



e-ISSN 3083-6018

SOCIAL DEVELOPMENT: Economic and Legal Issues

<https://www.eu-scientists.com/index.php/sdel>


Development of Information Systems and Technologies in the Hotel and Tourism Business

Oleksandr Koval ^{1, 2 *} ● Nataliia Sereda ³

¹ State Institution of Higher Education "Uzhhorod State University" (Ukraine). Senior Lecturer at the Department of Tourist Infrastructure and Hotel and Restaurant Industry.

² Higher Educational Institution "National Academy of Management" (Ukraine). Applicant for the Third (Educational and Scientific) Level of Higher Education in the Educational and Scientific Program "Economics".

³ Kherson State University of Agriculture and Economics (Ukraine). Associate Professor at the Department of Hotel, Restaurant and Tourism Business, PhD in Economics, Associate Professor.

* Corresponding Author, e-mail: nataliyasereda25@gmail.com

ARTICLE INFO

ABSTRACT

Research Article

DOI:

[10.70651/3083-6018/2025.2.08](https://doi.org/10.70651/3083-6018/2025.2.08)

Copyright © 2025
by authors



This is an open access journal and all published articles are licensed under a Creative Commons Attribution – NonCommercial 4.0 International (CC BY-NC 4.0)

OPEN ACCESS

The article analyzes the development of information systems and technologies in the hotel and tourism industry, focusing on their impact on customer relationship management, marketing strategies, and booking processes. The aim of the article is to demonstrate how information technologies have influenced the growth of the tourism and hospitality sectors. The research employed general scientific methods of cognition, including analysis, synthesis, systematization, comparison, and modeling. The findings indicate that information and telecommunication technologies provide significant strategic advantages for businesses in the tourism and hospitality industries. The use of electronic customer relationship management (CRM) systems facilitates data collection, analysis, and utilization for service personalization, enhancing customer satisfaction. Moreover, CRM systems enable hotels and travel companies to develop marketing strategies that more accurately align with consumer needs and preferences, fostering customer loyalty and optimizing business processes. It has been shown that the growth of social networks and their integration with CRM systems significantly influence communication strategies in the hospitality sector. Platforms such as Instagram and YouTube allow companies to attract new customers through visual content and video materials, which play a key role in tourism marketing. Additionally, the interactive nature of social media promotes effective feedback, improving customer interaction and service quality. The practical significance of the study lies in identifying effective approaches for implementing modern information technologies in the hotel and tourism business to enhance service levels and optimize management.

KEYWORDS

automation system, business management, crisis economy, hotel business, information technology, tourism.



e-ISSN 3083-6018

СОЦІАЛЬНИЙ РОЗВИТОК: економіко-правові проблеми

<https://www.eu-scientists.com/index.php/sdel>



Розвиток інформаційних систем і технологій у готельному та туристичному бізнесі

Олександр Д. Коваль 1, 2 ● Наталія М. Середя 3*

¹ Державний вищий навчальний заклад «Ужгородський національний університет» (Україна). Старший викладач кафедри туристичної інфраструктури та готельно-ресторанного господарства.

² Вищий навчальний заклад «Національна академія управління» (Україна). Здобувач третього (освітньо-наукового) рівня вищої освіти ОНП «Економіка».

³ Херсонський державний аграрно-економічний університет (Україна). Доцент кафедри готельно-ресторанного та туристичного бізнесу, к. е. н., доцент.

