

## MANAGEMENT MECHANISM AS AN INDEPENDENT ELEMENT OF THE FOOD INDUSTRY ENTERPRISE INNOVATIVE ACTIVITY EXPENDITURES MANAGEMENT SYSTEM

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### Abstract

Nowadays, ensuring the enterprise competitiveness both in the national and international scale, is not possible without implementing an efficient system for its innovation activity management. In the modern period, when a progressive recognition of the innovative economy key role increases worldwide, the cost management factor is of primary importance. The need for expenditure management stems directly from the costs' role, namely costs immediate engagement to the food industry profit formation process.

In food industry domain, both sustainable development and competitiveness of modern enterprises depends on the degree that enterprise, - using new ideas and technology-intensive technologies, - is able to produce products, and the degree of characteristics combination satisfying the consumer. In this regard the industrial production future success is associated with knowledge closely interlinked with innovations. For the effective use of innovations, required is a management system that will effectively manage the food industry enterprise's innovative activity. In today's conditions of knowledge economy development significant structural changes take place associated with the emergence of a management mechanism, embodying a key element of the food industry enterprise innovation activities costs management system, the element binding its other components and leading to their interaction. The objective necessity and practical significance of the food industry enterprise innovation activities costs management mechanism is due to its connecting role, both within the management system and between the managing and the managed subsystems. The food industry enterprise innovation activities costs management mechanism is a complex formation resulting from the connection and interaction of different functional and maintaining

system parts, classified according to the target goals and the managerial effects implementation prospects, since the management mechanism implementation concept widely depends on solving the question of food industry enterprise development goals and objectives. The growing role of innovation activities brings new requirements to the issues of choosing the most effective mechanisms for food industry enterprise innovation activities costs management, which requires attention to two main points inherent in innovation activity: the factor of time and its results.

Therefore, the skillful expenses management considered in relation to the incomes for which such costs are incurred, together with the novelty will give a double economic effect. The uniqueness of a particular enterprise in the food industry involves the formation of a specific mechanism for food industry enterprise innovation activities costs management, focused on the specifics of its activities and relationships, both internal and with the outside environment. All the above implies the need for further applied research.

**Key words:** *Management system, Management mechanism, Costs, Innovation activity, Food industry.*

### 1. Introduction

Nowadays, ensuring the enterprise competitiveness both in the national and international scale, is not possible without implementing an efficient system for its innovation activity management. In the modern period, when a progressive recognition of the innovative economy key role increases worldwide, the cost management factor is of primary importance. The need for expenditure management stems directly from the costs' role, namely costs immediate engagement to the food industry profit formation process.

The food industry innovative activity costs management should be comprehensive; in addition, managerial decisions taking and implementation in the field of expenditure, involves costs systemic consideration and assessment that determines the need to study cost management as a whole system.

A significant contribution to improving the enterprise innovation activity management has been made by such scientists as: Zakharkin, Zakharchenko, Illiashenko, Turylo, Filyppova [1, 2, 3, 4, 6, 7], and others. The recent research analysis has shown that in researcher publications any common list of elements that form a management system is still absent. Most controversial here is the question of management mechanism including into the management system. Some researchers believe that the management mechanism represents an independent component that should not be part of the management system; moreover, they consider management mechanism as an independent system. The others, on the contrary, believe that the management system functioning is impossible without the management mechanism making part of its structure.

In proceeding to our study, we preferred the variance when the management mechanism is considered as key element of the management system, as it is a connecting link between its system units as well as between the enterprise's managing and managed subsystems. The complexity and importance of the enterprise's innovation activity costs managing mechanism do impose the need for more detailed research.

This article purpose is to study and develop theoretical foundations of the management mechanism as the food industry enterprise innovation activity cost management system integral element.

## **2. Definition and characteristic of the management mechanism as the food industry enterprise innovation activity cost management system integral element**

### **2.1 System of innovation activity expenditures management at the food industry enterprise**

The whole management system includes both managing and managed subsystems formed by the management subject, i.e. enterprise's staff which in any way influences the costs formation, and the staff interaction mechanism, considered as a complex of administrative actions in relation to the management object, i.e. costs. The enterprise management mechanism is a part of a management system providing interaction between its managed and managing subsystems, which conditions, features and efficiency are determined by decision-making rules and procedures, as well as are influ-

enced by information taking into account the internal and external environment dynamics. It is the management mechanism that connects the entire enterprise with its resources (capabilities) thus providing a coherent, purposeful interaction of all other food industry enterprise management system elements, representing a system –in-a system that bears certain functions (Figure 1).

