Інформаційні технології

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INTEGRATION OF CRM SYSTEMS IN SALES MANAGEMENT OF TOURISM COMPANIES

Summary. This study examines the features and challenges of integrating CRM systems into sales management in tourism organizations. The relevance of the topic is driven by the growing importance of CRM tools in this sector, where personalization of customer experience, automation of business processes, and integration with digital platforms have become key factors in enhancing and maintaining competitiveness. Despite the extensive body of research in this field, significant contradictions remain regarding the determinants of successful CRM integration. Some researchers emphasize technological aspects, while others focus on strategic customer relationship management. The objective is to identify key methodological approaches to CRM system implementation in the tourism industry and outline prospective directions for further research. It is concluded that successful integration requires a systematic approach, including data quality management, strategic customer interaction, and system adaptation to the specifics of the tourism business. The author's contribution lies in systematizing scientific perspectives on the discussed issue and identifying underexplored aspects. A proprietary vision of the CRM system integration algorithm for managing sales in tourism companies is presented. The proposed sequence considers contemporary challenges and trends, incorporating innovative elements with their justification. The findings will be valuable for tourism industry professionals, CRM tool developers, researchers of digital management

technologies, and practicing managers involved in implementing automated customer interaction systems.

Key words: automation, integration, customer service, tourism industry, sales management, digitalization, CRM systems.

Introduction. CRM systems represent a set of software solutions designed for organizing customer data, managing communication processes, and optimizing business operations within organizations. Unlike traditional information systems, CRM technologies focus on building relationships with consumers, which is reflected in in-depth behavioral analytics, audience segmentation, and demand forecasting.

In the modern tourism industry, characterized by rapid changes and intense competition, businesses are compelled to seek new ways to improve customer interactions. The primary research challenge lies in finding a balanced combination of digital tools and traditional sales methods, requiring a fundamental reevaluation of CRM integration models. Given these considerations, many researchers aim to determine optimal approaches for implementing CRM systems while accounting for the specific characteristics of the tourism sector, where both data systematization and the establishment of sustainable, two-way communication processes are essential.

Materials and Methods. The discussed topic is examined in the literature from various perspectives, including technical aspects, its impact on customer retention, its role in shaping value propositions, and innovative approaches to service quality management. Overall, the sources can be categorized into three groups.

The first group includes studies analyzing modern CRM platforms and their functional specifications. In particular, review articles [1; 2] provide up-to-date information on CRM trends, offering comparative evaluations of different solutions and statistical summaries. The study by R. Albrecht et al. [3] explores

data quality management, which is particularly relevant to the tourism industry, where processing large volumes of customer information requires high accuracy. The need for systematic approaches to implementation is emphasized.

The second category of publications focuses on the impact of CRM on business processes and customer relationships. N.M. Al-Hazmi [4] examines how CRM usage contributes to customer retention in the tourism sector, identifying key factors that influence long-term interactions. A similar focus is found in the work of S. Moudud-Ul-Huq et al. [9], which explores the relationship between CRM, tourist satisfaction, and loyalty. Additionally, A. Mohammed [8] investigates the application of CRM, highlighting sociocultural and economic determinants that influence the success of system integration.

The third group of studies is centered on strategic aspects. D. Kiyak and D. Labanauskaitė [6] consider CRM as a tool for creating value propositions in tourism, arguing that personalization and analysis of customer preferences enhance companies' competitiveness. In the study by Sh.A. Khan et al. [5], CRM is analyzed in the context of tourism entrepreneurship, where digital technologies are positioned as a key driver for startup growth and the development of new business models. Dr. A. Mishra and P.S. Rath [7] provide a case-based analysis of CRM implementation in tourism organizations, emphasizing practical adaptation to existing needs. An innovative approach to CRM integration is presented in the study by S.A. Sitorus [10], which examines a comprehensive service quality management framework based on CRM, TQM, and innovation. It is demonstrated that the combined application of these methods improves business performance by enabling more accurate demand forecasting.