* Автор-кореспондент, e-mail: nataliyasereda25@gmail.com

СТАТТЯ	АНОТАЦІЯ
Дослідницька DOI: 10.70651/3083-6018/2025.2.08 Авторське право © 2025 авторів Цей твір ліцензовано на умовах Ліцензії Creative Commons «Із Зазначенням Авторства – Некомерційна 4.0 Міжнародна» (CC BY-NC 4.0).	Стаття присвячена аналізу розвитку інформаційних систем і технологій у сфері готельного та туристичного бізнесу, зокрема їх впливу на управління клієнтськими відносинами, маркетингові стратегії та процеси бронювання. Мета статті – показати як інформаційні технології вплинули на розвиток сфери туризму та готельної індустрії. В ході наукового дослідження використовувалися загальнонаукові методи пізнання, зокрема аналіз, синтез, систематизація, порівняння та моделювання. Результати дослідження показують, що інформаційні та телекомунікаційні технології забезпечують значні стратегічні переваги для підприємств туристичної галузі та готельного бізнесу. Використання електронних систем управління відносинами з клієнтами (CRM) сприяє збору, аналізу та використанню даних для персоналізації обслуговування, що підвищує рівень задоволеності клієнтів. Крім того, CRM-системи дозволяють готелям і туристичним компаніям розробляти маркетингові стратегії, які точніше відповідають потребам і вподобанням споживачів, сприяючи збільшенню лояльності клієнтів та оптимізації бізнес-процесів. Показано, що розвиток соціальних мереж і їх інтеграція з CRM-системами суттєво впливають на формування комунікаційних стратегій у сфері гостинності. Використання платформ, таких як Instagram і YouTube, дозволяє компаніям залучати нових клієнтів за допомогою візуального контенту та відеоматеріалів, що відіграють ключову роль у туристичному маркетингу. Крім того, інтерактивність соціальних мереж сприяє налагодженню ефективного зворотного зв'язку, що покращує взаємодію з клієнтами та підвищує якість обслуговування. Практичне значення дослідження полягає у визначенні ефективних підходів до впровадження сучасних інформаційних технологій у готельному та туристичному бізнесі для підвищення рівня обслуговування та оптимізації управління.

КЛЮЧОВІ СЛОВА

система автоматизації, управління бізнесом, кризова економіка, готельний бізнес, інформаційні технології, туризм.

1. Introduction

The development of information systems and technologies is crucial in the modern hotel and tourism business. The COVID-19 pandemic, which has caused global restrictions on travel and social interaction, has forced the industry to look for new ways to survive and adapt. The introduction of advanced information technology has been a key factor that has helped support the existing market during challenging times and played an important role in the industry's recovery.

The use of digital platforms for booking management, virtual tours, online customer service, and even remote management of hotel operations has become the new normal. These technologies have enabled hotels and travel companies not only to survive during the pandemic but also to respond effectively to changes in customer needs and preferences. Process automation has reduced the need for physical contact, thereby providing a safer environment for both guests and staff.

In addition, during and after the pandemic, the integration of advanced analytics tools into customer relationship management (CRM) systems has enabled hotels to more accurately identify consumption trends, optimize marketing campaigns, and improve the quality of service. This ability to quickly adapt to market conditions and respond to customer demands through technology has significantly improved the efficiency of the hotel business and contributed to the sustainable recovery of the industry.

2. Literature Review

The issue of development of information systems and technologies in the field of hotel and tourism business is sufficiently studied in foreign scientific literature. S. Dewnarain et al. [6] consider social customer relationship management (social CRM) as a tool to improve interaction and increase customer loyalty. S. Ivanovic et al. [9] analyze CRM as a means of increasing the competitiveness of the hotel business through automation of management processes. V. Katsoni [10] explores the concept of electronic CRM (e-CRM) and its role in personalizing services and improving communication with customers. I. Khatri [11] assesses the development of information technology in the tourism industry over the past decade, highlighting its impact on marketing and predicting customer behavior. R. Leung and R. Law [12] study the role of information and communication technologies in improving operational processes and marketing strategies in the hotel industry. B. Milović [14] focuses on the impact of social media and e-CRM on hotel success, demonstrating their importance for improving the level of service. A. Papaioannou et al. [16] analyze the application of e-CRM in the tourism and hospitality business in Greece, emphasizing its importance for customer retention. M. Sigala [21] proposes a conceptual model for the implementation of social CRM in the hotel sector, which contributes to increasing the level of personalization of service. P. Talón-Ballesteró et al. [23] explore the use of big data in CRM systems to analyze customer profiles in the hospitality sector. The study also used publications on official websites of software developers such as Actabl [1], Bbot [2], Cendyn [3], Cloudbeds [4], Dailypoint [5], Duve [7], Guest Touch [8], Menufy [13], Monday.com [15], Pipedrive [17], Popmenu [18], Revinate [19], Salesforce [20], Square [22] and Toast [24], which highlight modern digital solutions for management automation in the hotel business.