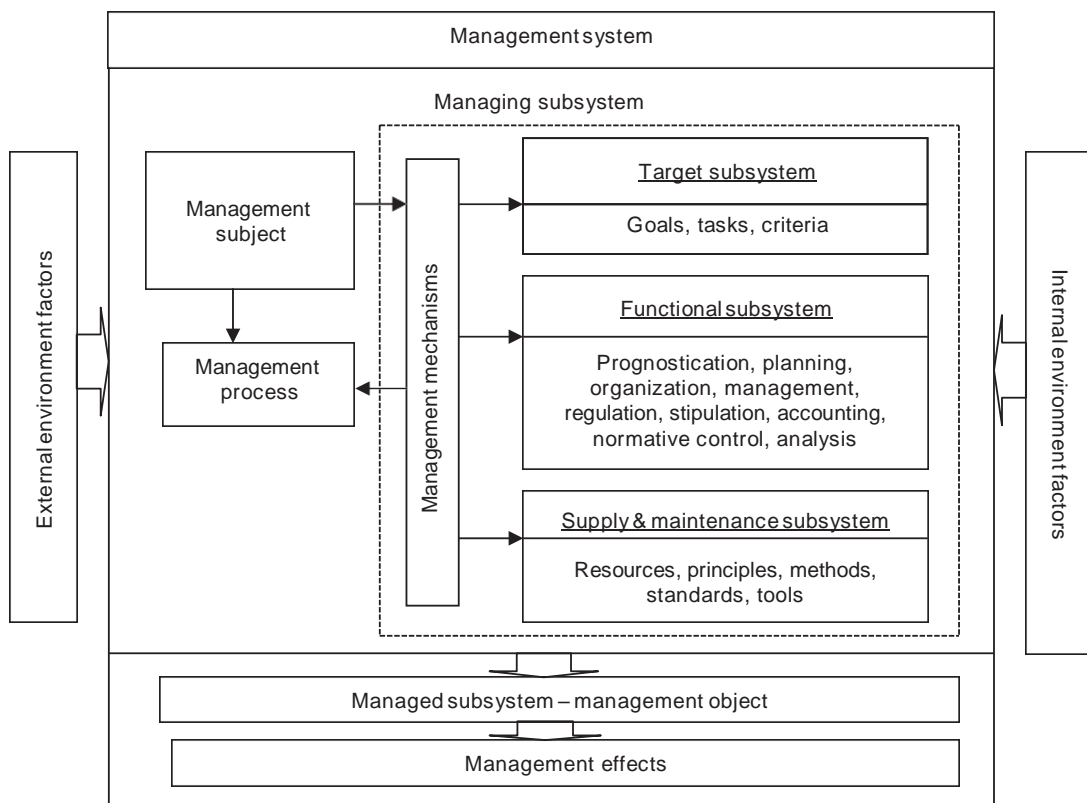
### **2.2. Food industry enterprise innovation activity influencing external and internal environment factors**

The cost management process implies identification and study of influencing factors. These factors are very diverse, but two main groups can be distinguished: internal factors and external environment factors. All internal environment factors at the food industry enterprise can be considered as a united factor of the enterprise's readiness to accomplish the predefined goal, therefore responsible both for timeliness and delay in the innovations launch on the market. The external environment factors at the food industry enterprise can similarly be both threats to effective innovations, as well as their favorable factors. There exist an infinite factors number, so a complete analysis of their combinations is impossible, therefore when determining the management mechanism functioning factors we distinguish those environmental factors that have the greatest influence on its functioning and determine its effectiveness. Refer to figure 2 for the factors bearing the most significant impact on the food industry enterprise's innovation activity.

