CONTEMPORARY FACTORS AND BASIS OF SUCCESSFUL MANAGEMENT OF INNOVATIVE PROJECTS IN HOTEL MANAGEMENT

С. О. Дудник, аспірант, Полтавський університет економіки і торгівлі
А. С. Капліна, к. е. н., доцент, Полтавський університет економіки і торгівлі
Т. В. Капліна, д. т. н., професор, Полтавський університет економіки і торгівлі

СУЧАСНІ ЧИННИКИ ТА ЗАСАДИ УСПІШНОГО УПРАВЛІННЯ ІННОВАЦІЙНИМИ ПРОЕКТАМИ В ГОТЕЛЬНОМУ МЕНЕДЖМЕНТІ
The relevance of the research is determined by the complex nature of the successful management of innovative projects in hotel management, necessitating its consideration through the lens of multiple transformations in the implementation and control processes of innovative ideas and solutions, which require resource management, human and other capital, and the achievement of other goals. Essentially, this field encompasses the conduct of any operations involving the creation and implementation of new products, services, or processes, each of which can be explained and modeled through practices of adopting innovative technologies. The article aims to portray the management of innovative hotel projects as a unified structure analyzed through specific success factors. The achievement of the stated goal in the article is realized through the following research methods: logical generalization and scientific abstraction, structural analysis, and grouping method. The research determined the success of all processes involved in the innovative technological transformation of products, services, and related operations, serving as the foundation for managing innovative projects within a hotel enterprise. In the context of modern approaches to the success of innovative technological transformation of products, and services from the implementation of “intech” in hotel management, their assessment is predominantly limited by the value-based characteristic of approximating such transformation. Specifically, researchers propose assessing this by considering data on the absolute change in price/value of the base technology through the volatility of the market price of operations conducted for the production of innovative products and services, through indicators of mobilizing temporarily available funds and effectively allocating them, and through the tight connection between the cost of capital involved in transformed technical solutions and the influencing factors of “intech”. The practical significance of the research is underscored by the fact that the success of the innovative technological transformation of products, services, and related operations should be determined by the decrease/increase in capital across the entire volume of implemented innovative technologies.
Актуальність дослідження зумовлена комплексним характером успішності управління інноваційними проєктами в готельному менеджменті, зумовленим доцільністю її розгляду через призму множинних перетворень процесів впровадження та контролю новаторських ідей та рішень, які вимагають керування ресурсами, людським та іншим капіталом та досягнення інших цілей. Фактично, ця сфера охоплює проведення будь-яких операцій зі створення та впровадження нових продуктів, послуг або процесів, кожну з яких можна пояснити та змоделювати за практиками впровадження інноваційних технологій. Метою статті є представлення управління інноваційними проєктами в готельному менеджменті як єдиної структури, стан якої вивчається конкретними чинниками успішності. Досягнення поставленої у статті мети реалізоване за допомогою таких методів дослідження, як: логічного узагальнення та наукової абстракції, структурного аналізу, та методу групування. Результатом дослідження є визначення успішності всіх наявних процесів інноваційної технологічної трансформації продуктів, послуг та супутніх операцій як основи управління інноваційними проєктами готельного підприємства. За змістом сучасних підходів до успішності інноваційної технологічної трансформації продуктів, послуг від впровадження “інтех” в готельному менеджменті, виявлено, що їхня оцінка зводиться переважно на обмеженій вартісною характеристікою апроксимації прояву такої трансформації. Зокрема, науковцями пропонується здійснювати таку оцінку за даними, щодо абсолютної зміни ціни/вартості базової технології, через волатильність ринкової ціни операцій (здійснених для виробництва інноваційних продуктів та послуг), через індикатори мобілізації тимчасово вільних коштів та результативний їх розподіл або через тісноту зв’язку вартості капіталу (що залучений по трансформованих технічних рішеннях) із факторами впливу “інтех”. Практична значущість дослідження зумовлена доведеністю того факту, що успішність інноваційної технологічної трансформації продуктів, послуг та супутніх до них операцій має визначатися за зниженням/приростом капіталу на весь обсяг впроваджених інноваційних технологій.
Keywords: factors of successful management; project; transformations; service management; operational processes.

