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«ІНФОРМАЦІЙНІ СИСТЕМИ ТА ТЕХНОЛОГІЇ:
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- Smart IoT technologies;
- Digital technology of project management;
- Network and internet technology;
- Security of information systems and networks;
- Systems and technologies of artificial intelligence;
- Cognitive modeling and knowledge engineering.

The collection will be useful to scientists, researchers, students and everyone who is interested in modern information systems and technology.

Submitted in the authors' edition.

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Матеріали 2-ї Міжнародної науково-практичної конференції «Інформаційні системи та технології: результати і перспективи» (IST 2025), 5 березня 2025 р. (Київ, Україна). К. : ФІТ КНУТШ, 2025 р. 425 с.

У матеріалах конференції наведено доповіді за напрямками:

- Розумні технології IoT;
- Цифрові технології управління проєктами;
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JUSTIFICATION FOR CREATING A CRM SYSTEM TO AUTOMATE THE OPERATIONS OF A BEAUTY SALON

Anastasia Avramets, Vadym Ziuziun

Abstract. *In today's competitive beauty industry, effective business management is essential. A CRM system enables the automation of key processes such as client appointments, staff management, financial operations, and marketing campaigns. Implementing a CRM helps reduce operational costs, improve service quality, and enhance customer loyalty. This article explores the benefits of adopting a CRM system for a beauty salon, methods of implementation, and its impact on business efficiency. Special attention is given to the economic, technological, and organizational aspects of integration.*

Key words: CRM system, automation, beauty salon, business management, customer service.

I. INTRODUCTION

The beauty industry is one of the most competitive and rapidly evolving sectors of the economy. The success of a beauty salon depends on efficient resource management, optimization of internal processes, and effective customer interactions. In today's market, business process automation has become essential for maintaining high service standards and ensuring a company's competitiveness. One of the key tools for achieving this is a Customer Relationship Management (CRM) system, which facilitates client relationship management, appointment scheduling, staff performance tracking, and financial analytics.

The increasing competition in the beauty services market requires businesses to adopt modern technologies to optimize operations. The absence of automated solutions can lead to customer loss, low staff productivity, and financial setbacks. A CRM system enhances the efficiency of a salon's operations, minimizes booking errors, and improves service execution control.

Implementing a CRM also enables in-depth analysis of consumer behavior, helping to refine marketing strategies and enhance service personalization. Automation of financial management and expense control reduces financial risks and improves budget planning.

Modern CRM systems can integrate with various communication channels, including social media, messaging apps, and email, making customer interactions more seamless and convenient [1-2].

The aim of this study is to justify the implementation of CRM systems in the beauty industry, identify key benefits, and analyze potential challenges associated with their integration.

II. DATA AND METHODS

When designing the architecture and functionality of a CRM system for automating the operations of a beauty salon, it is essential to understand the key benefits it will provide to the business. These advantages can be structured into functional blocks as follows:

Block 1. Automation of client appointment scheduling and reminders.

Block 2. Optimization of staff workload.

Block 3. Improved financial accuracy and cost reduction.

Block 4. Consumer behavior analysis and personalized marketing campaigns.

Block 5. Implementation of loyalty programs and bonus systems.

Block 6. Integration with social media and messaging platforms.

Block 7. Enhanced service quality and competitiveness.

To develop these functional blocks within the CRM system, it is necessary to organize data and methods systematically. The results will be presented in Table 1.

Table 1. Data and methods for implementing CRM system functional blocks

Block Name	Data	Methods
Block 1. Automation of client appointment scheduling and reminders	Client data: - name, contact details (phone, email, social media); - visit history (date, time, selected services); - review of previous appointments and restricted dates for the client.	- Integration with online forms and messaging platforms for appointment scheduling and confirmations. - Scheduling algorithms for automatically identifying available time slots and distributing requests among staff. - Automated reminders via SMS, email, and messaging apps to reduce the likelihood of missed appointments.
Block 2. Optimization of staff workload	Staff data (names, work schedules, qualifications, experience, specialization).	- Staff performance analysis based on client feedback, service completion time, and the number of procedures performed. - An optimized workload distribution algorithm based on staff availability and qualifications, increasing daily operational efficiency.
Block 3. Improved financial accuracy and cost reduction	Financial data: - invoices, receipts, payments, taxes, provided services; - number of clients, average check amount, popular services; - expenses on materials, staff salaries, rent, and other costs.	- Automated accounting systems for managing financial reports (e.g., bookkeeping through CRM). - Expense and revenue analysis through financial report generation and period-to-period comparisons to identify unnecessary costs. - Sales and margin analysis to determine the most profitable services and optimize pricing strategies.
Block 4. Consumer behavior analysis and personalized marketing campaigns	Customer behavior data: - demographic data (age, gender, location); - client behavior (visit frequency, preferred services, purchase volume); - reviews, salon rating.	- Customer segmentation analysis based on demographic and behavioral factors to create targeted marketing campaigns. - Predictive behavior models (e.g., machine learning-based) to identify potential clients interested in new services or promotions. - Personalized offers through automated mechanisms, such as sending special deals or discounts via CRM.
Block 5. Implementation of loyalty programs and bonus systems	Loyalty program data: - purchase history, visit frequency, client status in the loyalty program; - participation conditions in promotions, bonuses, and accumulated points.	- Analysis of loyalty program effectiveness by monitoring customer activity and behavior changes after implementing bonus programs. - Modeling bonus systems to enhance customer loyalty, evaluating their impact on client retention and average transaction value.
Block 6. Integration with social media	Communication data: client messages via social media and messaging	CRM integration with messaging platforms for automated request processing and appointment scheduling through popular channels.

