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PROSPECTS OF USING CRM SYSTEMS IN UKRAINE UNDER MODERN CONDITIONS

Olga Karpun, Tetiana Kisera, Diana Soloviova. "Prospects of using CRM systems in Ukraine under modern conditions". CRM, or Customer Relationship Management, is a set of tools and strategies that businesses use to manage their relationships with existing and potential customers. It has become an integral part of business operations for many organizations since its introduction in the early 1990s. With recent technological advancements, CRM systems have seen a significant transformation over time. This article has explored how these changes have occurred, explored the features offered by today's CRM systems, and identified some of the key challenges along the way.

The growth of competition, the development of the goods and services market has led to changes in approaches to customer service, as well as to the need to involve the latest IT solutions in the customer service process. In addition, after the beginning of the Russian-Ukrainian war, the issue of changing the vector to domestic providers of CRM systems became relevant.

Today, CRM systems have also begun to change as a result of the use of artificial intelligence (AI) and machine learning (ML). The increasing availability of data, the need to automate repetitive operations, and the need to offer personalized experiences at scale are the trends driving this movement. Personalization and predictive analytics help identify potential growth opportunities, improve the efficiency of tasks such as sales forecasting or lead scoring through automation that reduces human error, and provide valuable insights into customer behavior and preferences that can be used to personalize the customer experience, which leads to increased customer loyalty.

Customer relationship management systems are necessary for Ukrainian enterprises to be competitive. CRM solutions simplify sales processes, facilitate better teamwork and offer a deep understanding of customer behavior.

Keywords: CRM systems, business operations, artificial intelligence, machine learning, cloud solutions, personalization.

Ольга Карпунь, Тетяна Кісера, Діана Соловйова. «Перспективи використання СRM систем в Україні в сучасних умовах». СRM або управління взаємовідносинами з клієнтами — це набір інструментів і стратегій, які компанії використовують для управління своїми відносинами з існуючими та потенційними клієнтами. З моменту свого впровадження на початку 1990-х років вона стала невід'ємною частиною бізнес-операцій для багатьох організацій. Завдяки останнім технологічним досягненням CRM-системи з часом зазнали значної трансформації. У цій статті було розглянуто, як відбувалися такі зміни, проведено дослідження функцій, які пропонують сучасні СRM-системи, а також виявлені деякі ключові виклики, що виникали на цьому шляху.

Зростання конкуренції, розвиток ринку товарів та сфери послуг призвели до зміни підходів до обслуговування клієнтів, а також до необхідності залучення в процес обслуговування клієнтів новітніх ІТ-рішень. Крім того, після початку російсько-української війни актуальним стало питання зміни вектора на вітчизняних провайдерів СRM-систем.

Сьогодні СRM-системи також почали змінюватися в результаті використання штучного інтелекту (AI) і машинного навчання (ML). Зростаюча доступність даних, потреба в автоматизації повторюваних операцій і потреба пропонувати індивідуальний досвід у великих масштабах є тенденціями, що спонукають цей рух. Персоналізація та прогнозна аналітика допомагають виявити потенційні можливості для зростання, підвищити ефективність таких завдань, як прогнозування продажів або підрахунок потенційних клієнтів, завдяки автоматизації, що зменшує кількість людських помилок, і надають цінну інформацію про поведінку та вподобання клієнтів, які можна використовувати для персоналізації досвіду клієнтів, що призводить до підвищення лояльності клієнтів.

Системи управління взаємовідносинами з клієнтами необхідні українським підприємствам для того, щоб бути конкурентоспроможними. Рішення CRM спрощують процеси продажів, сприяють кращій командній роботі та пропонують глибоке розуміння поведінки клієнтів.

Ключові слова: CRM-системи, бізнес-операції, штучний інтелект, машинне навчання, хмарні рішення, персоналізація.

Introduction. The relevance of the topic is due to the fact that in recent years the customer relationship concept of management (CRM) has undergone a revolution and has become important for companies that want to increase their customer base. CRM systems are powerful software solutions that provide organizations with a centralized hub to capture and store data on customer interactions and manage customer relationships by using automated processes that are tailored to individual company needs. By using CRM system companies can develop more effective

strategies on how best they should engage with existing customers while also efficiently targeting new ones. Companies can also improve communication between employees and increase efficiency within business operations.

Many studies by Ukrainian and foreign scientists have been devoted to the issue of introducing CRM systems into the activities of companies. However, the development of the latest technologies, the emergence of artificial intelligence, cloud technologies, etc. require a study of the influence of these

tendencies and prospects for the development of CRM systems in new realities.