Ключові слова: чинники успішного управління; проєкт; трансформації; сервісне управління; операційні процеси.

**Target setting.** Successful management of innovative projects in hotel management is a complex category. This statement is due to the necessity of considering it through the multiple transformations of implementation and control processes of innovative ideas and solutions, which require resource management, human and other capital, and other goals achievement. This area covers the conduct of any operations to create and implement new products, services, or processes, each of which can be explained and modeled on the practices of introducing innovative technologies (or "intech"). The term is currently actively used and referred to in the theory of management of innovative projects in hotel management [1], including its use as a synonym for the term "innovative technological transformation" and its relationship with the category of innovative technologies.

**Analysis of research and publications.** The management of innovative projects in hotel management is directly related to the use of the term "innovative technological transformation. This term creates disputes regarding its content and the general nature of transformations (in particular, regarding changes in the success of project management under the influence of "intech" and the redistribution of the amount of capital attracted for this, etc.). The issues mentioned are characteristic of the works of Mashika G., Zelich V., Kizyun A., Masligan R., and others. Thus, it is evident that managing innovative projects in hotel management is a pertinent research direction that should be based on a comprehensive approach to the content of innovative technological transformation of products and services (as indicated by Bannikov S., Lobunets T., Buryak I., Masligan O., Shevchuk L.) and should raise new questions regarding the factors of success of these transformations (as emphasized by Lemish K.M. in their works). Currently, these questions are not receiving sufficient attention from researchers.
The wording of the purposes of article (problem). Based on the above, the article aims to present the management of innovative projects in hotel management as a unified framework, whose condition is examined through specific success factors. To achieve the stated objective, the following research tasks need to be addressed:

1. Presenting the management of innovative projects in hotel management as a unified structure.
2. Identifying the specifics of innovative technological transformation of products and services in a hotel enterprise in terms of changes in implementation success.

The paper main body with full reasoning of academic results. In the research, under innovative technological transformation of products and services, we understand economic and technological changes concerning the "hotel-client" relationship, synthesized by innovative technologies ("intech"). Ideally, these changes are achieved through high-quality, effective new or improved technologies, significantly enhancing economic activity conditions or acting as products/services themselves. Considering the above principles, the theory of managing innovative projects uses innovative technologies to strategically influence not only the technological transformations of products and services in hotel enterprises but also related operations due to their close connection. For example, hotel room booking services encompass operations such as reservation processing, issuing confirmations, and storing guest information. Food services for guests include operations such as food preparation and cooking in hotel kitchens, serving meals and beverages, waiter services, and more.

To understand the systematic nature of the process, we propose characterizing "intech" from the perspective of abstract and real systematics (classification) existing within project cycles. Indeed, abstractly, "intech" can be classified into software and devices, smart gateways, methods, and technological systems (including process robotics and automation). Abstract classification features are utilized to identify the general nature of managerial influence: on innovative projects in hotel management, on the main directions for implementing innovative ideas and solutions ([1]).
Transitioning from the abstract nature of "intech" to the specificity of managerial influence on individual innovative projects, each unit is identified as a basic technology (basic technological asset) and a form of technological transformation of products, services, or related operations [7].

It is important to note that innovative technologies ("intech") themselves are not functional. However, they form functionality through their integration into various structures of influence that already exist in hotel management. These structures can be interpreted as project organizational formations that [7]:

- Determine how technology is used in the creation and implementation of new products and services. Specifically, they define which innovative solutions and operations shape the organization's work with technology.

