

Contemporary Challenges of Independent Hotels Automation on the Way to Achieving Competitiveness: Focus on the Hotel Services Market of the Black Sea Coast

Leonid A. Popov ^{1*}, Ekaterina A. Blinova ¹, Anna I. Kosheleva ¹, Ekaterina N. Valedinskaya ¹,
Andrey V. Mikhaylets ¹

¹ Plekhanov Russian University of Economics, RUSSIA

Received 30 May 2017 ▪ Revised 5 September 2017 ▪ Accepted 26 September 2017

ABSTRACT

The relevance of the topic depends on the fact that due to the increasing influence of innovative processes, one of the main tools for ensuring competitiveness of independent hotels is the automation of business processes in the hotel management system. In this context, the purpose of this study is to identify possible problems of integrated automation of independent hotels using the example of the Black Sea coast hotel market and develop the recommendations for their overcoming. The research conducted by the authors revealed the main trends in the use of PMS by hotels on the Black Sea coast in the Russian Federation which clearly reflect the situation on the market of independent hotels in the region. The authors prove the necessity and provide methodology for the competent adoption of the complex automation system into the hotel's operation. Results of the study suggested by the authors are of the practical value for the independent hotels aiming to increase the income, retain the market share and ensure competitive and progressive development of enterprise in conditions of dynamic transformation of the external environment.

Keywords: competitiveness, hotel enterprises, innovations, information technology, hotel PMS

INTRODUCTION

A modern hotel is a complex of functions on the coherence and responsiveness of which depends the success of the company on the market. Therefore, in the modern era of informatization the basis for the competitiveness of the hotels is provided by adoption of hotel automation systems, i.e. adoption of the Property Management System (PMS) for the hotel.

Modern software for the hotels creates an effective environment for interaction between employees, customers and business partners, enables optimizing business processes and improving the quality of the hotel services. Considering the high cost of hotels automation, as well as the need for periodic software updates caused by technological progress and the pace of competition growth, hotel managers critically assess the opportunities for the return of the investments and decide to automate their hotels [1].

As the world hotel practice shows, automation of the hotel activities is a necessary process. Using the computer networks, the Internet and the Internet technologies, software products of the cross-cutting automation of all the hotel business processes is not just a matter of leadership and creation of competitive advantages, but also a matter of survival in the market in the long run. At the same time, only due to the proper adoption of new technologies the hotel increases the efficiency of its work and acquires competitive advantages.

© **Authors.** Terms and conditions of Creative Commons Attribution 4.0 International (CC BY 4.0) apply.

* **Correspondence:** Leonid A. Popov, *Department of Hospitality, Tourism and Sport Management, Plekhanov Russian University of Economics, Moscow, Russia.*

✉ popov@rea.ru

The information and technological revolution and the constant expansion of the boundaries of automation do not only contribute to increasing the efficiency and competitiveness of the hotel, but also pose more and more challenges for hoteliers. The technical equipment of the hotel should be selected, professionally installed and set up, the staff should be trained, reliable, uninterrupted operation of technology and a clear organization of technological procedures should be provided as well as the effective operation of the installed technologies. The independent hotels face this most acute issue because they do not have the support of the head office, a staff of highly qualified specialists in programming and developing software products that determine the technology of networked hotels.

As can be seen above, the researches of contemporary problems of independent hotels automation on the way to achieving competitiveness are becoming acute.

LITERATURE REVIEW

The scientific and research base for the automation of hotels is rather meager. The lack of scientific research in this area can be noted and there are only various information reviews of technological innovations on the part of the manufacturers and technical regulations on equipping and automating of the hotels.

The studies that have examined the relationship between IT and hotel management have confirmed the value of IT. For instance, W. G. Kim and S. Ham [2] found that all core front office IT applications significantly improved service quality in upscale hotels, and Chathoth [3] showed the value of implementing IT for full-service hotels to improve service and increase employee morale. Even as late as 2008, O'Connor's [4] interviews with European chief information officers (CIOs) found that the industry was half a generation behind other industries, despite rapid IT adoption.

The research of R. Leung and R. Law [5] proved the necessity of using IT to connect hotel PMSs to other systems. So, the role of hotel IT managers has changed from providing operational support to developing technical and strategic solution. V. Drousiotou [6] investigated website usability and behavioral intention for online hotel reservations. One of the challenges was that apart from chain hotels whose central reservation systems (CRSs) are connected to popular travel websites, most hotels' PMSs are still not interconnected with these online channels. But an interface between the booking engine and the PMS is required, as confirmed online bookings can directly affect room inventory.

