Institutional and Managerial Aspects of Innovation Activity in Hotel Industry

G.A. Gomilevskaya
International Institute of Tourism and Hospitality
VSUES
Vladivostok, Russia
gag17@yandex.ru

A.Y. Kononov
International Institute of Tourism and Hospitality
VSUES
Vladivostok, Russia

V.V. Schur
Department of Tourism
Primorsky Territory Administration
Vladivostok, Russia

Abstract— **Researched is the institutional and managerial innovation activity in hotel industry, which consists of well-targeted production process changes and various management arrangements, carried out in the course of creating the hospitality industry's product. Current level of project financing for innovation infrastructure objects in Russia as well as the current level of training of innovative human resources are both lacking. In the meantime, effective performance of hotel facilities requires proper innovative climate. Actual influence of hotel service's innovative nature on hotel's operational effectiveness is estimated. Study develops a system of institutional and managerial innovation blocks. Based on the collected data and findings, a generic model of training hotel is proposed.**

Keywords— Hotel facilities, Hotel Industry, Innovation Activity, Innovation Blocks, Innovations, Innovative Climate, Training Hotel.

I. INTRODUCTION

Tourism as a social-economic phenomenon is becoming increasingly important in modern society. From 1950 to 2017 the number of international tourist arrivals has grown 52 times, reaching 1322 million arrivals in 2017 [1], [2]. World tourism accounts for 10,4% of global GDP [3].

Contrary to global trends, tourist market in Russia is still not fully developed. Russia's share in international tourist arrivals not only stays insignificant, but keeps declining as well (from 3,1% in 2001 to 2,6% in 2017) [4], [5].

Hotel infrastructure, being the center of modern tourist market's development, holds a valuable place in the hospitality industry as a whole. Its value is shaped by the high degree of dependence of tourist demand on hotel's location and hotel services.

Russian hotel industry is pushing innovations in production and services. But in the meantime the level of project financing is still lacking, as well as the quality of both innovative manpower training and innovation infrastructure facilities.

II. METHODOLOGY

Comprehensive analysis of studies on innovation management reveals complex reading of the term "innovation" itself. According to different authors, innova-tions can be described as:

- changes aimed to achieve long-term effectiveness [6], [7], [8].

- first practical usage of a unique solution [9], [10], [11].

- new use value, new products, ideas, objects, solutions which are strikingly different from the currently existing ones [12], [13], [14].

- process of new idea's proposal, outspread and employment, which enhances organization's development and its effectiveness growth [15], [16], [17].

- result of a creative process in a form of new product, technology, method, as well as a result of novelty's introduction [18], [19], [20].

From our point of view the core meaning of innovations lies within the changes of different nature, which may be effective in different ways: in terms of economy as well as in social, ecological and informational areas. Innovations also affect different fields of entrepreneurship, such as management, production, marketing, investment.

Innovations in hotel industry, from our point of view, should be considered as a form of institutional and managerial innovations, aimed at purposeful changes in setting and managing hotel products, as well as in their processing. This notion is based upon the nature of the hotel service (which includes combination of tangible and intangible goods and services and high level of IT penetration).

Real world practice of introduction of hotel industry innovations also reveals high dependence of hotel industry's activity on tourist activity in general. Method of model-

building with multiple linear regressions will be used to estimate the dependence of hotel performance on selected determinant factors.

III. RESULTS

Study on innovation activities was focused on 19 hotels in Vladivostok. It was found, that production innovations are mainly presented by the information services that are new to the regional market or to the hotel itself. Market penetration level is low for products dealing with sport activities, healthcare, serving business tourists.

Marketing innovations are implemented in form of special offers and loyalty programs, and they are usually implemented by the middle and upper level hotels. Analysis of introduction of process and technological innovations showed that only 33% of hotels have had reconstruction works or overall repair within the last three years.

Internet technologies in Primorsky territory's hotels are rather widespread – 85% of the researched hotels have their own webpages, offering basic information on their services, showcasing the photo gallery. These webpages normally have well-designed navigation, detailed price information and different translations of their content. The most common drawbacks include missing web search system, guestbook, feedback area.

As a result we determine "Price of the standard room" and "Revenue per available room – RevPar" as dependent variables.