- Set the boundaries of innovative technological transformation, as indicated by the research of many scholars

Most authors [4; 6-7] identify five main components in project organizational formations in hotel management: Service Management, Financial Management, Marketing and Sales, Operations Management, and Technical Management. We consider that, with such generalization, it is challenging to clearly define the boundaries of innovative technological transformation of products, services, and related operations. However, this issue can be addressed by considering the diversity of elements that constitute the content of the identified components. In our view, specifying project organizational formations' elements will be important for clearly defining transformation boundaries and formulating basic principles for managing innovative projects in hotel management.

Overall, the structure of project organizational formations in hotel management includes the following components [4; 6-7]:

1. In "Service Management", these components involve service management in restaurants, bars, conference halls, and hotel rooms.

2. In "Financial Management", these components involve managing the redistribution of financial resources within project financing (where the project itself serves as a means of servicing debt obligations).
3. In "Marketing and Sales", these components involve managing the creation and maintenance of communication and value provision to customers, as well as processes related to the provision of products and services of the hotel enterprise.

4. In "Operations Management" these components involve managing all actions resulting in the production of products and services of the hotel enterprise (including room rental, housekeeping, catering organization, supply, and occupational safety).

5. In "Technical Management" these components involve managing technical equipment, energy supply, safety, repairs, and infrastructure aspects of projects.

The aggregate of all existing project organizational formations within a hotel enterprise forms the content of a unified structure for managing innovative projects in hotel management.

This unified structure is designed to ensure effective interaction, coordination, and optimal utilization of capital for the successful implementation of multiple innovative projects [1].

Clearly, this "unified structure" must be formed with a clear understanding of the specific direction of innovative technological transformation of products, services, and related operations, as well as the specifics regarding the basic technology (the successful implementation of which is intended). The components of the unified structure for managing innovative projects in hotel management are depicted in Figure 1.

Thus, the components of the unified structure for managing innovative projects (hereinafter referred to as USMIP) in hotel management, in terms of its structure, form, and boundaries of innovative technological transformation of products, services, or related operations, are [1; 3; 7-8]:

1. The Service Component of the UPP defines the boundaries of its transformations through operations that ensure a comprehensive customer interaction experience with the company using basic technologies such as mobile applications for food and beverage ordering, electronic menus, table and room reservation systems, etc. The success factors for managing innovative technological transformations within this component include the number of implemented basic
technologies and the obtained values of capital cost increase/decrease involved in the transformed service operations, such as food and beverage or room ordering.

<table>
<thead>
<tr>
<th>Components that form the basis of managing innovative projects within the &quot;hotel-client&quot; relationship (the main objective being to balance the number of implemented basic technologies and the resulting increase/decrease in capital value).</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Technical Component</strong> (serves as the foundation for the operation, commercial, financial, or service components)</td>
</tr>
<tr>
<td><strong>Service Component</strong> (provides a cohesive customer interaction experience)</td>
</tr>
<tr>
<td>The success of transformations depends on the number of implemented basic technologies and the change in capital value resulting from innovations in customer service</td>
</tr>
</tbody>
</table>

**Figure 1. Components of the unified structure for managing innovative projects in hotel management**

**Note**

1. Transformation can occur through basic technologies such as mobile applications for food and beverage ordering, electronic menus, table and room reservation systems, etc.
2. Transformation can occur through basic technologies such as software applications for accounting, financial planning, cost control, etc.
3. Transformation can occur through basic technologies such as digital marketing (including online advertising, social media, and content marketing), geotargeting and geofencing (for sending messages and offers to guests), active and passive sales (through loyalty systems to attract repeat customers, and intelligent assistants and chatbots, etc.).
4. Transformation can occur through basic technologies such as Property Management Systems (PMS), access control and security systems (operating based on cards, RFID keys, or mobile applications to ensure security and access control to rooms), inventory management systems for food, equipment, clothing, and other resources, Point of Sale (POS) systems for restaurant business automation, etc.

*Source: formed based on [3-4; 7]*
2. The financial component of the unified structure for managing innovative projects in hotel management defines the boundaries of its transformations through operations that ensure the redistribution of financial resources using basic technologies such as accounting software, financial planning applications, and cost control systems. The success factors for managing innovative technological transformations in this component include the number of implemented basic technologies and the values obtained for the increase or decrease in capital involved in operations related to the redistribution of financial resources.