The new opportunities of hotels' PMS were investigated by the group of researchers led by Prof. Dr. Mustafa Gulmez [7]. They compared usage of cloud technology in hotels with desktop-based PMSs and found out its advantages and adequate usage for the benefit of overall hotel operating.

In the context of the automation problems in Russian hotels the great value of the research by D. A. Kozlov [8, 9, 10] and L. A. Popov [11] should be noted that covered the fundamentals of information technologies and systems in the hospitality industry, the issues of selection, implementation and operation property management systems in hospitality enterprises and the hardware and software of control systems, electronic locks, safes, hotel TV, telecommunications systems and other auxiliary systems in the hotel; E. V. Pakhomov [12] in his research deals with complex automation of the hotel enterprises.

Some of the advantages of modern IT and automation of hotels, such as smart wi-fi in hotels are presented in the work of E. N. Artemova and N. V. Glebova [13] and CRM as a factor in improving the service quality and customer loyalty in the work of M.B. Dyuzheva and O.V. Lukina [14]. However, these studies reveal the advantages of modern software adoption in hotel enterprises rather than deal with problematic issues.

METHOD

In order to carry out the problem analysis of the current state of the automation market for hotels and other accommodation facilities within the framework of the grant of Plekhanov Russian University of Economics with the support of the social organization Independent Hotel Alliance, the volume and dynamics of the hotels automation market, geography of sales of automation systems, the main problems of the hotels were studied.

Due to the large amount of data and the wide geography of tourist destinations in the Russian Federation, the most popular region among tourists is the Black Sea coast, while the hotel fund is rather limited in financial resources unlike in Moscow and St. Petersburg. Hotels of the Black Sea coast are a catalyst for the development of hospitality and tourism industry in Russia and this tourist region is characterized by the concentration of mostly independent hotels that are the subject of this study.

As a part of the study, 1100 hotels with a total number of rooms of 41,012 rooms were studied with the help of empirical methods of interviewing and questioning in such resort cities as Anapa (13.6%), Gelendzhik (12%), Krasnodar (5%), Sochi (18.3%), Alushta (13.6%), Yevpatoria (4%), Sudak (0.1%), Yalta (12%), Feodosia (7.6%), Gagra (8.8%), New Athos (3%), Pitsunda (2%).

The classification structure of the investigated objects is distributed as follows: 34% - without a category, 25.9% - * 3, 24.7% - * 4, 14.6% - * 5, 0.8% - * 2 which reflects the hotel market structure of the studied tourist region and reduces the probable error in the results and relevance of the research to zero.

The methods of theoretical analysis and synthesis of the obtained data enabled to achieve the following results and conclusions.

FINDINGS AND DISCUSSION

According to the managers of hotels, there are three main criteria for assessing the feasibility of investing in automated hotel management systems: achievement of a competitive advantage; increase in productivity; maximum use of the available hotel resources.

Therefore, the following areas of automation of a hotel enterprise can be singled out:

- ✓ hotel automation system;
- ✓ additional systems and modules;
- ✓ peripheral systems;
- ✓ database management system and ERP system;
- ✓ hotel website;
- ✓ EDI (electronic data interchange).

Hotel automation systems offered on the Russian market are mainly used for Front office services which, when interacting with the client, process the bookings, host the guests, manage their accounts and cash transactions, manage the guestroom inventory and the night audit, etc. Warehouse and accounting systems, interaction with the bank are subject to automation in Back office. The integrated software for Front office and Back office forms the necessary minimum of functionality which is the initial level of the hotel automation [15]. Additional systems and modules constitute the concept of complex hotel automation and ensure the realization of its advantages. Additional systems should support integration with the hotel automation system in case they are independent software products. Additional systems include restaurant automation systems, sales outlets management, yield management, online booking, billing systems, CRM systems, etc.

As the survey results show, 30% of the guestroom inventory of the Black Sea coast in Russia have no complex automation, but only use separate elements of the automation system for Front office and/or website and do not plan to exit the "shadow" business. This leads to the lack of control over the business by owners, managers and fiscal bodies and is connected with the lack of an industry-specific training among owners and managers. The level of professional competence in the application of modern software in the hospitality industry is the value of the employee's intellectual capital and enables him to solve problems in a much more effective way which ultimately increases the profitability of the hotel [16]. All of this allows us to conclude that there is a lack of personnel in the hotel market of the Black Sea coast which have the necessary competencies to work in the modern conditions of hotel business automation.