Multiple linear regression model in its general view looks as follows:

$$Y_i = \beta_0 + \beta_1 * x_{1i} + \ldots + \beta_k * x_{ki} + u_i, \tag{1}$$

where

Y_i – resulting variables for hotel performance;

x_1 – number of rooms

x_2 – distance to the city center (road junction), km.;

x_3 – room area, м2;

x_4 – depth and breadth of assortment, %;

x_5 – website completion, %;

x_6 – the last reconstruction date, dummy variable;

x_7 – software quality.

Undetermined coefficients for model are $\beta_j * j = 0, \ldots, k$ as well as the distribution parameters u_i.

To measure the effect of selected factors on resulting variable we've used statistical package Eviews. At the first stage, research on correlation with "Price of the standard room" and "RevPar" was carried out for each factor separately in the form of single-factor models.

Effects of room area, depth and breadth of assortment and software quality on price of the standard room were determined, as well as the effects of depth and breadth of assortment, website completion and software quality on "RevPar".To measure the dependence of hotel performance variables on aforementioned factors, multiple linear regression models were used.

The results are as follows - regression model for the effects of room area, depth and breadth of assortment, the last reconstruction date on the price of the standard room:

$$PRICE = 113.5 * x_3 + 38.7 * x_4 + 455.3 * x_6 - 1176.5 \tag{2}$$

This model is the most accurate among three-factor models (F-statistic. = Fcryti-cal), but the significance of x_6 coefficient is not sufficient (T-statistic. = 1,497 for Tcrytical = 2,228). With the "last reconstruction date" variable being excluded model looks as follows:

$$PRICE = 105.4 * x_3 + 36.8 * x_4 - 775.7 \tag{3}$$

This model describes the effects on the price of the standard room the best. In the similar manner the study for "RevPar" was carried away.

It was determined, that multiple linear regression model is not accurate enough. Consecutive exclusion of variables did not give any significant result, so applied is the single-factor model to measure the effect of each factor on the resulting variable. The most accurate model reads as follows:

$$REVPAR = 40.7 * x_4 - 0.2 \tag{4}$$

$$REVPAR = 15.9 * x_5 + 914.1 \tag{5}$$

Evaluation of factors' effect on hotels economic performance revealed, that price-setting for rooms is mainly dependent on depth and breadth of assortment and room area. "RevPar" is mainly dependent on website completion and assortment of offered services.

In this vein primary factor of influence is the assortment policy with the certain degree of uniqueness, which can be considered as a relative innovation for a competitive market. Suggested innovative methods of hotel administration can be displayed as institutional and managerial blocks (see Fig. 1).

Study on institutional and managerial aspects of innovation activity in hotel industry revealed, that it's mainly displayed in provision of personnel and infrastructure. Both of those aspects could be targeted by enhancing cooperation between schools and hotels and by developing training basis.

Training hotel uses synergy of the modern practical innovation foundation for coursework in all aspects related to hotel services. Opinion poll suggests, that 30% of hotels are interested in developing such kind of training hotels that could also become a business-ground for city seminars, trainings,

negotiations, conferences according to representatives from 78 hotels. The following model of training hotel is proposed (see Fig. 2).
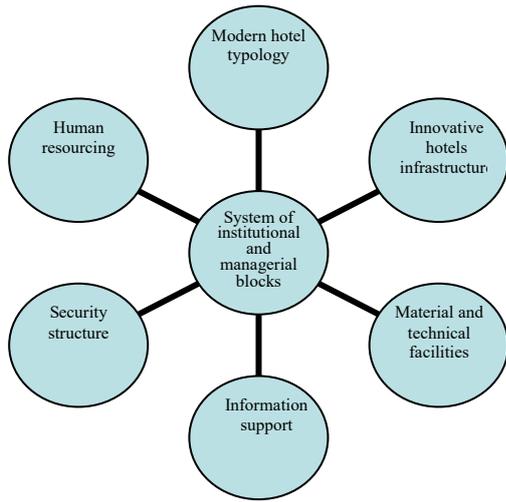