The literature review revealed several areas of debate and discussion. First, researchers hold differing views on the key factors for successful CRM implementation—some emphasize technological aspects, while others highlight the importance of customer relationship management strategies. Second, the integration of CRM with other digital platforms, particularly booking systems

and automated marketing tools, remains insufficiently studied. Additionally, most studies either present conceptual models or describe specific case studies, whereas quantitative methods for evaluating CRM effectiveness are underrepresented.

Methodologically, this study is based on several approaches, including comparative analysis, conceptual models of strategic CRM integration, systematization, statistical data processing, and generalization.

Results and Discussion. CRM systems function not merely as software solutions but as comprehensive management tools that facilitate an in-depth understanding of customer preferences. They represent a dynamic structure that adapts to external changes and enables the consolidation of fragmented data and information flows into a unified analytical platform [1; 5; 7]. Companies utilizing CRM are 86% more likely to achieve their sales targets compared to those that do not. Most businesses report a 21–30% increase in sales after integrating CRM platforms. Additionally, respondents indicate that these solutions shorten the average sales cycle by 8–14 days. A total of 65% of organizations implement CRM systems with generative artificial intelligence, while 70% utilize mobile versions [2].

The effective integration of these technologies requires consideration of multiple factors, ranging from technical compatibility to the organizational characteristics of companies (Fig. 1). Thus, CRM serves as a connecting element that facilitates the transition from a mechanistic approach to building long-term customer relationships.

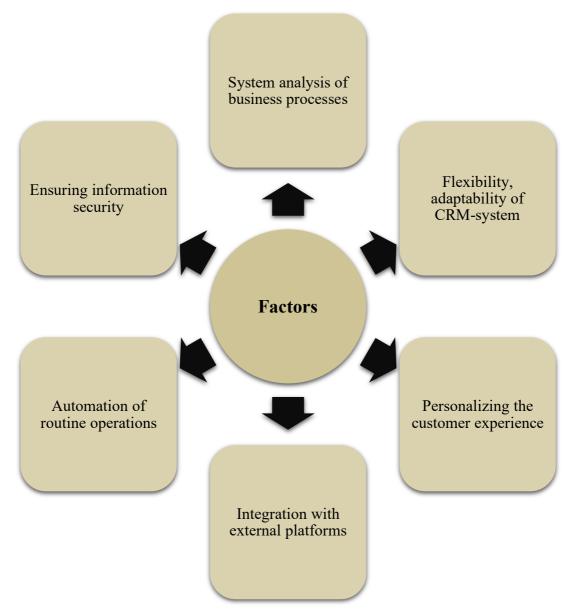


Fig. 1. Factors of effective integration of CRM systems into sales management of travel companies

Source: compiled by the author based on [3; 8; 10]

The tourism sector has several unique characteristics, including pronounced seasonality, high demand volatility, and the influence of external economic and political determinants. The customer base comprises both individual travelers and corporate clients with varying requirements, necessitating differentiated service strategies [5; 9]. In this context, CRM systems help not only structure data but also create personalized offerings, enabling

businesses to respond promptly to market dynamics and adjust sales strategies in real time.

The implementation of CRM technologies requires a well-structured methodological approach (Fig. 2) that integrates technical capabilities with the organizational specifics of a company.

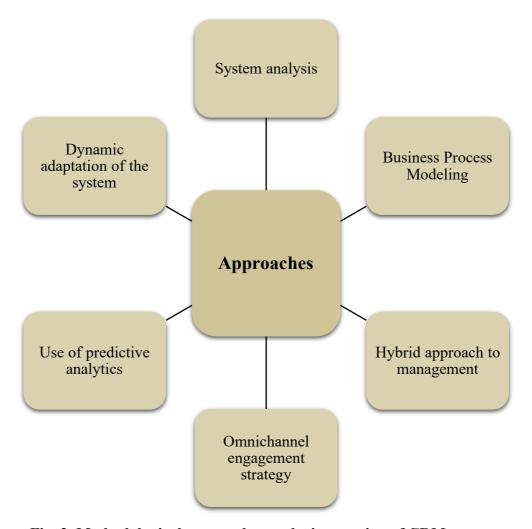


Fig. 2. Methodological approaches to the integration of CRM systems

Source: compiled by the author based on [4; 6; 9]

The application of system analysis methods helps identify key areas within the sales chain where digital tools can have the greatest impact. Business process modeling, based on principles of flexibility and adaptability, facilitates the creation of a unified information environment that ensures synchronized operations across various departments. A crucial aspect is the development of data exchange standards, enabling transparent and efficient interaction between divisions.

