

## **METHODOLOGY AND RECOMMENDATIONS FOR IMPROVING THE COMMERCIAL PROCESSES OF CATERING IN HOSPITALS**

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**Abstract.** In the modern world of stormy economic, political and value crises, healthcare becomes significant for the development of every society. This is because the ever-increasing market globalization, regionalization and digitalization of the economy requires new and healthy human resources. Thus the necessity of an effective and expedient management of commercial processes in hospitals arises. It is a matter of radical, fundamental and drastic improvement of the values of the establishments and of the material resources concerning the commercial healthcare processes. In particular, this study observes the evaluation of commercial processes affecting the private hospital nutrition in an environment of deepening crises. This article examines the basic methodology aspects as well as recommendations are given in order to improve commercial processes after having performed a framework analysis of the main nutrition processes in healthcare facilities and after having established the basic constructs for the formation and implementation of a nutrition policy through the prism of the complex reengineering theory.

*Keywords:* reengineering; processes; hospitals; food

### **1. Introduction**

The relevance and importance of patient meal service, when compared to many clinical activities, is not always highly appreciated and is often seen as an area where budgetary cuts will have the least negative impact. The provision of a foodservice system that optimises patients' food and nutrient intake in the most cost efficient manner is therefore seen as an essential quality.

Over the last decade, the concept of “business process” has entered the business mainstream. Outstanding organizations in virtually every industry have discovered that by harnessing, managing, and redesigning the organization business processes, establishments can achieve impressive improvement in their business performance and their customer service (Azemovic & Music 2010) Process reengineering, according to Talwar (1993), is “the ability to re-think, re-structure and rationalize business structures, processes, methods of work systems management and external

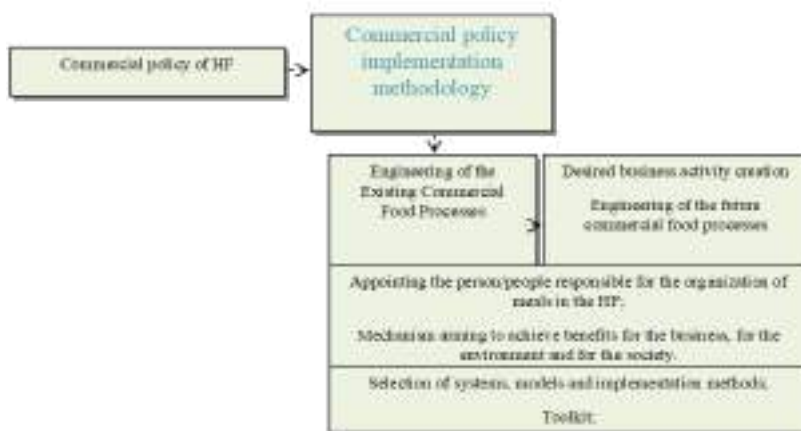
relationships through which we create and deliver value”. Attaran and Wood (1999) comment that “the whole basis of the process reengineering is the search for improvement through a rapid and significant contribution to the organizational performance”.

Petrozzo and Stepper (1994), on the other hand, believe that the process of reengineering involves the simultaneous redesign of processes, organization, and their supporting information system to achieve radical improvement in time, demand, cost, quality, and the customers’ attitude towards the company. Lowenthal (1994) describes it as a fundamental examination and redesign of the operational processes and organizational structure. The organization’s core competencies are within the focus of the study. The goal is to achieve drastic improvement in the organizational performance – a core component of process reengineering. The development of this management, in addition to enabling companies to concentrate on radical, fundamental, drastic changes, mainly of the production processes, today enables, through the so-called complex reengineering (CR), to ensure balanced benefits for both business and nature, as well as for the society and to improve processes. (Hadjiev 2022). Some global changes in present-day business, such as the growing importance of services, knowledge, creativity, and digitization, are creating a new kind of economy. In this new economy, resources such as knowledge, creativity, company reputation, and innovation become increasingly important. (Idriz & Geshkov 2023)

## **2. Main stages in the complex reengineering methodology**

This study has been performed in the Kaspela University Hospital – Plovdiv. The methodology proposed by its author is based on the theory of complex reengineering (CR) and the results of the practical experience of leading world enterprises that apply reengineering successfully. The characteristic features of healthcare facilities (HF) and the processes related to hospital nutrition are taken into consideration.