3. The commercial component of ESUP defines the boundaries of its transformation through operations facilitating the execution of buying and selling transactions using foundational technologies such as digital marketing, geotargeting, and geofencing, active and passive sales (via loyalty systems to attract regular customers, and intelligent assistants and chatbots, etc.). The success factors in managing innovative technological transformations in this component include the number of implemented foundational technologies, the achieved values of capital cost increase/decrease involved in transformed operations related to hotel brand promotion, attracting target audience, and offerings of products and services of the hotel enterprise.

4. The operational component of ESUP defines the boundaries of its transformation through operations that facilitate the core activities of a hotel enterprise using foundational technologies such as Property Management Systems (PMS), access control and security systems, inventory management systems for food products, equipment, clothing, and other resources, as well as Point of Sale (POS) systems for restaurant business automation, and so forth. The success factors in managing innovative technological transformations in this component include the number of implemented foundational technologies and the achieved values of capital cost increase/decrease involved in transformed operational processes (which constitute a broad integrated set of operations).

5. The technical component of ESUP defines the boundaries of its transformations through operations utilizing foundational technologies such as networking technologies, specialized software, cloud, and mobile technologies
provided they form the basis for the operation of operational, commercial, financial, or service component. Naturally, the success factors in managing innovative technological transformations in this component include the number of implemented foundational technologies, as well as the achieved values of capital cost increase/decrease involved in transformed technical solutions.

Thus, ESUP consolidates a significant number of similarly structured project organizational entities, the quantity of which equals the number of innovative projects initiated by the hotel enterprise. It should be noted that the presence of a project is determined by the content of innovative technological transformations of products, services, or related services, while its success is measured by the economic and technological changes in the "hotel-client" relationship, synthesized by "intech" and modeled by factors of their success.

The requirement for the success of innovative technological transformations of products, services, and associated operations in hotel management demands addressing the issue of variability in approaches to their evaluation, which is a fundamental component of innovation project management. Specifically, researchers propose the following evaluation methods:

1. Based on data regarding the absolute change in price/cost of foundational technology.
2. Based on the volatility of market prices of operations carried out for the production of innovative products and services.
3. Based on indicators of mobilization of temporarily available funds and their effective allocation.
4. Based on the correlation between the capital cost involved in transformed technical solutions and the influencing factors of "intech".

Systematization of approaches to evaluating the success of innovative technological transformations of products, services from the implementation of "intech" in hotel management (Table 1).
Table 1. Systematization of approaches to evaluating the success of innovative technological transformations in hotel management through "intech" implementation

<table>
<thead>
<tr>
<th>Developers of the approach</th>
<th>The essence of the approach</th>
<th>Disadvantages of the approach (+ - the presence of a deficiency) according to the note *</th>
<th>The foundation of identifying innovative technological transformation resulting from the implementation of &quot;intech.&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>PricewaterhouseCoopers</td>
<td>Proposes a methodology for evaluating the success of innovative technological transformation based on the absolute change in the price of foundational technology used for innovative operations in the next period</td>
<td>+ + + + +</td>
<td>Actual/market price of foundational technology at any given moment in time, including historical and prospective perspectives</td>
</tr>
<tr>
<td>Kozlova A.O. (through the volatility of market prices of operations carried out for the production of innovative products).</td>
<td>Proposes a methodology for evaluating the success of innovative technological transformation through market price volatility of operations conducted for producing innovative products and services in the hotel industry (for specific innovation projects in hotel management).</td>
<td>+ + + + +</td>
<td>Changes in the actual market prices of products and services</td>
</tr>
<tr>
<td>Mashika G., Zelich V. (through indicators of mobilization of temporarily available funds and their effective allocation).</td>
<td>Proposes a methodology for evaluating the success of innovative technological transformation using a composite transformation strength indicator, derived from simple indicators of mobilizing temporarily available funds and their effective allocation.</td>
<td>+ - + + +</td>
<td>Indicators of processes mobilizing temporarily available funds and their effective distribution</td>
</tr>
<tr>
<td>Krul H., Zayachuk O. (through the tightness of the link between the capital cost involved in transformed technical solutions and the influencing factors of &quot;intech&quot;).</td>
<td>Proposes a methodology for evaluating innovative technological transformation success, using regression analysis to identify the relationship between changes in capital costs for transformed technical solutions and &quot;intech&quot; influencing factors (excluding anomalies)</td>
<td>- - - - -</td>
<td>The tightness of the link between the capital cost involved in transformed technical solutions and the influencing factors of &quot;intech&quot; according to the equation of simple linear regression</td>
</tr>
</tbody>
</table>