Recent studies also highlight the use of machine learning-based algorithms to predict customer behavior. This allows companies not only to adjust commercial offers in a timely manner but also to gain deeper insights into market dynamics. Collectively, these methodological solutions provide a foundation for the effective integration of CRM systems, contributing to the optimization of management processes [8; 10].

Despite the clear benefits of implementing advanced CRM solutions, tourism organizations face several significant challenges. Primarily, technological fragmentation of software platforms often complicates seamless information exchange. Additionally, internal organizational barriers, including entrenched management practices and employee resistance to innovations, necessitate both technical and cultural changes within companies.

Another critical aspect is ensuring security and confidentiality, which becomes essential when handling large volumes of customer data. The economic dimension is also of significant concern, as the balance between CRM system implementation costs and the expected benefits requires thorough analysis and the development of investment return assessment criteria.

Table 1 presents a recommended algorithm for integrating CRM systems into sales management in travel companies. The proposed sequence of steps considers contemporary challenges and market trends.

 $\begin{tabular}{l} Table \ 1 \\ Recommended \ algorithm \ for \ integrating \ CRM \ systems \ into \ sales \\ management \ of \ travel \ companies \\ \end{tabular}$

Integration Stage	Key Actions	Tools / Methods	Elements of Innovation
1. Diagnosis and Analysis	Identification of current business processes, detection of weak and vulnerable areas	System analysis, SWOT analysis	Hybrid method incorporating customer journey mapping
2. Strategy Development	Formulation of a digital transformation vision for sales	Business modeling, strategic planning	Integration of adaptation strategies for a rapidly changing market
3. CRM Selection and Configuration	Evaluation and selection of the most suitable CRM system considering the specifics of the tourism industry	Pilot projects, functional analysis	Adaptive customization of the platform for dynamic market conditions
4. Data Integration	Consolidation of fragmented information into a unified system	ETL processes, API integration	Use of blockchain technology for data verification and security
5. Forecasting and Analytics	Implementation of tools for demand forecasting and customer data analysis	Machine learning, Big Data analytics	Development of customized algorithms for predictive modeling
6. Training and Optimization	Staff training, organizational culture adjustments, continuous monitoring	Corporate training, KPI monitoring, AI integration	Interactive training sessions, automated correction systems

Source: compiled by the author

The proposed algorithm embodies an innovative approach that combines traditional analytical methods with modern digital developments. Specifically, the use of blockchain technology for verification ensures transparency and security in information exchange, while customized forecasting algorithms

enable a more precise response to demand shifts. The implementation of interactive training modules and automated correction systems based on AI fosters an adaptive organizational culture and continuous improvement of business processes. Ultimately, the presented sequence of actions contributes to optimizing sales management, enhancing the competitiveness of tourism companies, and creating a sustainable information ecosystem in the context of rapid market dynamics.

Conclusions. In summarizing the findings, it is important to emphasize that the integration of CRM systems into sales management processes in tourism companies represents a complex and multifaceted area requiring a synthesis of technological innovations and organizational transformations.

The application of system analysis methods, business process modeling, and the strategic use of adaptive algorithms facilitates customer relationship optimization and ensures the long-term sustainability of business structures in highly competitive environments.

Despite existing challenges—primarily technological, cultural, and economic—the potential of CRM to transform traditional business models remains significant.

The analysis of contemporary approaches has identified several promising directions for CRM system integration. One such direction involves the development of a hybrid management model that merges traditional sales methods with modern digital solutions. Another promising avenue is the creation of a multi-level information flow structure, where each level is responsible for a specific stage of customer interaction, from initial contact to in-depth sales performance analysis. This enhances process understanding and enables the development of strategies based on detailed analytics. Furthermore, the dynamic adaptation of the system, reflected in the regular updating of algorithms and modules, serves as a key factor in successful integration.

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