAKEHOLDERS

Individuals and groups interested in performance and results of operations are stakeholders. Baking industry stakeholders can be:

Internal stakeholders:

- Owner of the company,
- Management of the organization,
- Employees,
- Shareholders,
- Board of Directors.

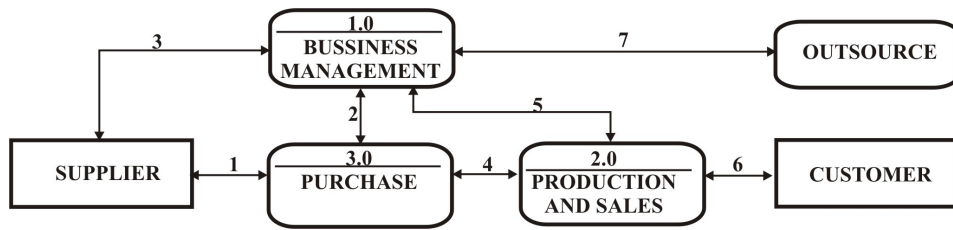
External stakeholders:

- Banks, insurance companies,
- Scientific-research organizations,
- Consumer associations,
- Trade unions,
- Media,
- State and local governments, regional chambers,
- Funds for employment, Labour market,
- Suppliers of products and services (contractors, suppliers),
- Facilities for control and safety products and protection of health,
- Consulting firms, educational institutions,
- Market (customers, users, trade).

Analysis of stakeholder relationship and organizations in the industry can be used to form models of quality bakery industry.

Baking industry contains all producers of bakery products as well as all interested parties (stakeholders) for this type of production.

Bakery plants are divided by the volume of production and size on industrial, medium and small. The criteria we used here are number of employees and production equipment. Characteristic, the most common model of quality organizations in baking industry is given in Figure 1 [1], which is the basis for creating models of quality bakery industry.



**Figure 1 - The quality model of small bakery plants organizations (production and sales within the same facility "on site") [13]**

Formation models of quality bakery industry are based on the model analysis bakery industry stakeholders, and to model the connection of external stakeholders (environment) and business functions of the organization. Together with the model of organizational quality, these models have a defined picture of quality, i.e. model of bakery industry quality.

Baking industry stakeholders have already been presented, however, their relationship with the organization, the importance of their participation (contribution) for the organization itself as well as interest for which they participate, or why they are interested in, shown by the model analysis of stakeholders.

The model links the external stakeholders (environment) and business functions of the organization is used to explain how the nature of action between external stakeholders and organizations. It will be connecting horizontally between the entities of the organization in relation to connection with each individual stakeholder.

Achievement of competitive advantage in the market can be achieved by clusters forming. Clusters, according to the authors, represent the potential for improving the quality of operations in the bakery industry. Given the under-developed awareness of managers of the Serbian economy on clusters in the paper is presented the strengths and weaknesses that affect the initiative to form clusters.

### 3. BAKING INDUSTRY STAKEHOLDER MODEL ANALYSIS

A complete representation of stakeholder baking industry includes:

- Identification of all stakeholders (internal and external),
- Description nature of the stakeholders observed relationship and PPS, as a first step in forming the model analysis,
- Forming model analysis of stakeholders (the nature of relations, contribution, interest),
- Determination of business functions (processes) through which the link with PPS.

In order to understand more completely the nature of relationships between activities, contributions and interests of stakeholders is necessary to form a stakeholder analysis model bakery industry. According to estimates by, on the basis of given parameters can be optimized to perform qualitative analysis of all interesting parties. Analysis parameters were determined by the closeness of activities and the contribution that is largely complementary. Order stating interest was made on the basis of criteria of priority importance to each stakeholder individually. The general model analysis of stakeholder bakery industry is shown in Table 1.