An important matter is to choose what hotel automation system is the most effective. The most common basic requirements of the hotels for automation systems are:

- Powerful functionality for managing tariff policy, guestroom inventory and customer service;
- Use of all existing sales channels of hotel services (Internet, GDS (Global Distribution System), call-centers);
- Wide range of possibilities for financial control and audit;
- Management of profit centers (guestroom inventory, restaurants, bars, fitness, laundry, business center);
- Organization of events (congresses, banquets, conferences);
- Interfaces with automatic credit card authorization systems;
- Interfaces with peripheral systems (interactive TV, telephony, locks, minibars, energy management);
- Possibility of implementing regular guests programs and participation in airline bonus programs;
- Calculation of fees for travel agencies;
- Possibility of making group bookings with flexible system of individual payments with guests;
- Reliability and robustness;
- Maintenance and round-the-clock support;
- Constant development of systems in accordance with market requirements [10].

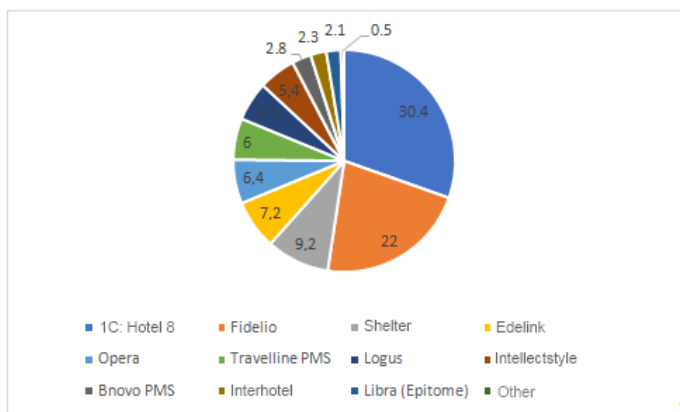


Figure 1. The main PMSs at the hotel market of the Black Sea coast, in shares (prepared by authors, based on the research)

The choice of the system depends on many parameters of the hotel: guestroom inventory, additional services (communication, pay TV channels, electronic keys, spa), location, the contingent of guests.

The main PMSs in the investigated hotel market (see Figure 1): 1C: Hotel 8, Fidelio, Shelter, Edelink, Opera, Travelline PMS, Logus, Intellectstyle. The prevailing systems are: 1C: Hotel (30.4%), Fidelio (22%), Shelter (9.2%), Edelink (7.2%), Opera (6.4%), Travelline PMS (6%).

In order to understand the advantages and disadvantages of the hotel work with a particular system, the authors also examined the dynamics of the coverage of the hotel market with specific software products. According to the results it was found out that in 2016 only two PMSs showed growth: from 30% to 30.4% - 1C: Hotel 8 (in the cities of Anapa, Krasnodar, Sochi, Alushta) and from 19.2% to 22% - Fidelio (in the cities of Gelendzhik, Krasnodar, Sochi, Alushta, Gagra, New Athos). At the same time, the decline was recorded in Shelter software from 9.6% to 9.2% (in the cities of Yalta, Sochi, Anapa); Opera from 6.8% to 6.4% in Anapa and Edelink from 8% to 7.2% (in the cities of Anapa, Gelendzhik, Sochi, Gagra).

An important problem for the development of the hotel management systems market was the economic crisis as well as the exchange rate difference prevailing at the market of dealers which resulted in an increase in the ruble value of automation products and made their use practically impossible. Domestic PMSs are inferior to foreign ones in terms of functionality, but they are much more affordable for practical use. At the same time, the trend of import substitution did not show itself in the automation market for hotels, and the foreign software product Fidelio proved to be the most successful.

Recently, more and more hotel customers prefer booking online. This trend is revealed throughout the world hotel business and is confirmed by numerous studies [17, 18]. An important software solution for improving the efficiency of the hotel and its competitiveness is the channel-manager which helps to control the management of online resources, reducing the cost of manual control, optimizing solutions to important strategic issues, increasing the opportunity to profit at the maximum amount.

The process of management automation of the entire guestroom inventory simplifies the operation of the hotel with all the sales channels and excludes overbooking [11]. In this case, the channel-manager system enables to manage tariff plans and a single quota simultaneously in all the sales channels; maintain sales statistics by grouping the data into categories; analyze and adjust prices under the influence of consumer demand and competitive actions which are the most urgent tasks in the modern highly competitive and technological hotel market [19].