Block Name	Data	Methods
and messaging platforms	platforms, request history; channels through which clients interact with the salon (Instagram, Facebook, WhatsApp).	2. Analysis of communication effectiveness in social media and messaging apps to optimize marketing campaigns and improve customer service.
Block 7. Enhanced service quality and competitiveness	Customer satisfaction data (client feedback, satisfaction levels, number of service returns).	1. Review analysis to identify weaknesses in service quality and adjust business processes accordingly. 2. Competitor evaluation through surveys, comparative service analysis, and pricing assessment. 3. Social media monitoring to understand customer sentiment toward the brand and respond promptly to negative feedback.

III. RESULTS AND ANALYSIS

Implementing a CRM system in the operations of a beauty salon is a strategic step toward improving efficiency and optimizing business management processes. Therefore, it is important to analyze in more detail the proposed blocks related to the development, implementation, and functioning of the CRM system.

Block 1. Automation of client appointment scheduling and reminders.

- Time optimization. Administrators have access to up-to-date information about available time slots, allowing for more efficient scheduling and planning of the salon's operations.
- Reminders. The CRM automatically sends reminders about upcoming appointments via SMS or email, which reduces the likelihood of missed visits and enhances the salon's operational efficiency.
- Convenience of appointment scheduling. Clients can book appointments through the CRM system at any convenient time via the website, mobile app, or messaging platforms. This helps avoid queues and reduces the workload on administrators.

Block 2. Optimization of staff workload.

- Task distribution. CRM allows for clear task distribution among staff, such as determining who will work with each client and when, which reduces the risk of employee overload and improves their efficiency.
- Productivity analysis. The system enables tracking the performance of each employee, helping to adjust work schedules to optimize customer service processes.
- Shift planning. Using scheduling features, managers can automatically generate work schedules, taking into account the salon's needs and the specific requests of clients.

Block 3. Improved financial accuracy and cost reduction.

- Automation of accounting. CRM allows for automatic tracking of payments, generating invoices, and monitoring income and expenses. This minimizes human error in financial operations, improving the accuracy of accounting.
- Expense control. The system helps monitor expenses for purchasing goods and services, analyzes cost efficiency, and allows for identifying ineffective spending categories.
- Reporting. The CRM system automatically generates financial reports, enabling quick analysis of the salon's financial situation and helping make informed decisions to reduce costs.

Block 4. Consumer behavior analysis and personalized marketing campaigns.

- Customer data collection. CRM gathers information about purchases, preferences, visit frequency, and other customer habits, allowing for a better understanding of their needs.
- Marketing personalization. Based on the collected data, personalized offers, discounts, and promotions can be created, significantly enhancing the effectiveness of marketing campaigns.
- Campaign effectiveness analysis. CRM enables tracking the performance of various marketing activities, allowing strategies to be adjusted as needed.

Block 5. Implementation of loyalty programs and bonus systems.

- Bonuses and promotions. CRM allows the creation of loyalty programs for regular customers, tracks their activity, and offers personalized rewards, motivating clients to return to the salon.
- Referral rewards. The system can automatically assign bonuses for referrals or meeting certain conditions (e.g., reaching a specific spending level), encouraging customers to bring in new visitors.
- Customer engagement. Through CRM, automated messages can be sent for birthday greetings, invitations to special events, or exclusive offers, fostering long-term relationships with clients.

Block 6. Integration with social media and messaging platforms.

- Booking through social media. Clients can book services directly through social media platforms (e.g., Facebook or Instagram), significantly improving convenience and attracting new customers.
- Instant communication via messengers. Integration with messengers such as WhatsApp or Viber allows quick communication with clients, providing information, confirming or changing appointments, which greatly enhances the level of service.
- Automated notifications. CRM enables automatic notifications to be sent through social media and messengers about special offers, promotions, new arrivals, and more.

Block 7. Enhanced service quality and competitiveness.

- Improved service quality. Automation of processes allows staff to focus on providing services, enhancing the overall quality of customer service.
- Time efficiency. Reducing time spent on administration and data processing allows employees to dedicate more attention directly to clients.
- Competitive advantages. Implementing a CRM system significantly improves customer interaction, boosting loyalty and, consequently, the salon's competitiveness in the market.

Overall, the use of CRM in a beauty salon leads to significant improvements in service quality, management efficiency, and customer interaction, ensuring sustainable growth and development of the business.

IV. DISCUSSIONS AND CONCLUSION

The research results show that the use of CRM contributes to cost optimization, increased profitability, and business growth. CRM helps improve staff management, optimize marketing strategies, and enhance customer service quality. It provides effective business analytics, which aids in making informed decisions. CRM helps increase customer loyalty and satisfaction with services. Additionally, it reduces the risks of human error, improves communication with clients, and optimizes financial planning.

Implementing CRM leads to higher employee productivity through clearer task distribution and simplified administrative processes. The CRM system collects customer data and generates personalized offers, improving the effectiveness of marketing campaigns. The use of automated systems helps identify weaknesses in the salon's operations and address them promptly. CRM

fosters greater customer trust by maintaining a history of their visits and preferences. It also enhances inventory management, helping to avoid shortages of necessary materials.

Furthermore, implementing CRM has a positive impact on corporate culture, promoting clearer communication among staff members. Overall, the adoption of such systems is a justified and necessary step for ensuring competitive advantages in today's business environment. Future research could focus on analyzing the impact of CRM on the long-term sustainability of salon businesses.

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