IV. ЕКОНОМІКА СФЕРИ СЕРВІСУ

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SYSTEM ANALYSIS WITHIN DIAGNOSTICS OF THE HOTELS

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Annotation. Purpose. *This article reflects the main problems of the hotel management development. Regularities of indoor and outdoor environment influence on the hotels and lodging properties functioning are set and the algorithm of the system task is developed.* ***Methodology of research.*** *Aggregative approach was realized to the research of hotels as a system defining subsystems and elements in it.* ***Findings.*** *Here is shown an algorithm within hotel diagnostics of the system task decision and analyzed the stage scheme of the hotel system's research.* ***Practical value.*** *The use of the system analysis with hotels diagnostic at the Poltava region.*

Keywords: *hotel business, system analysis, diagnostics, algorithm, system task.*

Formulation of the problem. Nowadays the crisis in economy and society, modern conditions of civilized market economy influence the development of the tourism and hotel industries differently. Most of the western countries came to the new model in their development – "postindustrial" which is characterized by changes of the goal priorities. Among them except of getting the maximum profit prevail knowledge, technologies and information production, social consent and stability.

Under such circumstances when for a start there is a mitigation of conflicts between individual social groups and at the same time the competitiveness within hotel business becomes more rigid. And this is inherent not only for the world economy but either for Ukraine. That is why the problem of the hotel current activity and the priorities defining to its development in Poltava region is actual.

Analysis of recent research and publications shows the necessity of the further investigation of the use of the system analysis in order to evaluate the condition of such organizational-economic system as hotel industry, and detect the existing narrowing at the management mechanisms development.

Yan Lu Qingdao considers the design and analysis of hotel management system based on information technology [1] but there is a lack of the data of the system analysis use within diagnostics of the hotels.

Formation of the objects of article. The objective of the research reflects in the system analysis within diagnostics of the hotels.

Set out the main material of research. Understanding the complexity research of such recent systems, at first, there was defined the regularity of the outer environment influence on the properties functioning, in particular hotels cen-

tered on researchers' experience.

There were analyzed the main three regularities:

1. The increase of the influence, interdependence of all constituents of the modern society (it's more integrated and integral).
2. Dynamism (the development and new services implementation, the conquest of new markets).
3. Complexity of social structure (breeds the difficulties of its cognition, prognosis and management).

Understanding that within scientific research it's impossible to use system analysis in full volume on account of the necessity of all systems' research which are the parts of the hotel industry. Therefore, in this case there was used situation approach (simplified) which let to indicate the most valuable parameters of the system's functioning: the goal of the property, its interests and options of realization.

The analysis of the scientific information shows that it's not enough to use just financial and economic indexes to evaluate the effectiveness of the hotels' functioning. The most important condition is the usage of organizational, managerial, logistics indexes of the hotel activity. Thereby, it's important to use the complex of indexes.

To develop the scheme of the system analysis condition there was formed the algorithm of the system's task solving (Figure 1). Based on the research algorithm, the system has been chosen on the basis of scientific data and most appropriate to us [2, 3, 4] (Figure 2).

In accordance with the developed strategy of system research the task of the system analysis: improvement of organizational-economic mechanism organizational-economic mechanism of the hotel development management of the hotel development management was formulated.