Problem statement (formulation of research purposes). The object of the research was the process of customer relationship management using the latest technologies. The purpose of this article is to study the state and prospects for the development of CRM systems using the latest technologies. The market analysis method and the statistical method were used for the scientific justification of the results of the research on the development of CRM systems, which helped to summarize the existing information and, based on this, to make forecasts for the future.

Over the past few years, there has been an increase in the interest of companies in the use of CRM systems to improve interaction with customers in Ukraine. In 2017, only 6% of Ukrainian enterprises actively used CRM systems [13].

One of the recent studies on the prospects for the development of CRM systems was conducted by Grand View Research. In the report [2] Grand View Research investigated the CRM market-systems in different segments. The research has shown that the CRM systems market will grow at a high rate between 2023 and 2030 as more companies from various industries understand the importance of CRM systems to increase business efficiency and improve customer interactions. And also, other studies show that there is growth in this field [3].

Research in the area of CRM systems so suggests that the market for these systems is

active and expanding annually. This is because more businesses are becoming aware of CRM systems.

The purpose of this article is to define the term, main functions, principles, and features of implementation and functioning of CRM systems in Ukraine. Analysis of the state of development and prospects of the Ukrainian CRM market.

The main material. CRM system has become an integral part of business operations for many organizations since its introduction in the early 1990s. With recent technological advancements, CRM systems have seen a significant transformation over time. Now CRM is complex software for collecting information at the company's divisions, in-depth analysis of the client's needs, and implementing solutions to optimize the process of interaction between the company and consumers. The main approaches to definition are represented at Fig. 1.

In modern conditions, the CRM system is used not only in trade, it can be useful in various fields of activity: agriculture, service industries, industry, construction, etc.

The goal of implementing a CRM strategy is to manage customer relationships. It means using tools for working with clients to simplify and speed up the sales process, form a contact base, and set up communication channels with clients. The task of the CRM system is to create a single customer base on one carrier, which reduces the risk of information loss.

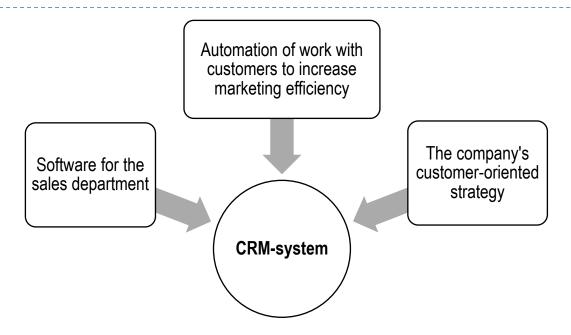


Figure 1 – Key definitions of CRM-system

The main capabilities that are the basis of the system are indicated on Fig. 2



Figure 2 – The main capabilities of the CRM system

In general, the CRM system acts as an intermediary between the client and the company and is a profitable solution for both

parties. The general scheme of using CRM systems is shown on Fig. 3.

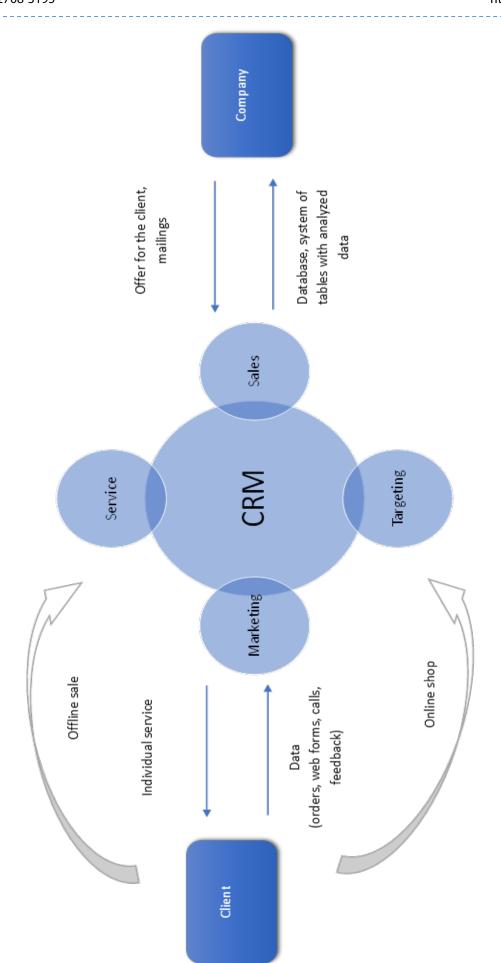


Figure 3 – The depth of the logistics controlling implementation on enterprise

The growth of competition, the development of the market of Ukrainian goods and the sphere of services, led to the need to change the approach to customer service and the involvement of IT solutions. The problem was and remains the low level of knowledge in the field of new technologies among entrepreneurs. The reason is the use of outdated business input methods. In particular, Excel, 1C, and paper documentation are used for reporting.