Interested party (Stakeholder)	Activities (nature of relationship)	Contribution	Inerest
Business owner	Strategic decisions	Business company improvement	Profit / employee, satisfying the needs of status (success, prestige) and the need for self- assertion
Organization management	PPS management	Business company improvement	Profit, satisfying the needs of status (success, prestige) and the need for self-assertion
Employees	Job performance	Suggestions for improving the work process	Profit, satisfying the needs for self-assertion
Shareholders	Participation in all activities of the PPS, which can be track	Identifying weak points and suggesting improvements	Profit, satisfying the needs for self-assertion
Managing board	Create a business policy, the management choice	Business company improvement	Profit / employee, satisfying the needs of status (success, prestige) and the need for self- assertion
Banks, insurance companies	Granting loans, issuing insurance policies	Financial resources assurance, and safety of employees	Social responsibility, according to customers confidence, profit
Scientific-research organizations	Research the requirements and community	Proposed actions to enhance PPS	Social responsibility, according to customers confidence, profit
Consumer associations	Monitoring all elements of quality in the market	Recognition of "poor quality" and weak points between providers and users of services	Protection of consumer rights
Unions	Monitoring and analysis of the relationships between employees, management and markets	Assurance of needs and employees rights and protecting their interests	Social responsibility to organizations and community
Media	Promotional advertising as required by the patron	Informing the public, strengthening the competitive positions of companies	Profit, achieve and strengthen cooperation to customers
State and local governments, regional chambers	Monitoring the activities and operations of companies	Encouraging the development of features, innovation, competition between firms	Creation and development of socially responsible and socially stable communities, profit
Funds for employment, labour market	Aadequate and efficient satisfy companies needs	Recommendations for frame selection, the contribution of HRM - Human Resource Management	Social responsibility to organizations and community
Products suppliers and services (contractors, suppliers)	Contracting, supply and procurement of raw materials	Quality assurance of all activities	Profit, achieve and strengthen cooperation to customers
Institutions for products and health control and safety	Contracting, planning control the scope of their activities	Providing quality services in the field of their activities (hygiene and health services)	Profit, achieve and strengthen cooperation to customers , social responsibility
Consulting firms, educational institutions	Activities as required by users and communities	Improvement of technical practices and educational programs in education	Profit, social responsibility, according to customers confidence
Market (customers, users, trade)	Concerning views the product, and manufacturer	Connecting user and production over sales	Profit, meeting the needs for safety and physiological needs, meeting the needs of clients

*Table 1- Bakery industry stakeholders model analysis*

**4. THE EXTERNAL STAKEHOLDERS (ENVIRONMENT) MODEL LINKS AND BUSINESS FUNCTIONS**

In addition to described the nature of external relationships that stakeholders have with the business system, it is important to differentiate the business functions (processes), which are the connection to the system.

In Table 2 is represented external stakeholders and business functions through which the link mentioned entities. Specifically, the table is given to investigate the association of stakeholders and systems, which are realized directly or indirectly.

Most direct connection is achieved through top management, which is mainly in cooperation with the management of finance and human resources (general business) fully define the nature of connection (i.e. specific activity). Therefore, initiatives and defining the

relationship goes from top to bottom (top-down).

However, sectors like: development, quality, procurement, sales, marketing, often makes direct connections with stakeholders, so that the initiative is transmitted hierarchically speaking from bottom to top (top down).

Depending on the of management hierarchy accountability, and the authority of the manager, these links may be excluded from top management decision-making and the connection between top management and the aforementioned sector reduced to the exchange of information and the necessary consultations. In this way it emphasizes autonomy in deciding the individual sectors.

In order to present a satisfactory picture, with the ambition to not only keep on the analysis of a PPS, combining with the most practical examples, link analysis function of PPS and external stakeholders access to just this way.

Interested party (stakeholder)	Management	Accounting and Finance (MFR)	Human Resource Management (HRM)	Acquisition	Sales	Quality	Development	Marketing
Banks, insurance companies	+	+	+	-	-	-	-	-
Scientific-research organizations	+	+	+	-	-	-	+	-
Consumer associations	+	-	-	-	-	-	-	-
Unions	+	-	-	-	-	-	-	-
Media	+	+	-	-	+	-	-	+
Central and local government, regional chambers	+	+	+	-	-	-	-	-
Funds for employment, labour market	+	-	+	-	-	-	-	-
Suppliers of products and services (contractors, suppliers)	-	-	-	+	-	-	-	-
Institutions for the control and safety products and health	+	-	-	-	-	+	-	-
Consulting firms, educational institutions	+	-	-	-	-	-	+	-
Market (customers, users, trade)	-	-	-	-	+	-	-	+

**Table 2- External stakeholders (environment) model connections and organization business functions**

## **5. CREATING CLUSTERS FOR IMPROVING QUALITY OF OPERATIONS IN THE BAKING INDUSTRY (AN IMPERATIVE OF THE FUTURE)**

A cluster is a group of related companies or associations of producers from one branch. It also includes producers of raw materials, as well as governmental and non-governmental organizations, scientific and educational institutions and they together resolve common problems. They promote business, achieve success in a particular business segment, and above average competitiveness and promotion in their country and abroad.