According to the CR summarized technology for HF nutrition, the framework for the implementation of the trade policy includes the engineering of the existing nutrition processes and the engineering of the future trade nutrition processes. These processes can be presented by Figure 1 below:



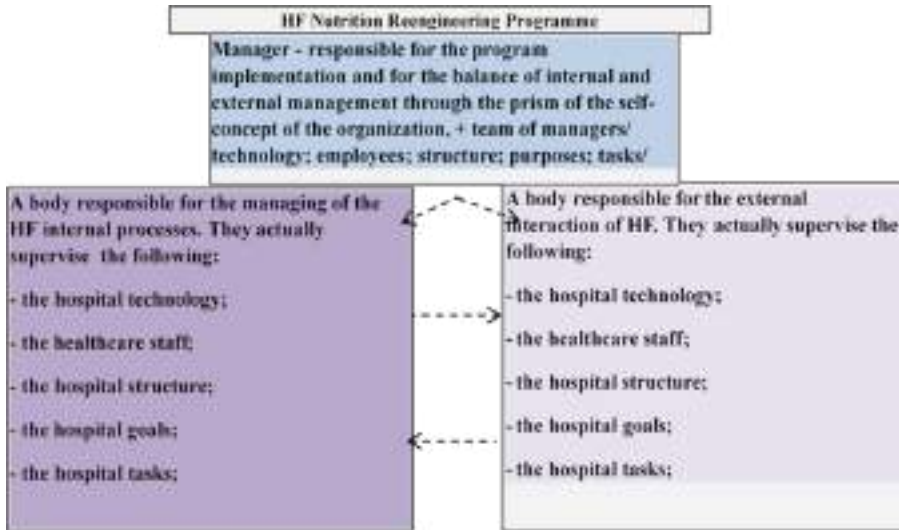
**Figure 1.** Summarized structure of the HF trade policy implementation

Each HF, according to its profile and nature, is free to choose one or another concept, one or another value that is to be included in its trade policy (TP) value program but according to the philosophy of the CR, it is necessary to be aware of the fact that there is no better value program than that which is based on ideas established to achieve the patients' well-being as well as to create natural and social benefit (Hadjiev 2020). According to this theory, the value program is formed by the subject's values, including by the value system of the lead person. As a HF set of values, it also defines the activity engineering approach. The analysis of the existing food business processes indicates which activities need to be improved as a priority in order to achieve the desired future nutrition business.

The first step of the methodology applied to this trend is related to improving the organizational – management structure and to attracting managers and doctors who are to accept the values and the vision of the owner, related to the HF strategic goal, with the objectives and main TP (Trade Policy) means.

There are many different opinions and definitions concerning the organizational structure. This structure is the arrangement of duties necessary for the work performance. This can be best represented in the organizational chart below (Jackson & Morgan, 1982). In another meaning, “the structure is the architecture of the business competence, leadership, talent, functional relationships, and arrangement” (Wolf 2002). Walton defined the structure as organizational basis, including hierarchical levels and scope of responsibilities, roles and positions as well as integration and problem solving mechanisms. (Walton 1985)

The study reveals that the reengineering intervention at this level, consistent with the objectives of the CR (achieving balanced benefits for the HF, society and nature), necessitates the hospital owners to form a vision and strategic goal aligned with the following reengineering management structure (Figure 2):



**Figure 2.** HF Reengineering Management Structure

It is recommended that, when developing the reengineering program for the HF management, it needs to have the following vision, strategic goals and tasks for their implementation:

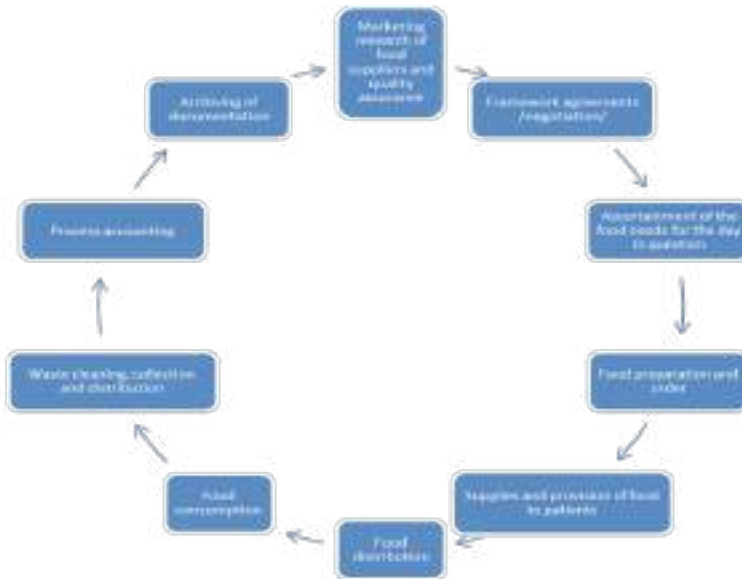
- The HF vision – actively and proactively to carry out exclusive activities in the hospital, which will be a continuous source of high values and will contribute to the development of the Bulgarian healthcare and the people’s well-being;
- The HF strategic goal is people’s health that will increase the potential value of what they can add to the national and global economy.
- The tasks for the implementation of the vision and the strategic goal concern the integration of achievements in the field of competition, value innovation and divergence, focusing on policies, technologies and tools of the CR to accomplish balanced benefits for the business, people and nature.