The main channel-managers which are implemented in the work of the Black Sea coast hotels are distributed as follows (see Figure 2): 40% - Travelline; 23.6% - Bnovo (Wubook); 16.4% - Travelclick.

Particular attention is drawn to the fact that 20% of the hotels do not use a channel manager at all, which leads to an inadequate representation of the data product of these hotels in the Internet, reduces the possibilities of selling a number of rooms via various sales channels and hinders the dynamics of market development contributing to the hotel management model on tourist blocks that provide the lowest return for owners and hotel managers.

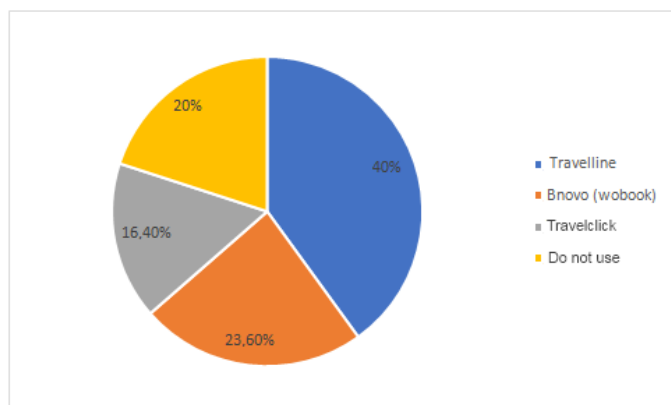


Figure 2. Main channel-managers on the hotel market of the Black Sea coast, % (prepared by authors, based on the research)

CONCLUSION

Unstable political and economic situation, increased public attention to environmental care, ubiquitous development of information and cloud technologies, adoption of innovation and innovation processes in the activities of hotels, transformation of market conditions and new players in the hotel market, probability of a compulsory classification of the hotels in the short term, technological particularities of providing hotel services, improving methods of marketing communications, changing the behavior of hotel services consumers, need for personalization of hotel services are contemporary challenges of the external environment that the hotel faces. Without a proper response to these challenges, not every company is capable of supporting the achieved level or increasing the level of competitiveness.

This study showed that currently independent hotels should pay more attention to such a tool for ensuring competitiveness as the automation of business processes in the management system. The competent adoption of the complex automation system into the hotel's operation as well as the use of additional modules will help to establish the business processes in the enterprise, timely identify problematic situations, increase the productivity of the hotel staff, improve the quality and speed of customer service and raise the profitability of the hotel.

If an independent hotel company uses separate automation modules for specific business processes, it is not always possible to achieve the desired goals. The integration of software modules for the automation of Front office and Back office services is no longer able to ensure the proper level of competitiveness at the present time. Only integrated automation of all the hotel divisions takes the hotel company to a completely different level of functioning and service and enables it to take a leading position in the market.

These conclusions are supported by the author's research of the hotel market of the Black Sea coast in the Russian Federation most of which is represented by independent hotels. The study has revealed an urgent need for attracting qualified personnel with a set of professional competencies in the region that allows building an effective management model using information technologies.

The authors revealed the main trends in the use of PMS by hotels on the Black Sea coast in the Russian Federation which clearly reflect the situation on the market of independent hotels in the region. The study showed that, despite the fact that most of the enterprises use Russian PMSs such as 1C: Hotel, a number of hotels which are using and planning to use foreign software Fidelio is growing every year. This trend suggests that foreign software products have greater usability and functionality than Russian counterparts and attract more hotel managers, despite the affordability of Russian PMSs.

Taking into account the growth trend of online sales, the authors studied the possibilities of using channel-manager program modules and proved their effectiveness. The analysis of the main programs used in the market showed that the channel manager of Travelline is the most popular among the independent hotels of the Black Sea coast of Russia. At the same time, it was found that not all the hotels use similar software products which fact enables to conclude that there is no strategic vision and ignoring some changes in consumer behavior which can negatively affect the level of occupancy of independent hotels. The possibilities of using channel-manager are wide, the integration of such modules with the PMS significantly expands the possibilities of yield management and integrates an independent hotel into the Internet environment, providing profitable relationships with intermediaries and establishing additional channels for marketing communications with consumers.

To sum up, one can say that the automation of the independent hotels activities is one of the tools to improve the quality of the services provided which helps attract new customers and retain regular ones, increase the incomes

of independent hotels, retain the market share and ensure competitive and progressive development of enterprises in conditions of dynamic transformation of the external environment.