The aim of merging in clusters can be:

- Increasing the competitiveness of domestic products in domestic and international markets, as well as providing the conditions for market expansion (increase of exports);
- Better and more efficient use of domestic resources (natural, production and personnel);
- Initiate and support cooperation between companies, educational and development institutions;
- Connecting with the funds to finance innovative projects;
- Training and education, as well as many other interests as a member and regions, including the government.

Since clusters are closely cooperating with the government, enterprises get the possibility of greater impact on improving the regulatory and institutional framework for business, eliminating administrative and other barriers, thus improving the competitiveness of the entire economy.

Through the goal of association under the concept of clusters is defined and the quality, quantity and continuity of the product and how to achieve market requirements and satisfy the customer. The success of clusters based on mutual trust and respect for the principle. Clusters

should be organized where the first results can be achieved. It should be noted that the cluster of long-term project and as such is complex. The cluster is oriented strategy, which involves the development of a sector, industrial sector, in a certain area for certain companies, members of the cluster.

Within the cluster is possible to control the factors influencing the strategy of the company. Thus, clusters can become "generators" of strategic a new way thinking in the national economy. We can tell the difference between clusters and associations. Association members provide certain services, certain information, while clusters work strategic to define exactly which products must be produced, for a given target area and know exactly who are target customers.

Cluster connected by common needs in the area of procurement, customers, specialized services and personnel resources, networking and so achieve above average competitiveness, and thus the success of a certain segment of the industry. Although the advantage of clusters enter the international market, it is crucial to ensure the functioning of clusters in the national market.

Advanced economies do not compete today with cheap labor or exploitation of natural resources. They are compete knowledge and technology, and the creation of competitive advantages play a key role in research and development, finance and professional group of individuals that is easiest to assemble within the cluster.

A prerequisite for a successful cluster is the knowledge and application of standards of skills that are charged, but the cluster and faster and cheaper to come to them. Through the cluster is easier, faster and cheaper to achieve all that is needed individual companies: obtaining quality certifications that ensure finding the right buyer for the right product, branding of products or industries, training workers,

new technologies, research, promotion design, pre-production and placement. Organized in clusters, initial cluster member income increases by 50%. These organizational concept, slowly are being accepted by the manager of Serbian economy. The reasons are mutually distrust, lack of understanding of end-user

clusters, weak analysis of competitiveness, lack of insight into the cost analysis, inadequate monitoring of commercial banks, unknown sources of funding for new projects as well as many other weaknesses that adversely affect the initiative to form clusters.

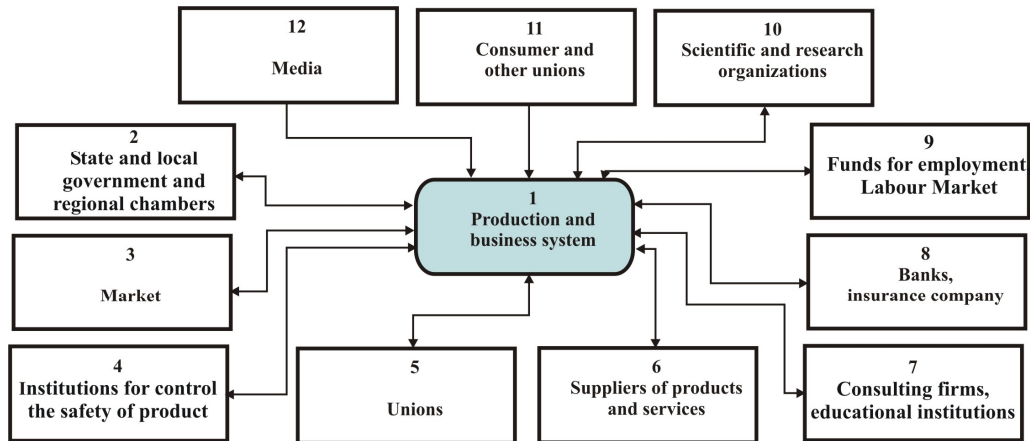


Figure 2- The general model of bakery stakeholder [5]

## 6. CONCLUSION

The model of organizations quality in baking industry, is makes an initial step in the formation of quality models of bakery industry in the Republic of Serbia. The analysis of the nature of relationship with the environment and the organization simultaneously and the role of all stakeholders from the point of activity,

contributions and interest with the proposed model, a model is determined by the quality of baking industry. The research, conducted primarily at the regional level, and the results presented in this paper indicates that cluster formation is a potential for improving the quality of operations in baking industry, which should be a priority task for managers.

