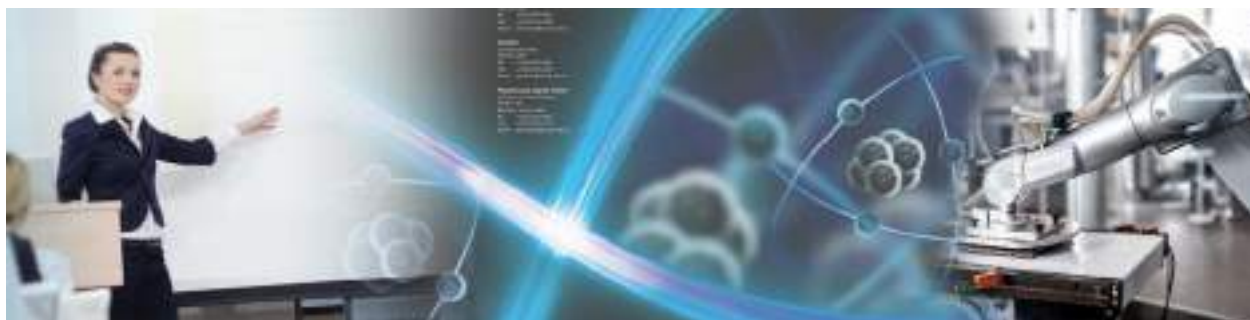


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# Classification of CRM Systems

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**Anotation:** The research is devoted to the current problem of systematizing Customer Relationship Management (CRM) systems in the context of intensive business digitalization and growing competition in the software solutions market. The study reveals the conceptual foundations of CRM as a dual-domain concept that combines a strategic approach to managing customer relationships and a technological platform for its implementation. The work analyzes the five-stage evolution of CRM systems from pre-electronic card files to modern intelligent platforms with integrated artificial intelligence and machine learning. Particular attention is paid to the transformation from isolated automation tools to comprehensive solutions for orchestrating the customer experience. A classification system for CRM solutions based on four key criteria is proposed. A comparative analysis of leading CRM platforms, including HubSpot, Zoho CRM, Pipedrive, Salesforce, and Microsoft Dynamics 365, has been conducted based on parameters of functionality, ease of use, integration capabilities, and scalability. The work is of practical importance for managers, IT professionals, and consultants involved in the selection and implementation of CRM solutions in modern organizations. The research results can be used to develop a methodology for evaluating and comparing CRM systems according to the specific needs of a business.

**Key words:** CRM systems, business process automation, software solutions classification, customer relationship management, digital transformation.

## I. INTRODUCTION

Under conditions of digital business transformation, the automation of operational processes has become a key trend for increasing competitiveness [1-10]. This is especially true for the field of Customer Relationship Management (CRM), where modern systems have evolved from simple electronic archives to intelligent platforms capable of automating a significant part of routine tasks: from managing correspondence and reminders to complex sales pipelines and personalized marketing.

However, the market offers a wide variety of CRM solutions that implement automation principles differently. This differentiation is manifested in the depth and complexity of business process automation: from elementary reminders to complex workflow scenarios covering cross-functional sales cycles, marketing campaigns, and customer service.

At the same time, the growing importance of protecting customer personal data and complying with international privacy standards [11-16] creates additional requirements for the architecture and functionality of CRM systems.

The CRM systems market in Ukraine demonstrates stable growth, driven by increased competition, business digitalization, and the need to enhance sales efficiency during wartime.

The global CRM systems market is characterized by high maturity, intense competition, and clear differentiation among leading players. Its formation occurred significantly earlier than in Ukraine, which allowed distinct strategic development directions to emerge.

The mentioned differences in market maturity levels, as well as differences in the architecture, functionality, and target audience of the CRM solutions themselves, necessitate a clear classification.

The purpose of this study is to systematize CRM systems based on the analysis of key parameters, which is a decisive factor in choosing a solution for a modern business.

## II. CONCEPTUAL FOUNDATIONS OF CRM SYSTEMS RESEARCH

The term CRM should be understood as a dual-domain concept:

- a strategic business approach aimed at building long-term and mutually beneficial relationships with customers by studying their needs and maximizing loyalty;
- an information technology system that is software for automating this strategic approach.

As a technological platform, a CRM system integrates three key functional modules:

- sales Force Automation – management of leads, deals, contacts, sales forecasting;
- marketing Automation – campaign management, email marketing, customer base segmentation;
- service Automation – ticket management, call center, knowledge base.

The functional complexity of modern CRM systems is the result of long-term development. The modern diversity of CRM solutions is a consequence of their evolution.