Despite a significant number of scientific and practical sources, there is a lack of systematized material, which necessitates further analysis and classification of existing approaches to the use of information technologies in the field of hospitality.

3. Problem Statement

The purpose of the article is to show how information technologies have influenced the development of tourism and the hotel industry.

4. Methods and Materials

The study of the impact of information technologies on the recovery of the hotel and tourism business was based on the analysis of scientific publications and open sources. The methodology of systematic literature review is used to determine the role of IT in adapting the industry to new challenges. At the same time, analytics of websites of leading IT solutions in the hotel industry was carried out to determine their functionality, advantages, and disadvantages. This collected data made it possible to assess the current state of technology use in the industry and identify trends for further research.

5. Results and Discussion

Information and telecommunication technologies play a key role in the development of the hospitality and tourism industry, providing strategic advantages in the competition. V. Katsoni [10] notes that the use of information and communication technologies allows hotels and travel companies to interact with customers more effectively using electronic customer relationship management systems, which helps to strengthen their market positions. R. Leung and R. Law [12] emphasize that the development of information technology is decisive for achieving strategic advantage. They emphasize that along with the field of information technology, information support is also developing. If at the initial stage, the emergence of the Internet in general played an important role, then with the advent of new technologies on the Internet, new information opportunities for the development of the tourism business constantly appear. I. Khatri [11] adds that ICTs not only simplify the communication processes between a company and customers but also play a critical role in collecting and analyzing customer data, allowing travel companies to customize their marketing and service strategies in a more targeted manner.

The advent of the Internet has greatly simplified the application and booking procedures in hotels, increasing the convenience and efficiency of these processes. Four global distribution systems, known as AeroSvit, Amadeus, Galileo, Sabre and Worldspan, dominate the market, covering more than 90% of the hotel sector and having more than 400,000 installations in travel agencies around the world. Their dominant position and status as the "golden quartet" are due not only to their wide coverage but also to their ability to integrate regional booking systems that meet local practices and provide global coverage [12].

An analysis of the literature shows that the importance of social networks in the development of customer interaction in the hospitality and tourism industry has changed dramatically. In particular, authors such as S. Dewnarain et al. [6] and B. Milović [14] deeply explore this topic, emphasizing that social networks have become the main tools for managing customer relations in hospitality. Social networks such as Instagram, YouTube, and X play a crucial role in shaping companies' communication strategies. Instagram, for example, allows you to post visually appealing content, which is especially effective in the tourism industry, where visual perception is of great importance. Platforms like YouTube provide opportunities to showcase services in the form of videos, which helps potential customers get a better idea of what they can expect from the visit. X, instead of the traditional Twitter, has become a platform for quick updates and interaction with users in real time, which contributes to the immediate engagement of the audience.

The development of CRM systems in the hospitality industry plays a key role in automating management and customer interaction, becoming a tool for improving efficiency and providing competitive advantages. The literature review highlights the importance of adapting and updating these systems to meet changing market conditions and consumer demands. According to V. Katsoni [10], information technology, in particular CRM systems, allows hotels to collect, analyze and use customer data to personalize service and improve customer experience. This use of data helps to create more accurate marketing strategies and optimize customer interactions. S. Dewnarain et al. [6] discuss how social media and integrated CRM systems are transforming the way hotels interact with customers, providing an opportunity to create stronger relationships and better understand customer needs.

Based on the analysis of various sources, we can compile a list of the top 10 CRM systems that are currently considered the most effective in the hospitality industry for automating service and management in Table 1.