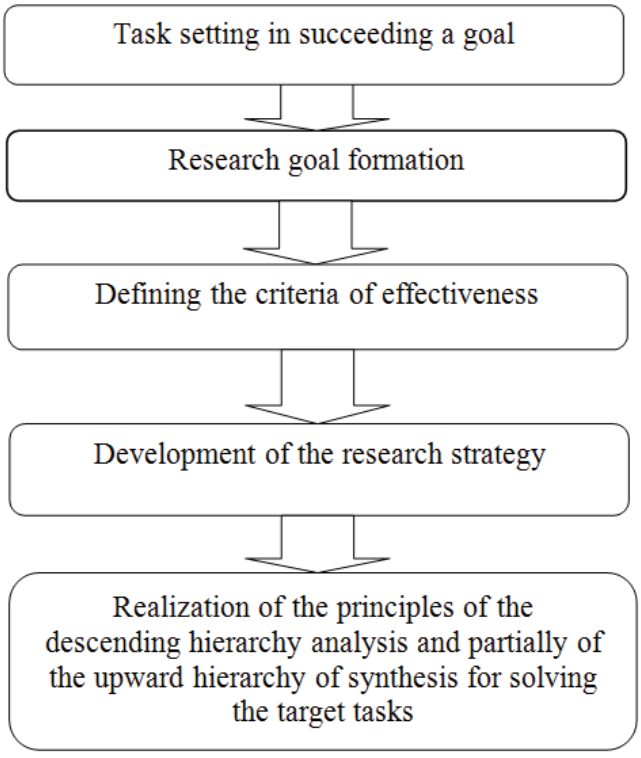

Figure 1. Algorithm of the system task

Due to the set task the goals were defined as follows: evaluation of the hotel management structure; diagnostics of the financial and economic activity indexes; estimation of the work force, development of the organizational-economic mechanism of the hotel development management model.

The criteria of optimization including the conditions of functioning and development of separate subsystems and their elements within hotel industry and considered also input and output parameters of the system were chosen.

Net profit was chosen for the criteria of optimization as a result of the financial activity of

the hotel. Formalizing the system into subsystems and elements partial criteria of optimization on each level were formed.

Aggregative approach was realized to the research of hotels as a system defining subsystems and elements in it.