The evolution of CRM systems can be visually represented in Fig. 1.



Fig. 1. Stages of CRM Systems Evolution

Stage 1. Pre-electrical – card files and salesperson's diaries. Lack of centralized information.

Features of stage 1:

- lack of centralization;
- manual record keeping;
- information loss;
- inefficiency.

Stage 2. Emergence of the first digital contact managers (1980s-1990s). Automation of contact list management, but without process control.

Features of stage 2:

- first personal computers and databases;
- simple contact search;

- Automated Contact Tracking – one of the first popular contact management programs, created in 1986; GoldMine – another early CRM system launched in 1989;

- no process management.

Stage 3. Development of Operational CRM (late 1990s – 2000s). Streamlining routine operations, formation of sales pipelines. It was at this stage that the division into On-Premise and SaaS solutions occurred.

Features of stage 3:

- deal management;

- sales automation;

- On-Premise/SaaS division;

- Siebel – one of the first major corporate CRM systems, created by Tom Siebel in 1993. It was a market leader until the mid-2000s, particularly popular among large corporations. Later acquired by Oracle;

- Salesforce (beginning) – cloud CRM platform launched by Marc Benioff in 1999. Revolutionized the market by becoming the first successful SaaS (Software as a Service) CRM system. At that time, this was the «beginning» of the Salesforce era, which later became a world leader.

Stage 4. Emergence of Analytical and Collaborative CRM (2010s). Shift of focus from operations automation to data analytics and customer experience orchestration. This led to differentiation by functional orientation.

Features of stage 4:

- social media integration;

- mobile applications;

- business analytics;

- Customer Journey – the sequence of all customer interactions with the company from first brand acquaintance to purchase and beyond.

Stage 5. Modern – intelligent Cloud and AI-based CRM (2020s). Integration of artificial intelligence, machine learning, and omnichannel capabilities. This stage solidified the dominance of cloud architecture and fostered further solution specialization (verticalization).

Features of stage 5:

- AI/ML integration;

- Predictive Analytics;

- Chatbots, Voice AI;

- Omnichannel solutions.

Thus, the analysis of the evolution of CRM systems demonstrates a clear trend of transformation from isolated tools for automating individual operations to integrated, intelligent platforms for managing customer relationships. This development has directly shaped the key aspects of their differentiation, which constitutes the object of classification in this study.

### III. CLASSIFICATION CRITERIA FOR CRM SYSTEMS

The need to systematize the diversity of CRM solutions necessitates the definition of key classification criteria. Based on market analysis, the following system of parameters for differentiating CRM systems is proposed (Fig. 2).



Fig. 2. The main criteria for classifying CRM systems

Let's examine each category of criteria in more detail.

1. By deployment method (architecture):

- On-Premise (local installation) – software installed on the company's own servers. Provides full control over data and confidentiality but requires significant capital investment and dedicated IT resources for maintenance. (e.g., Microsoft Dynamics 365 (on-premise versions) or some ERP systems with a CRM module);

- Cloud or SaaS (cloud solutions) – solutions hosted on the provider's servers and accessible via a web browser. Characterized by rapid implementation, low startup costs, and automatic updates. (e.g., Salesforce, HubSpot);

- Hybrid (hybrid solutions) – combine elements of both approaches, where some data or functions are in the cloud, while critically important information remains on local servers.

2. By functional orientation and target audience:

- operational CRM – focuses on automating front-office customer interactions: sales (Sales Automation), marketing (Marketing Automation), and service (Service Automation). The most common type;

- analytical CRM – aimed at analyzing data collected by operational CRM systems to identify trends, customer segmentation, and support management decision-making;

- collaborative CRM – integrates various communication channels (email, social media, phone) to provide a unified view of customer information across all company departments.

3. By scalability and pricing policy:

- small – startups, up to 10 users;

- medium CRM – 10-500 users;

- large CRM – corporations, 500+ users.

4. By specialization (vertical):

- Retail CRM – specialized solutions for managing relationships with end consumers, featuring loyalty programs, inventory management, integration with POS systems, and omnichannel retail. (e.g., Lightspeed CRM, Vend);

- B2B segment (Business-to-Business CRM) – solutions for managing long sales cycles, complex deals, relationships with corporate clients, and partner programs. Include features for tender management, contract management, and multi-level approval processes. (e.g., Salesforce Professional, Microsoft Dynamics 365 Sales);

- Service companies (Service CRM) – systems for service companies with a focus on ticket management, resource planning, work time tracking, and service quality control. (e.g., ServiceNow, Zendesk).