Note
* (1) Not suitable for identifying all possible reactions manifested in the capital cost involved in transformed technical solutions for implementing "intech" across the structural elements of innovation project management; (2) Lack of clear division in innovation project management across areas of technological transformation, hindering ease of description; (3) Prices do not contain information about the capital growth that its investment in various foundational technologies and operations, part of products or services formed or changed by "intech," may bring in the future; (4) Complications and specifics of product and service transformation are not considered, which does not facilitate their representation as a distinct innovation project; (5) Lack of compactness and standardization in the performance measurement algorithm with maximum adequacy and accuracy in identifying technological transformation innovation.

Source: formed based on [3-4; 7]
From the perspective of systematizing approaches to evaluating the success of innovative technological transformation of products and services from the implementation of "intech" in hotel management, it is noteworthy that its primary focus is on approximating its economic quality (numeric characteristics of which are formed based on the absolute change in the price/cost of foundational technology and through the volatility of prices of operations carried out for the production of innovative products or services).

In all cases, the evaluation is based on information about the next period (t+1), which equals the aggregate of information from the past period (t) [8]. So, the main elements of the approach are as follows:

- The actual market price of foundational technology/operations carried out serves as the basis for measuring the innovative technological transformation of products and services from the implementation of "intech" at any given time (including historical and prospective perspectives, characteristic of technologies according to the provisions [2, p. 150-222]). At the same time, the primary indicator is the effectiveness;

- The focus is on the simplest identifiers of transformations. If It+1=It, then the price of foundational technology/product or service P is the same or lower in both periods, indicating unsuccessful implementation of "intech". If h+1≠h, where the price of technology/product or service in the next period is higher than the previous level Pf+1= Pf*h, then the implementation of "intech" is successful.

The mentioned approximation, although used by many experts including PricewaterhouseCoopers, to construct trends in the change of technology/product or service prices with the implementation of "intech" [4-5], its value lies solely in the ability to identify positive or negative value changes. However, the quality of the approximation is limited solely to the value-based success factors of innovation project management, thus failing to account for possible random changes in value (as there are no means to identify the link between these and the facts of "intech" implementation). Among other drawbacks of the approximation, it is worth noting:
1. Failure to account for the possibilities of complications and specificity of modifications to foundational technologies, products, or services. This does not facilitate their representation as a modeled system.

2. Inability to identify all possible reactions regarding the cost of products or services to the implementation of "intech" through structural combinations of their technological transformation components.

3. Lack of compactness and standardization in the algorithm for measuring the effectiveness of "intech," ensuring maximum adequacy and accuracy in identifying transformations.

From the perspective of an aggregated assessment of the success of innovative technological transformation, the approximation is formed using a system of simple indicators.

It is limited to the economic characteristics of processes mobilizing temporarily available capital and the qualities of effectiveness in its distribution across the components of innovative technological transformation of products and services in hotel management (operational, commercial, financial, or service-related). The mentioned approximation provides a clear division of products and services into transformation zones, which facilitates the convenience of assessing their success.