However, only a small number of entrepreneurs preferred Ukrainian

developers of CRM systems. Instead, they exploited the software of developers of such countries as, for example, the USA and Russia. Below are the names of CRM systems that Ukrainian businesses should not use: Bitrix24; Frontdesk24; NanoGym; Arnica; CliniclQ; U-ON.Travel, etc.

However, after the beginning of the Russian-Ukrainian war in 2014, the issue of changing the vector to domestic providers became urgent. A list of the leading Ukrainian online CRM systems and an analysis of their services is given in Table 1.

Table 1 – Comparison of CRM systems widely used in Ukraine

Title of CRM system	Services	Type of customer	Size of business
KeyCRM [9]	Collecting leads/orders Communication with clients End-to-end analytics and reporting	Marketplace trade Instagram sales Online stores Services The sphere of beauty Consulting	Medium, small, large business
Firmao [8]	Automation of the sales process Comprehensive customer service Management of the work of the sales department	Service and sales companies	Medium, small, business
NetHunt [11]	Database organization Sales funnel Business process automation Tasks and team performance control	Marketplace trade Sales company Online stores	Medium, small, business
LP-CRM [10]	Data analysis Warehouse accounting Automation of business processes Creation of declarations	Landings Online stores Marketplaces	Medium, small, business
SalesDrive [12]	Full integration with Nova Poshta, Ukrposhta, Justin SMS Order by phone Storage Documentation management Check processing	Internet-shop Warehouse stores	Medium, small, business

Ukrainian developers most often cooperate and provide services to medium and small businesses. Functional purpose: automation of business processes,

outsourcing of marketing tasks, control of online payment.

The basis of the process is the exchange of information between the parties, its analysis and sorting. The primary goal of the CRM system is the client base, which is automatically formed from various sources and significantly reduces time consumption. The audience can be classified according to certain characteristics (for example, a new, repeat or regular customer, etc.). This allows to provide personalized offers with greater value and customize targeted advertising. As a result, the company receives more orders for the same number of requests.

For today the move toward cloud-based solutions is one of the most important developments in the CRM industry. In 2020, the worldwide CRM software market is expected to increase by 13.7%, with cloud-based CRM accounting for roughly three-quarters of this growth, per Gartner's research [7]. Furthermore, according to research by Market Research Future (2022), the worldwide cloud-based CRM market would expand by

\$54.4 billion between 2022 and 2027, growing at a CAGR of 10.16%. The adaptability, scalability, and affordability of cloud-based solutions are what is driving this trend [5].

Nowadays, CRM is also changing as a result of artificial intelligence (AI) and machine learning (ML) and is progressively being improved (Fig. 4). According to a Gartner report, Al will manage 80% of customer support contacts by 2025 [4]. The rising availability of data, the need to automate repetitive operations, and the need to offer tailored experiences at scale are the trends driving this movement. By automating typical processes like lead scoring and client segmentation, for instance, technologies enable sales and marketing teams to concentrate on more strategic initiatives [1].

Machine learning

 Organization of customer data

Deep learning

 Analysing of big amount of information

Automation

 Automation of processes that decrease necessity of employee's involvement

Robotization

 Using robots for communication with customers

Figure 4 – Changes in CRM systems under the influence of the latest technologies

It is logical to ask at which stages of customer interaction the introduction of artificial intelligence is effective. Below in the Table 2 some applications are shown.

Customer relationship management systems may offer individualized suggestions

and predictive analytics based on customer data by integrating AI and machine learning algorithms. Table 2 – Application of AI in CRM systems

Business stage	Application of Al	
Marketing	Analyzing of market	
	 Analyzing of behavior of client 	
	Content management	
	Personalization	
	Forecasting	
Sales	Automatization	
	Reporting	
	Chatbot	
Communication	Analyzing emotions of clients	
	Robotization of assistance	

As can be seen in the Fig. 5, the major elements are the database, AI/ML tools, and CRM system. The two main areas where AI/ML has an impact on the CRM system are personalization and predictive analytics. Personalization and predictive analytics help to identify potential growth opportunities, increase the efficiency of tasks like sales

forecasting or lead scoring through automation, which reduces human error rates, and provide valuable insights into customer behavior and preferences that can be used to personalize customers' experiences, leading to higher customer loyalty.