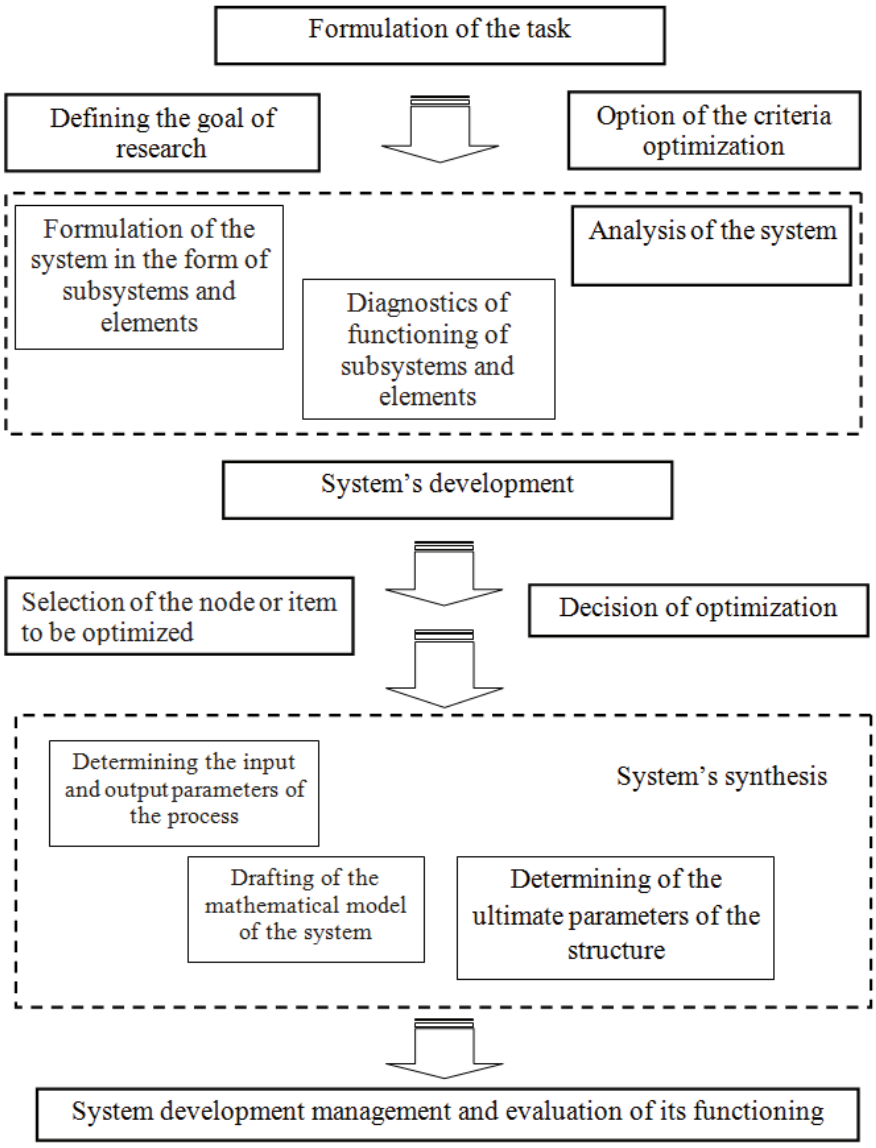

Figure 2. The chart of the hotel system research stages

The quality functioning of the system was quantitatively estimated with the help of methods of modeling. Formalization of the system was carried out by means of its graphic image, which helped to differentiate operations and analyze them.

Based on the method of self-deploying algorithms, formalization was held in two stages.

The first stage allowed to divide the systems into maximum quantity of the subsystems with all the necessary liaisons among them. It was necessary for the more thorough description of the real system.

The second stage related to the less detailed system's modeling that can be explained by the need to present in more detail the subsystem under study. Other elements were described depending on the conditions of their operation (Figure 3).

As it was noted, previously investigated hotels have input and output parameters. Input parameters of the hotel are considered as resources used in their activities as well as the conditions under which this process takes place.

The input is signed with the letter "X". In this case there are anticipated three inputs of the system: X_1- rooms' occupancy, X_2 - average daily rate, X_3 - net profit.

Financial results were used as output parameters (У, $У_1$,$У_2$, $У_3$).

For Ukraine, the development of the hotels in regions is characterized by a significant number of small enterprises that belong to different forms of small business.

In Poltava region there are 70 hotels (25 of which are certificated), 69 are subjects of small business and private ownership, one belongs to the communal form of ownership. The number of rooms fluctuates between 6 and 68. The exception is motel "Inturist-Poltava" with 87 rooms [5]. Subjects of the hotel industry with a small number of rooms has some advantages: cheaper accommodation (in some cases, a flexible system of discounts). But at the same time there are problem elements. In such kinds of hotels personnel should deal with vast range of work, therefore, they should have higher professional preparation. It also concerns the structure of the hotel management.

Organizational structure of hotel management reveals all authorities and responsibilities of the hotel personnel.