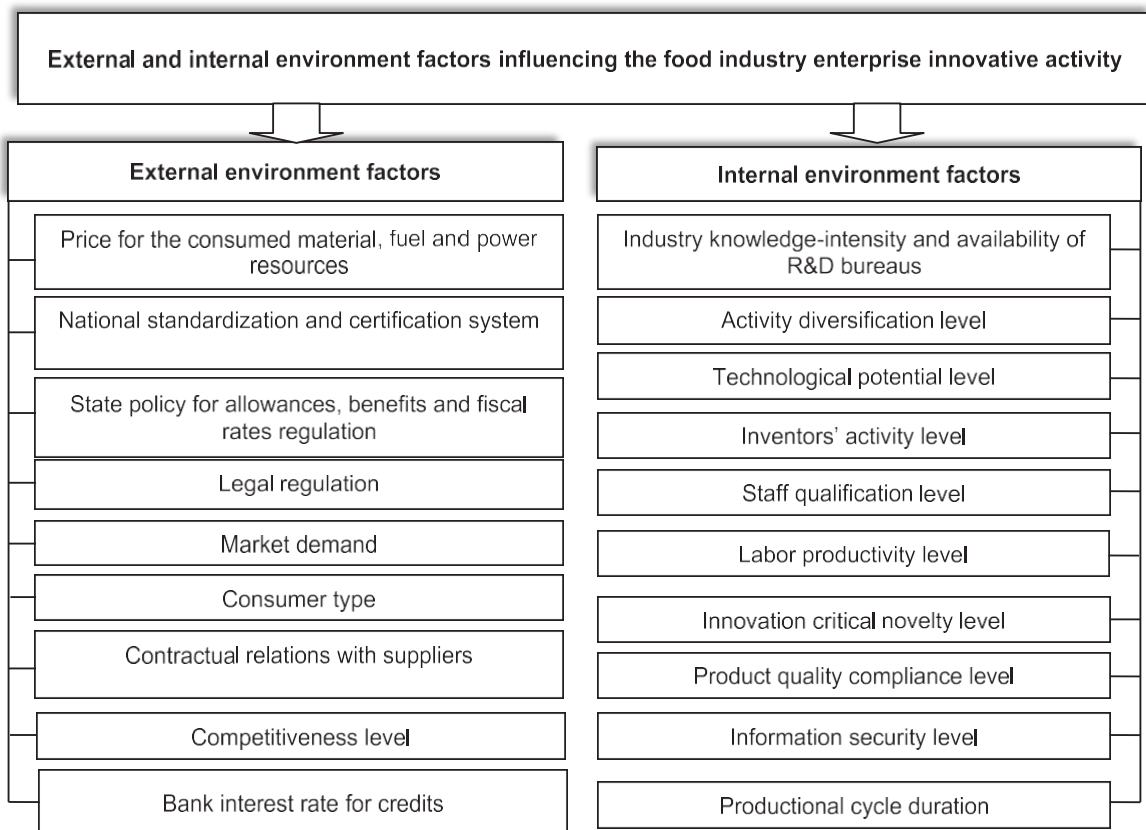
### **2.3 Mechanism of food industry enterprise innovation activity expenditure management**

The management mechanism target subsystem includes goals and main results of the enterprise's activity, as well as the criteria for selecting and evaluating certain goals achievement and the food industry enterprise's performance ciphers. The innovation activity expenditures management system is an integral part of the food industry enterprise management considering a certain mission, purpose and content of the enterprise's existence, its development perspective directions choice and the enterprise's main goal definition.

At a food industry enterprise, similarly to any other one, the innovation costs management can be effective or ineffective. Its effectiveness is characterized by the goals achievement degree. Therefore, it is advisable to form the enterprise management "objectives tree" and to determine the innovation costs place the overall system of the food industry enterprise management goals (Figure 3).