Table 1. TOP 10 CRM for Hospitality Management Process Automation

Name and website	Purpose and benefits	Disadvantages
Salesforce [20] salesforce.com	CRM for guest experience management, data analytics, high customization	Complexity of setup, high cost, need for staff training
Revinate [19] revinate.com	CRM to attract guests through collecting reviews, effective marketing automation	Limited customization, integration issues, difficulty using analytics
Dailypoint [5] dailypoint.com	CRM to personalize marketing campaigns, strong analytics capabilities	Time-consuming implementation, outdated interface, integration reliability issues
Cendyn [3] cendyn.com	CRM for marketing automation, comprehensive reporting capabilities	High cost, limited customization options, maintenance issues
Guest Touch [8] guesttouch.com	CRM for managing communication with guests, user-friendly interface	Limited analytical capabilities, complexity of configuration, additional integrations
Actabl [1] actabl.com	Integrated CRM solution for revenue optimization, user-friendly interface	Higher cost and complexity can scare away smaller operations, bugs in functionality
Cloudbeds [4] cloudbeds.com	CRM with strong integration with third-party applications, improved operational efficiency	High cost for smaller properties, support feedback issues
Duve [7] duve.com	CRM to improve guest experience through digital communication, ease of use	Implementation challenges, limited functionality, additional integrations
Monday CRM [15] monday.com	Project management and CRM tool for better management, high customization	Difficulty with insufficient organization, potentially high cost
Pipedrive [17] pipedrive.com	CRM with strong automation features, intuitive interface	High costs when adding users, may not meet industry needs

Source: Systematized based on sources [1; 3–8; 15; 17; 19; 20].

For Ukrainian hotels, there is an affordable and practical solution that includes a set of systems for automating various aspects of hotel activities. These systems include Hotel 2000 to automates hotel services, Restaurant 2000 to automates bars and restaurants, Stock 2000 to automates restaurant inventory management, and automated interfaces with accounting systems, PBX, and access control systems with electronic locks.

The Hotel 2000 system is a classic front-office application specially designed to automate key hotel services such as reservations, reception operations, cash operations, and household tasks. This system effectively facilitates the booking of individual and group rooms, as well as the reservation of room units by companies and tour operators with clear monitoring of quotas for each organization.

The COVID-19 pandemic has had a significant impact on the development of tourism products, especially in the hospitality and restaurant industries. The introduction of restrictions on travel and social interaction has led to the need to adapt and implement new information technologies to support customer interactions and preserve business. In particular, in the restaurant business, this has led to the rapid development of online food delivery services, digital menus, and order management systems that allow customers to enjoy restaurant services without the need to visit establishments. These changes have contributed to the increased use of digital platforms and tools that improve customer experiences through personalized service, faster order fulfillment, and optimized interactions. Thanks to the analysis of a large amount of literature, we can single out five online services that are most popular among users of Table 2 restaurants.

Table 2. TOP-5 online services for ordering food for restaurants

Name and website	Purpose and benefits	Disadvantages
Toast [24]	Comprehensive restaurant management system with online ordering. More than 120,000 restaurants use it. Suitable for cafes, bakeries, and hotels.	There may be a high cost of additional features.
toasttab.com		
Bbot [2]	Specialized in orders and payments. Supports integration with other POS systems such as Toast and Square.	Limited marketing and loyalty programs.
bbot.menu		
Square Online [22]	A comprehensive business management platform with SEO integration and no hidden fees.	There may be additional transaction costs, depending on the plan you choose.
squareup.com		
Popmenu [18]	A system with the ability to manage online orders, interactive menus, and marketing tools. Supports 10,000+ restaurants.	High monthly cost, especially for the premium plan.
popmenu.com		
Menufy [13]	Provides restaurants with their own branded site for orders. Includes integration with restaurant operations, and payment per order without a monthly fee.	Limited support and marketing opportunities.
menufy.com		

Source: Systematized by the authors based on [2; 13; 18; 22; 24].

These services not only meet the needs of today's consumers but also significantly increase the competitiveness of restaurants at a time when traditional service methods have been limited due to the pandemic.

6. Conclusions

Information and telecommunication technologies provide significant strategic advantages in the hospitality and tourism industry, which allows companies to increase the efficiency of interaction with customers and optimize management processes. Electronic customer relationship management (CRM) systems allow hotels and travel companies to collect, analyze, and use customer data to personalize service. This not only helps to increase customer satisfaction but also allows you to develop marketing strategies that more closely meet the needs and preferences of consumers.

A significant increase in the availability of information and services via the Internet is crucial for today's travel business. Global distribution systems allow you to efficiently manage bookings by integrating a variety of hotel services and facilitating customer access to them through online platforms. This not only simplifies the application and booking processes for end users but also provides hotels with the ability to manage the number of bookings and establish effective communication with tour operators and corporate clients.