### IV. COMPARATIVE ANALYSIS OF MODERN CRM SOLUTIONS

For an objective analysis of modern CRM solutions, it is appropriate to consider them according to key criteria:

functionality, ease of use, integration capabilities, and scalability.

This approach allows for comparing systems with each other and determining their suitability for the needs of businesses of different sizes and industries. Below is a summarized matrix reflecting the strengths and weaknesses of the most common CRM platforms.

A comparative analysis of modern CRM solutions is presented in Table 1.

Table 1. COMPARATIVE ANALYSIS OF MODERN CRM SOLUTIONS

CRM	Functionality	Ease of use	Integration opportunities	Scalability
1	2	3	4	5
HubSpot (Free / Starter)	Basic CRM + marketing/sales in a single environment; strong in inbound engagement	Very simple to start; intuitive UI	A large ecosystem (marketing, mail, third-party integrations)	Good for small/medium businesses; the cost increases with large needs.
Zoho CRM	Wide functionality: sales, automation, analytics, AI features.	Moderately simple, requires adjustment	Many built-in integrations; API for customization	Good for small and medium enterprises; suitable for scaling.
Pipedrive	Focus on the sales process (pipeline), simple automation features	Very simple and visual (kanban-pipeline)	Integrations through market place and API	Suitable for small/medium, complex corporate scenarios – limited.
Salesforce (Professional)	Full CRM stack for sales and service; strong analytics	Powerful, but more complex to implement	Wide AppExchange, rich APIs	Well scalable for growth; requires implementation
Salesforce (Enterprise)	Maximum flexibility, customization, automation, multi-segments.	It's more complicated, administrators/consultants are needed.	Practically any integration, middleware.	Under large corporations, global processes.

Continuation of table 1

1	2	3	4	5
Microsoft Dynamics 365	Integration with the MS ecosystem (Office, Teams), powerful CRM/ERP features.	Depends on the configuration; familiar MS-UI.	Deep integration with Microsoft products; rich APIs.	Suitable for medium/large corporations and global teams.

Analysis of the matrix shows that modern CRM solutions differ significantly in functionality, ease of use, integration capabilities, and scalability.

For small businesses, HubSpot Free/Starter, Zoho CRM, and Pipedrive appear most appropriate, as they have a low entry barrier, simple interface, and sufficient set of basic functions. HubSpot is particularly effective for companies focusing on inbound marketing, while Pipedrive is best suited for sales process management.

For medium-sized businesses, Zoho CRM and Salesforce Professional are optimal, as they provide greater customization, analytics, and automation capabilities. Zoho remains a more budget-friendly and flexible option, while Salesforce Professional offers more powerful functionality but requires implementation resources.

For large corporations, Salesforce Enterprise and Microsoft Dynamics 365 are best suited, as they offer maximum scalability, customization options, and integration with other corporate systems. However, these solutions require significant investment and professional administration.

Overall, the choice of a CRM system should be based not only on functional characteristics but also on the specifics of the company's business processes, implementation resources, and strategic development goals.

## V. CONCLUSIONS

Based on the conducted research, several important conclusions can be drawn regarding the systematization of CRM systems and their role in the modern business environment.

The evolution of CRM systems demonstrates a clear transformation from simple contact management tools to complex intelligent platforms integrating artificial intelligence and machine learning. This development reflects the growing needs of businesses for automation and optimization of customer relationships, especially in the context of the digital transformation of the economy.

The developed classification system for CRM solutions based on four key criteria provides a comprehensive approach to analyzing market offerings. Architectural deployment, functional orientation, scalability, and industry specialization form the basis for an objective comparison of systems and determining their suitability for specific business needs.

A comparative analysis of leading CRM platforms confirms the absence of a universal solution suitable for all types of organizations. Each system has its advantages in

certain market segments: HubSpot and Pipedrive are optimal for small businesses due to their ease of use; Zoho CRM and Salesforce Professional meet the needs of medium-sized businesses; while Salesforce Enterprise and Microsoft Dynamics 365 best meet the requirements of large corporations.

The research results show that successful selection of a CRM system requires a comprehensive approach that considers not only functional characteristics but also the specifics of the company's business processes, available implementation resources, and long-term strategic goals. This is particularly relevant in the context of the Ukrainian market, where the growing demand for CRM solutions is driven by the need to increase competitiveness and efficiency of business operations.

The further development of CRM systems will be aimed at deepening integration with artificial intelligence technologies, expanding predictive analytics capabilities, and creating a more personalized customer experience. This creates new opportunities for businesses but also requires careful planning of digitalization strategy and investments in appropriate technological solutions.

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