The quality of the approximation is limited by the format of numerical values (among which are not only sufficiency norms of capital and boundary values for monetary capital indicators but also quite specific indicators such as profitability of innovations or efficiency of using innovative technologies), which need to be converted into comparable metrics. The disadvantage of this approach is that the proposed approximation does not account for possible, not predictable events that are not related to "intech". Among other disadvantages:

1. Inability to identify all effective reactions to the implementation of "intech" by the components of innovative technological transformation of products and services.

2. Lack of consideration of possibilities and specificity of complication of content of innovative technological transformation of products.
The specified features do not contribute to the visibility of the assessment of the success of innovative technological transformation, as a simulated system.

To approximate the success of the innovative technological transformation of products and services from the implementation of integrated technologies ("intech"), it is recommended to develop a specialized set of key performance indicators. It is suggested to focus on a clear component-based division of transformations, determining:

1. Overall changes in capital value from innovative products and services of the hotel enterprise.
2. Quantitative values regarding the implemented integrated technologies.

This approach is partially envisaged in the technique of approximating the success of innovative technological transformation, as described by Krul H. and Zayachuk O. [4], where the scholars propose complex sets of paired regression equations taking into account the dependence of the variation of the dependent variable on the variation of the independent variables. In their research, Stepanyshyn V.M. and Tysovyi L.O. also indicate that regression analysis identifies the correlation between the change in capital investment in the project and the information received in certain directions, without considering anomalous observations [8].

Therefore, the basis for evaluating the success of innovative technological transformations of products and services from the implementation of "intech" in hotel management should ensure a strong correlation between capital growth and the volume of implemented innovative technologies.

If we take as a basis the fact that capital growth is always an effective indicator of success, then the components of technological variability (basic technologies) can be considered independent variables. Thus, the metric of success can be the increase in the value of capital invested in the project after the implementation of a specific basic technology (provided that this is confirmed by the equation of paired linear regression and its associated measure of dependency, such as R-squared, approaches 1).

Conclusions from this study and prospects for further exploration in this area. The outcome of the research was the determination of the success of all existing
processes of innovative technological transformation of products, services, and associated operations as the basis for managing innovation projects in the hotel enterprise. The following conclusions have been drawn:

1. Attention is paid to the fact that according to the content of modern approaches to assessing the success of the innovative technological transformation of products and services from the implementation of "intech" in hotel management, their evaluation is limited by the majority of approaches to the value characteristic of such transformation. In particular, researchers suggest conducting such an assessment based on data regarding the absolute change in the price/value of the underlying technology. It includes considering the volatility of the market price of operations carried out to produce innovative products and services through indicators of mobilizing idle funds and their effective distribution or through the tight linkage of capital value (engaged in transformed technical solutions) with "intech" influence factors.

2. The success of the innovative technological transformation of products, services, and associated operations should be determined by the change in capital value (through the magnitude of increase/decrease in its value) across the entire scope of implemented innovative technologies (which, for clarity, are detailed by components of a unified innovation project management structure and by units of basic technologies).

3. Given that the capital increase is always an indicative success factor, the components of technological variability (basic technologies) are independent variables. Therefore, the measure of success can be the increase in the value of capital invested in the project after the specific basic technology implementation (provided that the measure of dependence of the dependent variable on independent variables approaches 1). The action of independent success factors in managing such transformations, as well as their nature, can be further identified using correlation indicators, determination coefficients, least squares estimation, and the statistical reliability of regression modeling.

The practical significance of the research is underscored by the fact that the success of the innovative technological transformation of products, services, and related
operations should be determined by the decrease/increase in capital across the entire volume of implemented innovative technologies.

Література


5. Лебедєва Р.Ю. Інноваційний менеджмент трансформації підприємств сфери послуг: автореф. дис... канд. екон. наук: 08.00.04; ПВНЗ "Європ. ун-т". К., 2009. 20 с.

6. Леміш К.М. Удосконалення управління готельним підприємством на основі інформаційних технологій. Глобальні та національні проблеми економіки. 2014. Вип.2. С.592-595.


References