**Figure1. Management mechanism as the management system element**  
 Source: own development



**Figure 2. The most influencing food industry enterprise innovative activity external and internal environment factors**  
 Source: created by authors using materials [1-5]

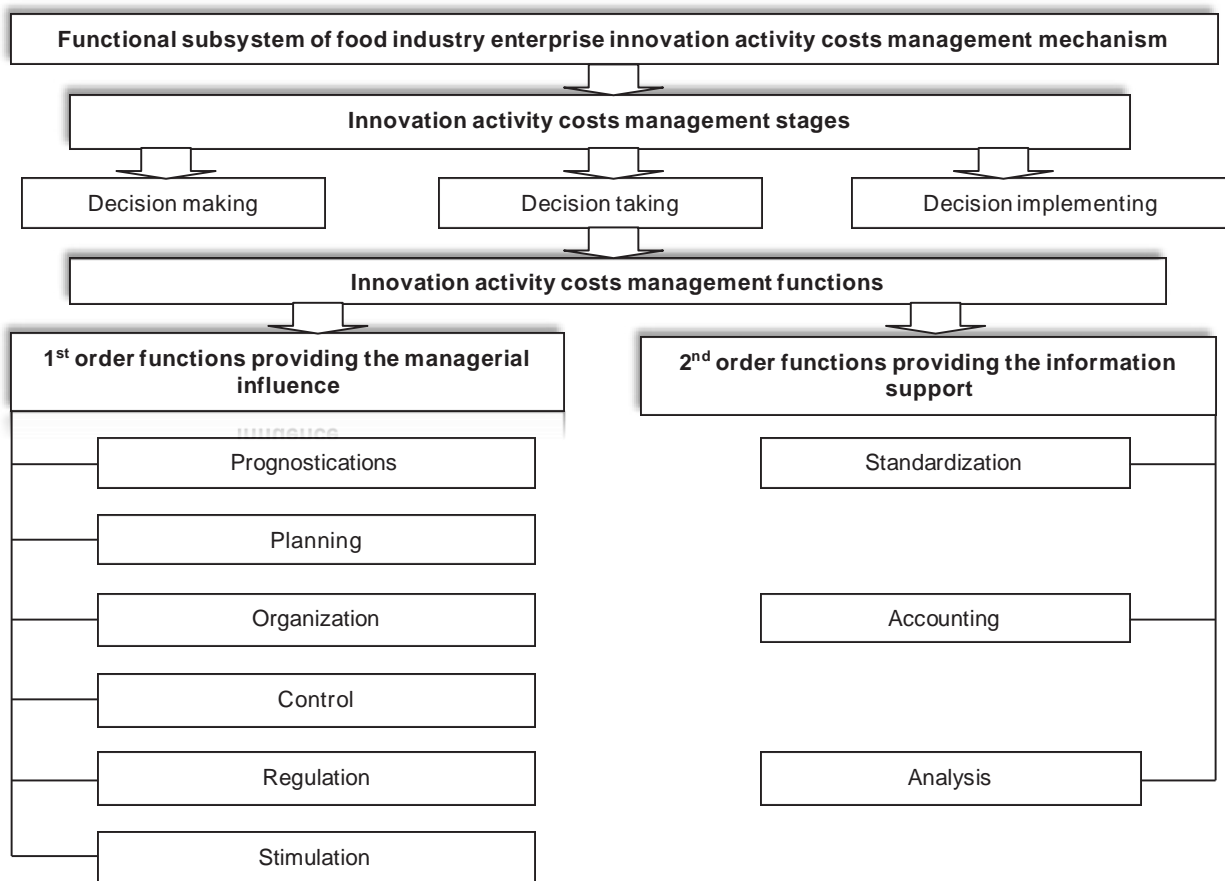
The management system functioning purpose is to develop and implement managerial decisions for forming the necessary behavior of the management object under conditions of various external and internal environment influences in order to achieve the formulated goals. The innovation activity management goals can be presented in the form of three goals levels: innovation project management objectives, innovation program management objectives and the innovative development goals. The cost management goals are derived from the innovation activity ones. When building a system, the t of the innovation activities costs management is guided by the final target criterion, defined

as the maximization of the result to costs ratio, taking into account both novelty and time factor, with the use of efficiency ensuring strategy. Different management levels goals achievement determines the need to implement at each specific management object the appropriate management functions.

In the functional subsystem of innovation activity costs management we can differentiate management stages and functions allowing to allocate the first order functions that provide management influence, and the second order functions providing the information support (Figure 4).



**Figure 3. Target subsystem of food industry enterprise management mechanism**  
*Source: own development*



**Figure 4. Functional subsystem of innovation activity costs management mechanism at the food industry enterprise**  
*Source: Created by authors using materials [6-9]*

It should be noted that none of the listed functions in itself nor a simple functions totality will not allow to form a coherent idea about the innovation activities costs management process. Only in inseparable unity and mutual interaction they form a unified management cycle.