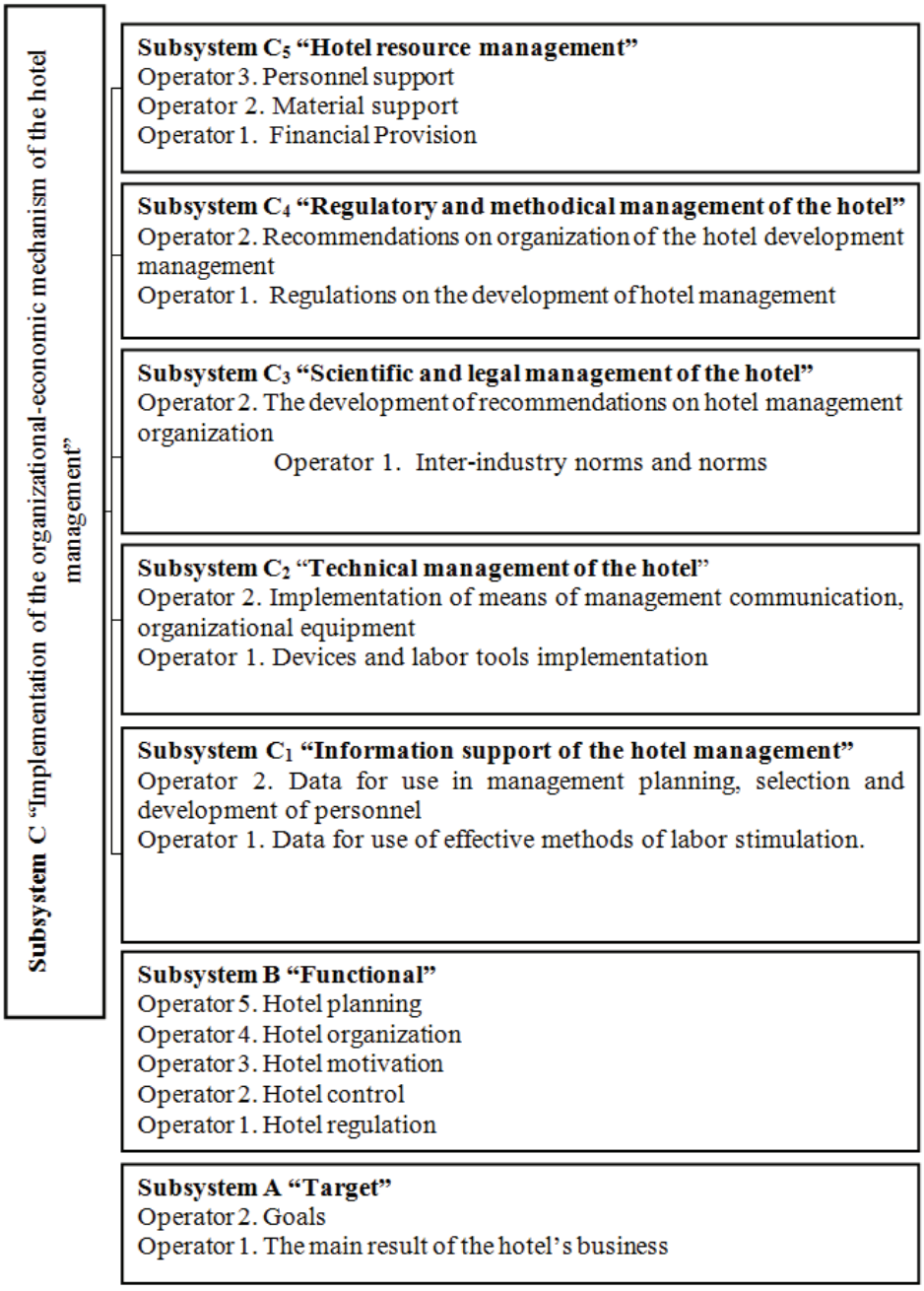

Figure 3. System of the hotel functioning

The main functional duties of the supervisory level are based on the needs to satisfy the customers' desire for hotel services. There is taken into account the hotel capabilities and resources. The analysis of hotels showed that operational decisions within a hotel are developed with the help of clearly defined managerial hierarchy. The high-level of management is responsible for general decisions making which affects the effectiveness of accommodation facility work.

In practice, the most spread structures of management are linear and linear-functional. In the linear structure of management, the hierarchy of managers is based on the principle of unified command, which makes this structure flexible and logical. At the same time, department heads have the least opportunities in problems solving requiring special knowledge.

The analysis of the hotels activity of the region shows that the most spread division of labor is vertical which helps to coordinate people's actions to fulfill common goals. Thus, general manager directs the work of the lower level managers.

In the one-star hotel the head of the high level management is director who chooses the direction of the hotel activities taking into account the factors of internal and external environment; strategic goals; organizes strategy planning; forecasts the work of the hotel for a week, a month, a quarter, a year, and also makes a forecast regarding the results of the effective activity of the hotel.

At the same time, the director is constantly searching for new information that allows to manage the development of the hotel.

At the institutional level in a one-star hotel there is a manager who is directly subordinated to the director.

Considering that the hotel has an extensive system of levels of management, therefore, the middle-level of management includes senior front desk clerk, chief accountant, and entry-level of management includes – front desk clerks.