In order to successfully introduce a reengineering methodology, its implementation necessarily begins with the issue how managers understand the current state of the enterprise and what the models that they describe the activity of the healthcare center are. In the HF, it is not particularly appropriate to describe it through traditional organizational structures, as they cannot effectively show the connections

and relationships of all elements. Therefore, the management structure affecting HF nutrition can act as a two-level shuttle. The first level is the HF functions, and the second level is the activities specific to the respective function. For example, the food marketing function would have a second level related to HF customer service regarding food quality, pricing, products, advertising, communications, sales, design, etc.

It is appropriate to observe that this first step of the methodology is most significant for its successful implementation by introducing a controlling unit into the HF structure.

The second step of the methodology concerns the requirements related to the definition of the HF situation with respect to the nutrition processes and the selection of those with poor indicators that need to be improved. Actions at this step, according to the CR, appear to be linked to the following processes that affect nutrition (Figure 3):



**Figure 3.** Processes affecting nutrition in HF

The HF's business process architecture, as well as that of any other enterprise, is defined as the type of processes it contains and the connections between them. We can define the design of the whole enterprise or just a part of it. HF's which have a comprehensive view of how their activities relate to each other can easily identify tasks or processes that add the most or least value to a given project and process. This typically enables them to measure, define, report and discuss process

performance to ensure that they deliver value to customers. HFs can also determine adjustments that can enhance their value-adding steps and provide supporting functions for the activities that create less value in each of the following:

- marketing research for food suppliers and provision of high quality food;
- framework agreements /negotiation/;
- defining food necessities for the day in question;
- preparation and ordering of food;
- delivery and readiness to provide food to patients;
- food distribution;
- nutrition;
- waste cleaning, collection and distribution;
- process accounting;
- archiving of documentation;
- implementing a system that is adaptable to changes.

The survey, carried out in Kaspela University Hospital – Kaspela, has revealed that special attention is to be paid to the process of the patients' nutrition.

The third feature of the methodology concerns the generating of ideas to improve the practice related to nutrition. The brainstorming approach is applied to develop ideas and, through questionnaires, answered by employees and patients, the search for a solution to improve each step of the nutrition processes is initiated /including ways to improve the conditions where patients have meals, how to improve the hygiene, what the procedures, requirements and inspection for delivering of food are, improving the working conditions for the employees.

Actions related to this step, on one hand, can be distinguished as separate processes (even those that have a small share of HF costs), and on the other, even for these processes, ways to achieve their optimization can be sought. In this way, the actions could also be directed as a matter of priority to problems of HF major importance. These actions can affect these two trends:

- First trend: Processes following the patient from their first contact with the hospital staff to their discharge;
- Second trend: Commercial processes affecting the entire nutrition cycle and technological devices in each feeding process.

The methodology requires valuation on a scale from 1 to 10/1 poor, 10 excellent/, made by the patients and the doctors and nurses for each of the two indicated trends, and it can also be applied to each stage of the corresponding trend.

The first trend concerns processes following the patient from their first contact with the HF to their discharge. In this direction, the three-level CR model is applied to all stages of the patient's relation with the HF:

- Hospital admission of the potential patient;
- Admission of the patient for treatment;
- Treatment of the patient;

- Patient discharge;
- Consulting patients after leaving the HF.

The second trend concerns business processes in the broadest sense with respect to the prism of nutrition. In this direction, the three-level model is applied to all stages of the HF commercial process.

- System for ordering food;
- Food supplying system;
- Food distribution system;
- System for the use of food;
- System for cleaning and maintaining the equipment;
- System for accounting and archiving the documentation affecting the HF catering processes;
- System to adapt to changes.