## REFERENCES:

- [1] Arsovski, S.: Menadžment ekonomikom kvaliteta, Mašinski fakultet Kragujevac, Centar za kvalitet, Kragujevac, 2002.
- [2] Arsovski, S.: Menadžment procesima, Mašinski fakultet Kragujevac, Centar za kvalitet, Kragujevac, 2006.
- [3] Arsovski, S.: Pristup unapređenju kvaliteta i regionalnog razvoja, Festival kvaliteta 2006., 33.Nacionalna konferencija o kvalitetu, Zbornik radova (str. A-1-A-6), Kragujevac, 10.-12.maj 2006.
- [4] Backović-Jermić, S. , Stamenović, D. , Đorđević, Z.: Marketing razvojni koncept u integrisanim menadžment sistemima, Festival kvaliteta 2007., 34.Nacionalna konferencija o kvalitetu, Kragujevac, 08.-11.maj 2007.

- [5] Marić, A.: Unapređenje kvaliteta logističkih procesa u pekarskoj industriji, Fakultet za industrijski menadžment, Kruševac, 2009.
- [6] Marić, A., Đorđević, Lj.: Analiza stanja proizvodnih pogona pekarske industrije u Republici Srbiji u tranzicionom ambijentu – uticaj komplementarnih tehnika i održavanja na kvalitet proizvoda, Konferencija održavanja “ KOD – 2006” sa međunarodnim učešćem, Tivat, 27.– 30.jun 2006.(zbornik radova), Crna Gora
- [7] Marić A., Arsovski, S., Đorđević, Lj.: Logistički zadaci i kvalitet proizvoda u proizvodno poslovnim sistemima, Logistics problems and product quality in production business systems, IMK – 14 istraživanje i razvoj, Časopis Instituta IMK “ 14.oktobar” Kruševac, broj (28-29) 1-2/2008., (str.173-178 ).
- [8] Marić A., Đorđević Lj., Robajac, O.: Technological process influence on product quality, Proceedings of 14rd International Scientific Conference , CO-MAT-TECH 2006,Trnava, 19.-20.October 2006., page (817-823), Slovačka
- [9] Marić, A., Đorđević, Lj., Arsovski, S.: Quality analysis techniques and logistics in technological systems, Proceedings of 8rd International Conference “RESEARCH AND DEVELOPMENT IN MECHANICAL INDUSTRY”- RaDMI 2008, Užice - Serbia and Montenegro, 14. – 17. september 2008.(page 499 – 504)
- [10] Marić A., Arsovski S., Mastilović J.: Contribution to the improvement of products quality in baking industry, International Journal for Quality Research, Vol.3, No.3, 2009. (page 1 - 8), Center for Quality - University of Podgorica Montenegro, Center for Quality Univeristy of Kragujevac, Serbia.
- [11] Marić A., Arsovski S.: The Level of Customer Satisfaction as one of the Goals of the Quality of the Organization in the Bakery Industry, 4th IQC- International Quality Conference, Proceedings, (page 155-164) May 19th 2010, Center for Quality, Faculty of Mechanical Engineering, University of Kragujevac, Serbia
- [12] Mijailović S.,Marić A., Arsovski S.: Application Model Forecast in Production Management Process, 4th IQC- International Quality Conference, Proceedings, (page 75-82) May 19th 2010, Center for Quality, Faculty of Mechanical Engineering, University of Kragujevac, Serbia
- [13] Marić A., Arsovski S.: Model kvaliteta organizacije u pekarskoj industriji, A model of organization quality in bakerys trade, 36. Nacionalna konferencija o kvalitetu, Festival kvaliteta 2009, Zbornik radova (str. 206-213), Kragujevac, 20-22.maj 2009.

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