Prediction is a key importance management function, since it helps to achieve consistency in all elements actions. At the same time the innovation activity costs management should be carried out at the prospective and current levels of prognostication. Typically, the following stages are distinguished in the prognostication process: selection, analysis and evaluation of ways to achieve the goals; resource analysis; drawing up the necessary actions plan and order of their implementation; analysis of the developed plan version; control over plan implementation, necessary changes, if any required.

Since in the innovation activity management cycle the planning and plans execution develop in parallel due to the uncertainty caused by research and development stages making part to the innovation activity, there is a special relationship and the logical sequence of the first order management functions implementation, which provide the management influence. These

functions are implemented not sequentially (in turn), as in traditional management, but in parallel (simultaneously). When considering the innovation activity cost management functions, it should be taken into account their differentiation from functions in normal production activities.

When planning the innovation activities costs, it is necessary to determine the maximum possible amount of costs to ensure the enterprise's break-even operation that will further enable its smooth operation to implement not only innovative but also other activities. To that aim, necessary is taking into account the specific features of innovation activity: high risks, innovations content and results probabilistic nature; perspective and long-term character of innovation implementation results; work cycle duration; considerable complexity of works.

The organization function in the system of innovation activities expenditures management involves determining the key points for costs formation and responsibility centers for their compliance, as well as the development of involved staff linear and functional connections hierarchical system for those performing a complex of cost management system works. The presence of many interconnected operations, complexity,



uncertainty, high risks, personal and creative nature of product innovation, all these factors make the engaged staff work organization one of the most difficult administrative tasks.

The peculiarity of control in innovation activity costs managing refers to changes in relationship between different control types. They are increasingly focused on self-control, on strategic control of innovation costs, and on financial and economic control types. In addition, since innovation activity, as already mentioned, is characterized by a high degree of uncertainty and unpredictability, thus entailing increased risks, important is the continuous monitoring at all innovation activity stages. The control function should be presented at all innovation activity costs managing levels, since its effectiveness depends on all other functions performance.

When regulation, the actual costs are compared with the planned, deviations are detected, that results in the adoption of operational measures to eliminate those deviations. So, in order to avoid the enterprise failure in achieving the planned economic result, the timely innovation activity costs regulation is a prerequisite.

The stimulus function involves encouraging the innovation process participants to comply with the norms and cost limits established by the plan, as well as search for reserves to reduce costs. The high qualification of the employee in the innovation sphere, the individual personal complexity and the multiplicity of motivation pose basis of his attitude to fair remuneration as a probabilistic process that has a nonlinear relationship between labor costs and expected results.

The main structure of work on the innovation activity costs standardization generally includes: identifying the standardization objects; carrying out expenses classification to establish the standardized norm; determination of factors influencing costs amount; choice of standardization methods and development of standards; assessment of the developed standards quality and effectiveness.

Accounting the innovation activity costs has its own specificity, directly depending on the production types, the specific innovation activity stage, the enterprise financial capabilities, the way of innovative product developing (the presence or absence of its own research units). Any innovation as the innovation activity final result is unique, and therefore it is impossible to develop in advance a unified methodology for calculating innovations and successfully use it for each innovation project, the innovation activity costs content directly depends on the innovation type. To effectively account for the innovation costs, the enterprise must ensure that relevant information is disclosed for making managerial decisions regarding the new products fabrication. This requires to build a methodology for innovation costs accounting in accordance with the

information users' needs. One of the innovation activity accounting disadvantages is that there is no single system of accounts and accounting registers to reflect the innovation activities costs, income and financial results. At the same time, existing accounting registers, book-keeping accounts and statistical reporting do not provide reliable data for analysis of innovative product and its impact on financial and economic performance.