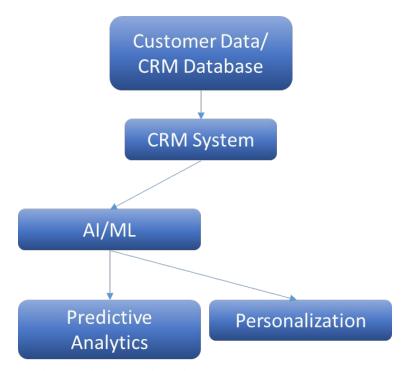


Figure 5 – Scheme of the influence of Artificial Intelligence (AI) and Machine Learning (ML) on the CRM system

Artificial intelligence-powered chatbots may be incorporated into a CRM platform to offer real-time help, answer commonly asked inquiries, and quickly resolve problems while saving time for both parties communicating with it. Artificial intelligence and machine learning have significant impacts on CRM by gathering data from various sources like social media or sales transactions for analysis to identify profitable customers' preferences

using personalization algorithms leading towards automation in business processes with predictive analytics identifying potential opportunities for growth while chatbots offer assistance to the customers real-time resolving their queries quickly. AI/ML's impact on CRM can help streamline businesses providing insights efficiently by consumer behavior & preference-driven goals empowering better strategic decision making resulting in greater success rates overall with an increased focus on personalized experience enhancing profitability levels.

Therefore, another significant development in the CRM industry is the growing significance of personalization, which is also becoming very important for companies and their customers. Research by

Accepture found that 91% of consumers are more willing to patronize firms that make useful offers and suggestions [6]. The rising need for personalized experiences and the accessibility of data-driven technologies that allow businesses to provide personalized experiences at scale are what are driving this trend. Customer relationship management systems that use customer data to build segments and offer customized suggestions depend on personalization, as can be seen in the Fig. 6. With tailored marketing efforts, product recommendations, and specialized content, personalized experiences boost consumer happiness and loyalty as well as propel sales growth.

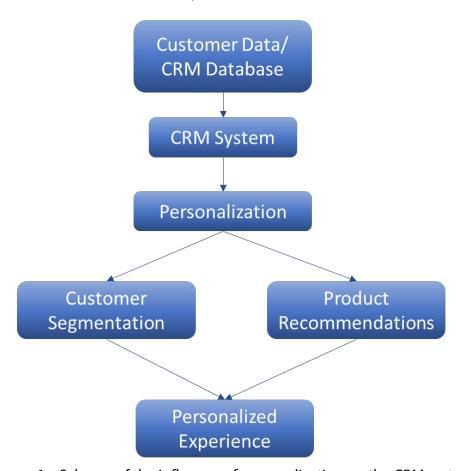


Figure 6 – Scheme of the influence of personalization on the CRM system

Customers' engagement and loyalty are increased when they receive tailored messages and offers that make them feel valued. Businesses can target certain customer segments with personalized

messages to increase the success of marketing campaigns. Understanding each customer's preferences allows businesses to build stronger relationships, which in turn improve conversion rates, which in turn stimulate revenue growth. By implementing data-driven personalization techniques inside CRM systems, businesses are able to achieve tangible outcomes while creating value propositions that are more alluring than ever

before, leading to excellent business performance indicators across all industries.

Analyzing the schemes and information given above, let's create a general scheme for all the main trends and their impact on the CRM system (Fig. 7.).

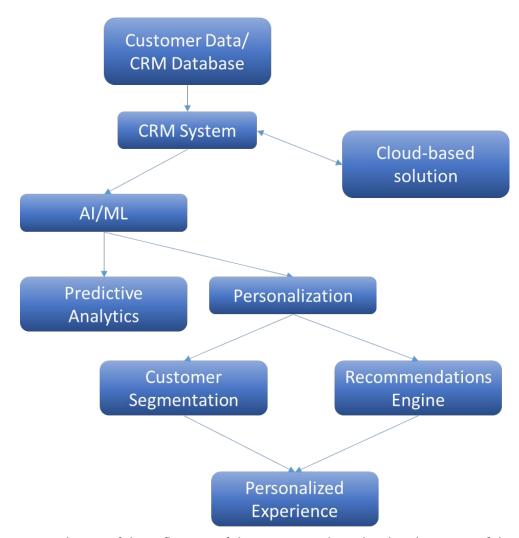


Figure 7 – Scheme of the influence of the main trends in the development of the CRM system

The information we need to understand using it in business and what's going on inside. Businesses may now store and access client data from any location thanks to cloud-based technologies. By examining their consumers' behavior and interests, they have been able to offer customized experiences. This data may be analyzed using Al and ML algorithms to give insights into client behavior that can help firms customize their

goods or services to satisfy particular demands.