The development of social networks and their integration with CRM systems have become a key factor in the formation of communication strategies in the hospitality industry. Platforms like Instagram and YouTube allow you to publish visual content and videos, which are especially attractive in the tourism industry, where visual perception plays an important role. Effective use of these tools helps not only to attract new customers but also to create strong relationships with current customers, thanks to a quick response to their requests and high quality of service.

References

1. Actabl. (2025). *Actabl – Integrated hotel management solutions*. <https://www.actabl.com>
2. Bbot. (2025). *Home page*. <https://www.bbot.menu>
3. Cendyn. (2025). *Cendyn – Cloud-based hotel CRM software*. <https://www.cendyn.com>
4. Cloudbeds. (2025). *Cloudbeds – More reservations, happier guests*. <https://www.cloudbeds.com>
5. Dailypoint™ – software made by Toedt, Dr. Selk & Coll. GmbH. (2025). *Dailypoint.com*. <https://www.dailypoint.com>
6. Dewnarain, S., Ramkissoon, H., & Mavondo, F. (2019). Social customer relationship management in the hospitality industry. *Journal of Hospitality*, 1(1), 1–14. https://research.monash.edu/files/276795318/276795283_oa.pdf
7. Duve. (2025). *Duve – Improving guest experiences through digital communication*. <https://www.duve.com>
8. Guest Touch. (2025). *Guest Touch – Enhancing guest experiences*. <https://www.guesttouch.com>
9. Ivanovic, S., Mikinac, K., & Perman, L. (2011). CRM development in hospitality companies for the purpose of increasing competitiveness in the tourist market. *UTMS Journal of Economics*, 2(1), 59–68. <https://utmsjoe.mk/files/Vol.%202%20No.%201/0-2-1-6-IvanovicS-Mikinac.pdf>
10. Katsoni, V. (2015). ICT applications in the hotel industry through an e-CRM systems theory approach. *Academica Turistica*, (1), 15–23. <https://www.dlib.si/details/URN:NBN:SI:doc-VES5GDHR>
11. Khatri, I. (2019). Information technology in tourism & hospitality industry: A review of ten years' publications. *Journal of Tourism and Hospitality Education*, (9), 74–87. <http://dx.doi.org/10.3126/jthe.v9i0.23682>
12. Leung, R., & Law, R. (2011). Progress and development of information and communication technologies in hospitality. *Journal of Contemporary Hospitality Management*, 23(4), 533–551. <https://doi.org/10.1108/095961111111130029>
13. Menufy. (2025). *Home page*. <https://www.menufy.com>
14. Milović, B. (2012). Social media and eCRM as a prerequisite for hotel success. *Management Information Systems*, 7(3), 26–31. <https://vtechworks.lib.vt.edu/bitstreams/50a8b05a-da86-4a32-8609-5bb0e9943a00/download>
15. Monday.com. (2025). *Monday.com – Work without limits*. <https://www.monday.com>
16. Papaioannou, A., Kariofyllas, C., Koronios, K., Kourtesopoulou, A., & Kriemadis, A. (2013). Exploring E-CRM application: The case of tourism and hospitality industry in Greece. In *Tourism Trends and Advances in the 21st Century: Proceedings of the 5th International Scientific Conference*. Rhodes, Greece. <https://www.researchgate.net/publication/262032848>
17. Pipedrive. (2025). *Pipedrive – CRM for sales teams*. <https://www.pipedrive.com>
18. Popmenu. (2025). *Home page*. <https://www.popmenu.com>
19. Revinate. (2025). *Revinate – Hotel CRM and email marketing solution*. <https://www.revinate.com>

20. Salesforce. (2025). *The customer success platform to grow your business*. <https://www.salesforce.com>
21. Sigala, M. (2018). Implementing social customer relationship management: A process framework and implications in tourism and hospitality. *International Journal of Contemporary Hospitality Management*, 30(7), 2698–2726. <https://doi.org/10.1108/IJCHM-10-2015-0536>
22. Square. (2025). *Home page*. <https://www.squareup.com>
23. Talón-Ballester, P., González-Serrano, L., et al. (2018). Using big data from customer relationship management information systems to determine the client profile in the hotel sector. *Tourism Management*, (68), 187–197. <https://doi.org/10.1016/j.tourman.2018.03.017>
24. Toast. (2025). *Home page*. <https://www.toasttab.com>