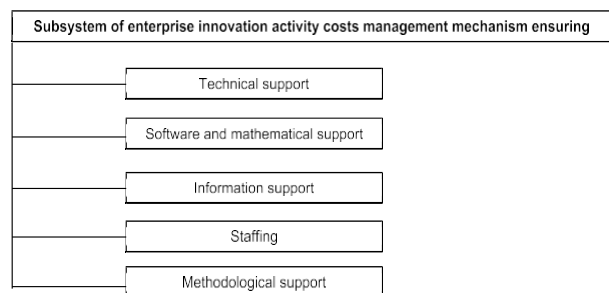
The enterprise innovation activity costs analysis serves as a tool to generate initial information for management purposes, as the errors and inaccuracies made during the analysis may be reflected in the adoption of sub-optimal managerial decisions. In the enterprise innovation activity costs analysis system we can distinguish the following areas: analysis of the costs formation plan implementation, reduced to finding deviations of actual indicators of innovation activities costs formation from the planned; factor analysis, that in turn allows us to determine these deviations' causes; cost-benefit analysis, that allows evaluating the effect based on the ratio of resources spent and the positive effect.

In the subsystem of enterprise innovation activity costs management ensuring, technical support, software and mathematical support, information support, staffing, and methodological support can be evolved as shown below (Figure 5).

All subsystem components are interconnected and mutually dependent. Given the benefits that the subsystem provides, its content and functions should be adapted to the cost management process.

Technical support includes technical controls, organizational and computing equipment. Improvement of technical support is one of the most important areas for improving cost-effectiveness management. Its application allows to increase the managerial decisions efficiency and validity at the expense of data processing speed increase and a faster data transfer.

The computer technology use implies the availability of appropriate software and mathematical support. Software and mathematical support implementation involves building and use of economic-mathematical



**Figure 5. Subsystem of food industry enterprise innovation activity costs management mechanism ensuring**  
 Source: created by authors using materials [10-15]

models. Experimenting with such model, we can set its reaction type for certain changes. If the experimental results indicate that the modification leads to improvement, we can make decisions about changes introducing in the real system.

Speaking of information support does mean organization of targeted data arrays and information flows, as well as the system of data collecting, storing, processing and transmitting for analyzing the data obtained, to prepare and adopt management decisions by managing staff. Information support is a prerequisite for improving the quality management system, so further this issue will be given a special attention.

Staffing or personnel support is aimed at satisfying the enterprise needs in the personnel of required qualification, education level, intellectual capacities and organizational skills. In the near future, an increasing number of employees will be involved in enterprise management processes. Hence, necessary is to clearly outline the goals, tasks and management functions for organizational structure various levels.

The methodical support assumes availability of materials containing a description of processes to solve certain kind of problems. It has a significant impact on the cost management process. Methodical guidelines determine the ways and means of effective solution for a specific task, taking into account the enterprise activities landmarks, its structural units and actually created conditions. Such guidelines allows to quantify

the goals, and thus improve their susceptibility, anticipate various situations development, reduce the managerial decisions adoption period. The methodological support can include both already worked out, proven management solution schemes, and new ones that take into account the urgent needs of enterprises.

The quality of decisions made is largely determined by the ensuring functionality subsystem state. In order to make a good management decision, we need to use modern computer technology, relevant information and software and mathematical support and professional staff. The high level of ensuring subsystem development will increase the scientific validity of management decisions taken, reducing their preparation period.

Consequently, the innovation activity costs managing mechanism the food industry business should be considered as a set of interconnected elements, through which a unified continuous effective innovation activity development is provided (Figure 6).

All these elements are closely interconnected and actively interact with each other. The peculiarity of the innovation activity costs managing mechanism refers to its dynamic, constant change and improvement. Therefore, in order to increase the food industry enterprise's innovation activity costs managing mechanism efficiency necessary is to improve each element of both functional subsystem and ensuring subsystem, that contributes to goals achievement.