CRM is placing more and more emphasis on personalization as customers demand more specialized experiences. Businesses may communicate with clients in real-time and provide them with tailored suggestions based on their preferences by deploying Alpowered chatbots or virtual assistants.

Customer relationship management systems are necessary for Ukrainian

enterprises to be competitive. CRM solutions simplify sales processes, facilitate better teamwork and offer deep insights into customer behavior.

Thanks to the increased flexibility, scalability and cost-effectiveness that cloud solutions offer. The importance personalization features as customers expect personalized experience. Efficiency achieved through automation with AI and machine learning algorithms that analyze customer data for predictive analytics leading to more informed sales/card decisions. The use of cloud solutions, personalization technologies, AI and ML is becoming more and more popular in the CRM industry of Ukraine.

By increasing productivity and offering a better customer experience, companies that implement these advanced solutions can gain a competitive advantage that will ultimately help them succeed in the long run.

To sum up, cloud-based solutions, personalization, AI, and ML are revolutionizing how companies manage their customer connections. Businesses may gain a competitive edge by enhancing operational efficiency and offering better customer experiences by utilizing these technologies to their full potential.

Conclusions. In conclusion, we can say that the emergence of the latest technologies

has influenced the importance of system integration of data, and CRM solutions must also be able to link with a wide range of different systems and platforms in the connected corporate world of today. Effective CRM requires integration with other systems. Communication with other systems is effective CRM, because necessary for problems with integration can lead to inefficiency, data accumulation and poor customer experience. The drive to ensure seamless interactions with multiple touchpoints and the increasing complexity of the digital landscape are driving this trend.

CRM systems have already been effectively adopted by certain Ukrainian businesses, and their use has yielded fruitful results. Yet, compared to markets in wealthy nations, the Ukrainian market is still relatively new and underdeveloped. It should be highlighted that organizations from both domestic and foreign countries offer CRM solutions for the Ukrainian market. Customers may now select from a variety of options to get the best option for their company.

Overall, it can be argued that the Ukrainian market for CRM systems is favorable and has room for growth. Companies have just lately discovered how crucial CRM systems are to effectively working with customers, therefore we may anticipate a rise in demand for these systems in the future.

References

- 1. An Overview Of Al-Powered Marketing Automation. URL: https://www.forbes.com/sites/forbestechcouncil/2022/10/26/an-overview-of-ai-powered-marketing-automation/?sh=3adff30e6e83.
- 2. Customer Relationship Management Market Size, Share, & Trends Analysis Report By Solution, By Deployment (On-premise, Cloud), By Enterprise Size, By End-use, By Region And Segment Forecasts, 2023 2030. URL: https://www.grandviewresearch.com/industry-analysis/customer-relationship-management-crm-market.
- 3. Europe Customer Relationship Management Market By Component, By Enterprise Size, By Deployment Type, By Application, By End User, By Country, Growth Potential, Industry Analysis Report and Forecast, 2021 2027. URL: https://www.researchandmarkets.com/reports/5345556/europe-customer-relationship-management-market.

- 4. Gartner Top Strategic Technology Trends for 2021. URL: https://www.gartner.com/smarterwithgartner/gartner-top-strategic-technology-trends-for-2021.
- 5. Global CRM Market 2023-2027. URL: https://www.reportlinker.com/p03034166/Global-CRM-Outsourcing-Market.html?utm source=GNW.
- 6. Making it personal. URL: https://www.accenture.com/_acnmedia/pdf-77/accenture-pulse-survey.pdf.
- 7. Market Share Analysis: CRM Sales Software, Worldwide, 2020. URL: https://www.gartner.com/en/documents/4003494.
 - 8. Official website «Firmao». URL: https://firmao.com.ua/.
 - 9. Official website «KeyCRM». URL: https://ua.keycrm.app/.
 - 10. Official website «LP-CRM». URL: https://lp-crm.biz/.
 - 11. Official website «NetHunt». URL: https://nethunt.ua/.
 - 12. Official website «SalesDrive». URL: https://salesdrive.ua/.
- 13. Results of CRM market research in Ukraine. URL: https://www.bitrix24.ua/crmresearch2018/.