ACKNOWLEDGEMENTS

The authors thank Plekhanov Russian University of Economics for providing financial support for this research.

REFERENCES

1. Dzhandzhugazova, E. A., Zaitseva, N. A., Larionova, A. A., Petrovskaya, M. V., & Chaplyuk, V. Z. (2015). Methodological Aspects of Strategic Management of Financial Risks during Construction of Hotel Business objects. *Asian Social Science*, 11(10), 229-234.
2. Kim, W. G., & Ham, S. (2006). The Impact of Information Technology Implementation on Service Quality in the Hotel Industry. *Information Technology in Hospitality*, 4(4), 143-151.
3. Chathoth, P. K. (2007). The Impact of Information Technology on Hotel Operations, Service Management and Transaction Costs: A Conceptual Framework for Full-Service Hotel Firms. *International Journal of Hospitality Management*, 26(2), 395-408.
4. O'Connor, P. (2008). Managing Hospitality Information Technology in Europe: Issues, Challenges and Priorities. *Journal of Hospitality Marketing & Management*, 17(1-2), 59-77.
5. Leung, R., & Law, R. (2013). Evaluation of hotel information technologies and EDI adoption: The perspective of hotel IT managers in Hong Kong. *Cornell Hospitality Quarterly*, 54(1), 25-37.
6. Drousiotou, V. (2014). *Investigating website usability and behavioural intention for online hotel reservations: a cognitive perspective* (Doctoral dissertation). Brunel University, School of Information Systems, Computing and Mathematics. Retrieved April 11, 2017, from: <http://bura.brunel.ac.uk/handle/2438/8513>
7. Gulmez, M., Ajanovic, E., & Karayun, I. (2015). Cloud-based vs desktop-based property management systems in hotel. *USV Annals of Economics and Public Administration*, 15, 1(21), 160-168.
8. Kozlov, D. A. (2014). *Yield Management in Hotels*. USA, Charleston: CreateSpace.
9. Kozlov, D. A. (2015). *Information technology in hotel business*. USA, Charleston: CreateSpace.
10. Kozlov, D. A. (2016). *Quick guide to information systems in hotels*. USA, Charleston, CreateSpace.
11. Kozlov, D. A., & Popov, L. A. (2013). Forecasting and Revenue Management in the Hospitality Business of the Russian Federation. *Bulletin of the Plekhanov Russian University of Economics*, 12(66), 49-56.
12. Pakhomov, E. V. (2011). Complex automation of the hotel enterprise. *News of Southern Federal University. Technical sciences*, 124(11), 232-240.
13. Artyomova, E. N., & Glebova, N. V. ((2016). *Development strategy of hospitality and tourism industry*. Orel: Orel State University named after I.S. Turgenev.
14. Dyuzheva, M. B., & Lukina, O. V. (2013). Adoption of modern automation systems in the hotel as a factor of increasing quality of customer service. In *The current state and potential of tourism development in Russia: Materials of scientific and practical conference*. Omsk: Omsk State Institute of Service, 141-143.
15. Nikolskaya, E. Y. (2015). Modern Problems and Prospects of the Hotel Business. *The Way of Science*, 1(11), 65-67.
16. Kobayak, M., Ilyina, E., & Latkin, A. (2015). Specifics of economic development of the experience economy in the hospitality and tourism industry. *Russian Regions: Looking into the Future*, 3, 27-36.
17. Kovaltchuk, A. P., Blinova, E. A., & Dedusenko, E. A. (2016). Improving the competitiveness of Russian enterprises of the industry of hospitality and tourism in modern conditions. *Russian Economic Online Magazine*, 4. Retrieved April 14, 2017, from: <http://www.e-rej.ru/publications/166/>
18. Lisitzina, T. B. Pavlova, A. V., Khanmurzina, R. R., Vlasova, V. N., Chitalin, N. A., Maksimov, I. N., & Zakirova, V. G. (2015). Features of the Professional and Motivating Training Content Design for Students Majoring in "Tourism". *Asian Social Science*, 11(1), 148-153.
19. Lepeshkin, V. A., Kulgachev, I. P., Blinova, E. A., Manteifel, E. A., & Romanyuk A. V. (2017). Business activity in the field of tour operator services in Russia and development of the national tourism. *International Journal of Applied Business and Economic Research*, 15(8), 53-70.

<http://www.eurasianjournals.com>