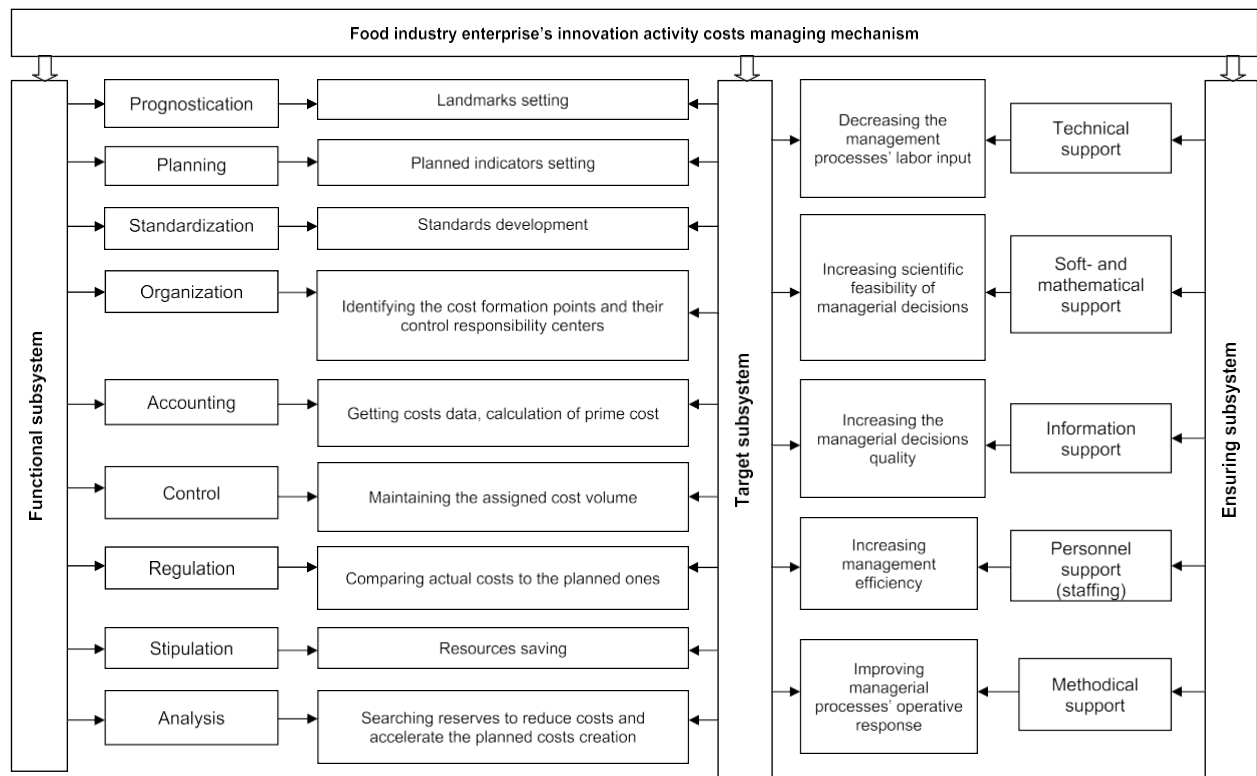


Figure 6. Food industry enterprise's innovation activity costs managing mechanism  
Source: authors' development

### 3. Conclusions

- In food industry domain, both sustainable development and competitiveness of modern enterprises depends on the degree that enterprise, - using new ideas and technology-intensive technologies, - is able to produce products, and the degree of characteristics combination satisfying the consumer. In this regard the industrial production future success is associated with knowledge closely interlinked with innovations. For the effective use of innovations, required is a management system that will effectively manage the food industry enterprise's innovative activity. In today's conditions of knowledge economy development significant structural changes take place associated with the emergence of a management mechanism, embodying a key element of the food industry enterprise innovation activities costs management system, the element binding its other components and leading to their interaction. The objective necessity and practical significance of the food industry enterprise innovation activities costs management mechanism is due to its connecting role, both within the management system and between the managing and the managed subsystems.

- The food industry enterprise innovation activities costs management mechanism is a complex formation resulting from the connection and interaction of different functional and maintaining system parts, classified according to the target goals and the managerial effects implementation prospects, since the management mechanism implementation concept widely depends on solving the question of food industry enterprise development goals and objectives.

- The growing role of innovation activities brings new requirements to the issues of choosing the most effective mechanisms for food industry enterprise innovation activities costs management, which requires attention to two main points inherent in innovation activity: the factor of time and its results. Therefore, the skillful expenses management considered in relation to the incomes for which such costs are incurred, together with the novelty will give a double economic effect. The uniqueness of a particular enterprise in the food industry involves the formation of a specific mechanism for food industry enterprise innovation activities costs management, focused on the specifics of its activities and relationships, both internal and with the outside environment. All the above implies the need for further applied research.

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