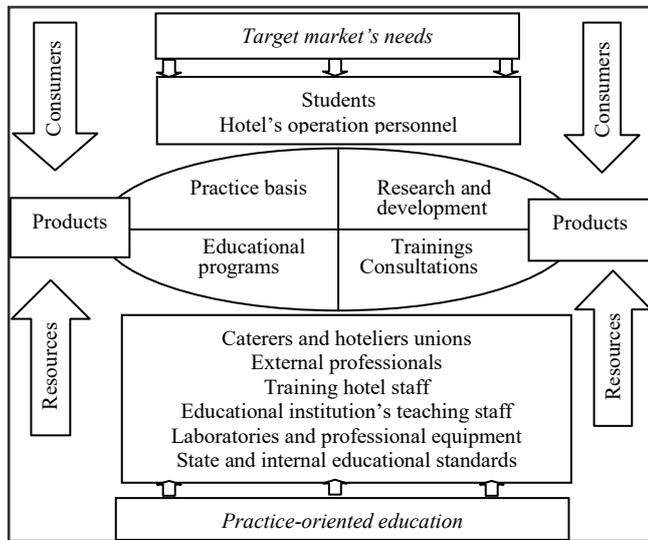Fig. 1 System of institutional and managerial blocks in hotel industry.

Fig. 2 Training hotel model.

Based on the proposed model, preliminary innovative project of training hotel was developed with the help of simulation modeling in "Proiect Expert", as presented in Table 1.

In general, exponents' analysis confirms the effectiveness of investment projects for hotel facilities. Project's risk sensitivity analysis reveals high durability in terms of changes of investments, prices, sales volumes.

In the meantime, proficient changes are not possible in the hotel industry by itself without the changes in the system of tourist entrepreneurship as a whole, aimed at bringing

incentive and profits from one side closer to market laws, product quality and effectiveness on the other side.

TABLE I.   INTEGRAL EXPONENTS OF PROJECT'S EFFICIENCY.

Exponents	Discount	
	No discount	*With discount*
Discount rate, %	-	14,0
Payout period (PV), per month, including	86	134
Profit investment ratio (PI)	2,97	1,16
Net present value (NPV), thousands US dollars	11 768	914,7
Average rate of return (ARR), %	18,58	18,58
Internal rate of return (IRR)	17,12	17,12

References

[1] UNWTO Tourism highlights 2008 edition, https://www.e-unwto.org/doi/pdf/10.18111/9789284413560, last accessed 2018/07/30

[2] UNWTO Press Release: 2017 International Tourism Results: the highest in seven years, http://media.unwto.org/press-release/2018-01-15/2017-international-tourism-results-highest-seven-years, last accessed 2018/07/30

[3] WTTC Travel & Tourism economic impact 2018 - World, https://www.wttc.org/-/media/files/reports/economic-impact-research/regions-2018/world2018.pdf, last accessed 2018/07/30

[4] UNWTO World tourism barometer. Volume 16 (March/April 2018), http://cf.cdn.unwto.org/sites/all/files/pdf/unwto_barom18_02_mar_apr_excerpt__0.pdf, last accessed 2018/07/30

[5] UNWTO Tourism highlights 2011 edition, http://mkt.unwto.org/sites/all/files/docpdf/unwtohighlights11enhr.pdf, last accessed 2018/07/30

[6] Vodacek L., Vodackova O., "Strategy of innovation management in organization". Prague: Management Press, 2001.

[7] Doyle P., Stern P., "Marketing Management and Strategy". New Jersey: Prentice Hall, 2002.

[8] J-J Lambin., "Strategic market: a European Approach." New York: McGrraw-Hill, 1993.

[9] Goldyakova T.V., "Innovation's definition and classification," in Russian foreign economic bulletin, no. 2, 2006, pp. 20-27 2006.

[10] Anshin V.M., "Innovative management." Moscow: Delo, 2003.

[11] Walker J.R., "Introduction to hospitality management." London: Pearson, 2016.

[12] Kulagin A.S., "Some consideration on the term "innovation," in Innovations, no. 7, 2004, p. 58, 2004.

[13] Evdokimova L.O., "Innovation management." Vladivostok: Andreevskiy izdatelskiy dom, 2007.

[14] Dandon E., "Innovations: how to define tendencies and to benefit." Moscow: Vershina, 2006.

[15] Santo B., "Innovation as a tool for economic development." Moscow: Progress, 1990.

[16] Hotyasheva O.M., "Innovation management." Saint Petersburg: Piter, 2006.

[17] Drucker P.F., "Innovation and Entrepreneurship."London: Routledge, 2007.

[18] Avsyannikov N.M., "Innovation management." Moscow: Izdatelstvo RUDN, 2002.

[19] Filosofa T.G., "Competition. Innovation. Competivity." Moscow: Unity-dana, 2008.

[20] Calestous J., "Innovation and Its Enemies: Why People Resist New Technologies." Oxford: Oxford University press, 2016.