Within a hotel department heads control decision management, motivate the work of certain workers, prevent conflict situations, perform leadership functions. Moreover, they prepare the information for the decision making of institutional-level of management.

Within entry-level management, for example, senior room attendants control the room attendants' responsibilities, organize their work, prevent conflicts and decide on current tasks.

It should be noted that at the present stage of development of the hotel industry, the hotel management structure satisfies the conditions of competition on account of the least number of levels of management (simple), not big departments and qualified staff.

Furthermore, there is a necessity of the effective communication development in hotels, which follows a very important principle that two individuals are involved into interaction and each of them is influenced and simultaneously influences.

In our point of view, it is better to teach managers precisely in the means of effective communication, which will ensure their purposeful, productive activity and will create conditions for effective activity of the hotel in the market of hotel services.

Conclusion. In general, in the hotel industry like in other spheres of economy the main function is getting a profit by productive use of resources. Taking into account that hotels are complexity mechanisms where there is significant resource shortage, therefore, it is very important to plan properly, organize, control and evaluate in order to achieve certain goals. System analysis plays a significant role within this process. In the future the investigation will consider the diagnostic of the hotel business within system analysis at the regional level.

REFERENCES

1. Guirong Guo & Yan Lu Qingdao (n.d.). Design and analysis of hotel management system based on information technology. Qingdao, Shandong: Hotel Management College. Retrieved from http://www.cmnt.lv/upload-files/ns_8art50_CMNT1806-124_BHS _Guo.pdf2 (accessed 16 January 2018).

2. Safonova, O. N., Pertsevoy, F. V. & Grinchenko. O. A. (2000). Sistemniye issledovaniya technologiy pererabotki produktov pitaniya [System studies of food processing technology]. Kharkiv : HGAPiT [in Russian].

3. Yield management in UK hotels: a systems analysis (n.d.). Guildford: P Jones University of Surrey. *https://link.springer.com/article/10.1057%2 Fpalgrave.jors. 2600739.* Retrieved from https://link.springer.com/article/

10.1057%2 Fpalgrave. jors.2600739 (accessed 16 January 2018).

4. Kaplina, A. (2011). Organizational-economic mechanism of the hotel management Material digest of the 4th international research and practice conference "Problems of design and development of human communities self-organization forms" (pp. 185–186). – London : IASHE.

5. Perelik zasobiv rozmishchennia, yaki maiut sertyfikaty vidpovidnosti, vydani OSDP "Poltavastandartmetrolohiia" [The list of accommodation facilities that have certificates of conformity issued by the State Enterprise "Poltavastandartmetrologiya"]. (n.d.). *http:poltavastandart.org./index 2.11s*. Retrieved from http:poltavastandart.org./index 2.11s (accessed 16 January 2018) [in Ukrainian].

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Анотація. Мета *статті полягає у визначенні основних проблем управління розвитком готельних підприємств та закономірностей впливу зовнішнього середовища на функціонування готелів, розробці алгоритму рішення системної задачі.* ***Методика дослідження.*** *Використано декомпозиційно-агрегативний підхід.* ***Результати.*** *Запропоновано алгоритм вирішення системної задачі діагностики готелів та визначено етапи його проведення.* ***Практична значущість результатів дослідження.*** *Застосування системного аналізу для діагностики готелів Полтавського регіону.*

Ключові слова: *підприємства готельного господарства, системний аналіз, діагностика, алгоритм, системна задача.*

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Аннотация. Цель *статьи заключается в определении основных проблем управления развитием гостиничных предприятий и закономерностей влияния внешней среды на функционирование гостиниц, разработке алгоритма решения системной задачи.* ***Методика исследования.*** *Использован декомпозиционно-агрегативный подход.* ***Результаты.*** *Предложен алгоритм решения системной задачи диагностики гостиниц и определены этапы его проведения.* ***Практическая значимость результатов исследования.*** *Применение системного анализа для диагностики гостиниц Полтавского региона.*

Ключевые слова: *предприятия гостиничного хозяйства, системный анализ, диагностика, алгоритм, системная задача.*