The summarised results of the seven stages in this trend allowed the drawing of conclusion that priority efforts in HF should be applied to improve the value of the factors according to the following model (Figure 4):



**Figure 4.** Second Trend Factors

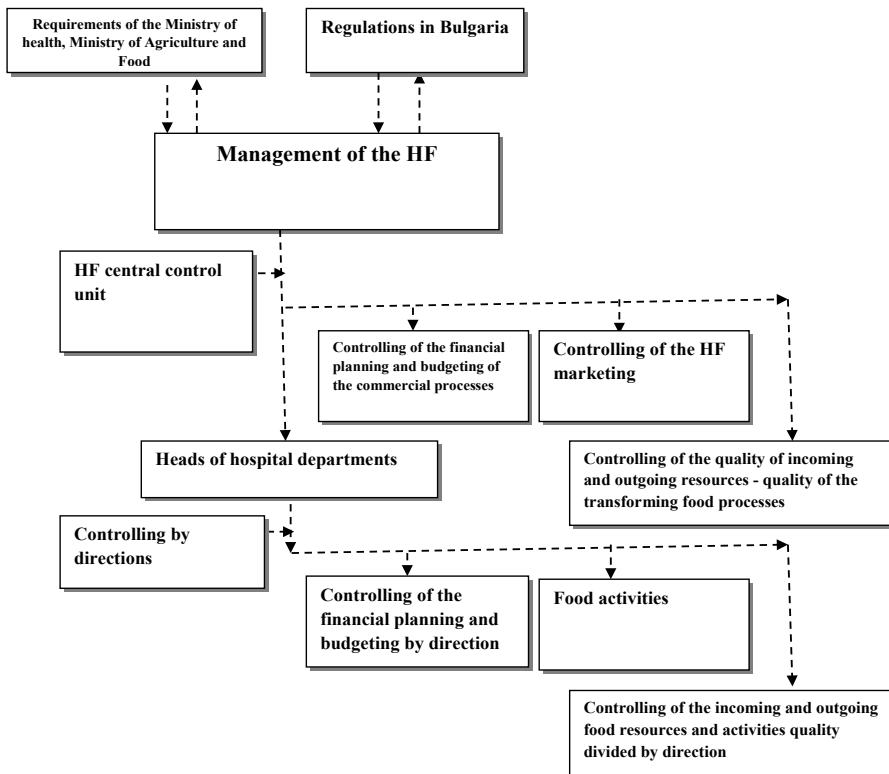
This analysis reveals that many of the factors displayed in Figure 4 harmonize with those included in the first trend. In this regard, if it is assumed that the significance of the above-mentioned factors is only one, then the calculation of the general coefficient of the state of the processes is a sum of the evaluations of the factors divided by their number. In the same way, we also calculate the total coefficient according to the desired values for the factors themselves.

### **3. Suggestion for improving the commercial processes of catering in HF**

Given the above, generating ideas for a change requires achieving of the desired values and at least approaching the average value. This gives a reason to prioritize

the efforts related to the improvement of the commercial processes and the application of the methodology, to focus on specific activities ensuring the improvement of the TP in the HF.

Likewise, for the management of processes and changes affecting TP and nutrition in HF through the prism of a three-step methodology, the main suggestion is the creation of a controlling unit. Considering this guidance tip, the organizational structure responsible for the implementation of the methodology in the relevant HF can be represented by Figure 5 below:



**Figure 5.** Organizational structure used for the application of the methodology through the prism of HF controlling

#### 4. Conclusion

At first glance, catering in HF is not a major process. But the definition of the situation through CR reveals that it is an important prerequisite, both for quality treatment of the patients, as well as for improving the management of a number



of processes directly or indirectly related to it. This process in the HF has a multiplying effect and without it the activity in the HF is incomplete and impossible. Undoubtedly, the optimization of nutritious processes in hospitals affects the quality of all other hospital processes.

When developing the methodology applying the CR algorithm, a framework analysis of the main processes of nutrition in a specific hospital Kaspela University Hospital – Plovdiv was made and the importance of the main elements in their technologicalization was indicated.

As is known, according to the theory of complex reengineering, the two main constructs that form the commercial policy and the strategies related to it are: the values of HF and the values of the situation in which HF works or wants to work. In this regard, the main nutrition problems were revealed for the studied HF and their interrelationship with the improvement of these two constructs was substantiated. To begin with, it is recommended to use the Data Envelopment Analysis (DEA) method in HF to improve TP. A reengineering methodology in three main steps for the application of TP was developed and tested at Kaspela University Hospital. The research made it possible to substantiate the place of commercial processes of HF in the food chain and to develop a methodology tool, used to track the changes in the values of the main options related to the application of the methodology. Thus, in the process of developing and researching the three methodology steps, a project about the organizational structure (in which the controlling unit in HF has a high importance) and a model for the distribution of functional responsibilities when applying the methodology for controlling in HF were developed. (see Fig. 5).

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