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AI-powered Customer Relationship Management – GenerativeAI-based CRM – Einstein GPT, Sugar CRM, and MS Dynamics 365

Edyta Gołąb-Andrzejak*

Gdańsk University of Technology, Faculty of Management and Economics, Department of Marketing, 11/12, Narutowicza Str., Gdansk, Poland

Abstract

Generative artificial intelligence (GenAI) and its implementation in successive business management support systems is a rapidly growing area of theoretical consideration, ongoing research, discourse and application in practice. Recently, the implementation of of GenAI in customer relationship management (CRM) systems has been observed. Accordingly, the aim of this article is to identify areas where GenAI can enhance CRM systems, using Einstein GPT, Sugar CRM or Microsoft Dynamics 365 as examples. To this end, a research question was formulated: how can GenAI improve the effective use of CRM systems? Accordingly, a preliminary study based on secondary data analysis as well as software analysis was conducted to identify areas of GenAI use in CRM systems where we see an increase in the effective application of CRM. The results of the analysis showed that GenAI-powered CRM systems support the effectiveness and efficiency of marketing, sales, commerce, service and system user success. This is because they provide numerous advantages in terms of developing, expanding and strengthening customer relationships through highly advanced personalisation, closely linked to customer segmentation, which allows unique experiences to be provided to individual segments. As a result, this translates into building a company's competitive advantage and increasing the profitability of its CRM efforts.

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* Corresponding author. Tel.: 48 58 348 60 19; fax: +48 58 347 24 55.

E-mail address: edyandrz@pg.edu.pl

1. Introduction

The importance of modern technological solutions in customer experience was pointed out in a study entitled “MSI Research Priorities 2022-2024 PRIORITIES 2022-2024”. The Marketing Science Institute (MSI) is one of the key marketing organisations identifying key study areas for researchers worldwide. One of the indicated priorities for globally observed macrotrends led to the following research question for researchers regarding general principles for improving customer service, particularly through the use of technology and how technology can be used to enhance or undermine the customer experience, balancing the desire for authentic human contact with the desire for immediate service response [1]. The above research questions become more relevant in the context of the use of GenAI in CRM systems, which is the subject of this paper.

Generative artificial intelligence (GenAI) is challenging today's business leaders to discover areas in their organisations where GenAI can be used. The quest to answer how organisations can be reprogrammed to derive value from generative artificial intelligence and other technologies was, among other things, discussed at this year's World Economic Forum in Davos from 16-18 January 2024.

The timeliness of the topic being addressed is evidenced by the results of a study by Netscope, a leader in Secure Access Services (SASE), which found that more than 10% of enterprise employees were accessing at least one generative artificial intelligence (AI) app in the following months of 2023, compared to a rate of just 2% a year ago in 2022 [2]. This demonstrates the dynamic nature of deploying AI-based solutions in business operations. The Netscope survey results also point to a group of advanced users steadily increasing their use of GenAI-based applications. It is expected, given the current rate of growth in GenAI app usage, that “the top 25% of users will significantly increase generative AI activity in 2024, as this group finds new ways to integrate the technology into their daily lives” [2].

GenAI is a “type of artificial intelligence that is capable of creating new and original content such as images, sounds, texts or even videos using machine learning algorithms” [3]. A lively discussion on GenAI was undertaken with the launch of the first GenAI-based tool ChatGPT in autumn 2022 [4][5]. Over time, negative perceptions of this technology by representatives of different professions [6][7][8] gave way to testing of this tool in terms of the possibilities it presents to support work in different professions, including business [9] [10] and especially marketing [11] [12] [13] [14] [15].

One area of business activity related to customer relationship building, for which efforts have been made to implement and integrate GenAI with the technologies in place to date within systems related to customer relationship management, is CRM information systems. This was closely related to Salesforce's launch, on 7 March 2023, of a pilot version of its Einstein GPT-based generative AI solution, described as the world's first generative AI for CRM [16]. “Einstein GPT is the next generation of Einstein, Salesforce’s AI technology that currently delivers more than 200 billion AI-powered predictions every day across the Customer 360 (Salesforce’s portfolio of products)” [17].

Thanks to GenAI, CRM systems have undergone a transformation from storing data on customer interactions to intelligent systems that enable the generation of optimal strategies for companies. The integration of the traditional capabilities of CRM with GenAI is accelerating CRM systems to a new, hitherto unattainable level in such areas as analytics and prediction, among others (Yilmaz, 2023). Current GenAI systems facilitate processing and learning from all customer interactions from phone calls to emails to meeting transcripts [18].

Therefore, it is important to identify the true capabilities of GenAI in CRM systems in order to assess its actual value to an organisation. It is undoubtedly crucial to manage interactions with customers in order to deliver an exceptional customer experience, increase engagement and ultimately develop long-term relationships [19]. That is why the purpose of this article is to identify areas where GenAI can enhance the use of CRM systems, using Einstein GPT, Sugar CRM or Microsoft Dynamics 365 as examples.

The main research question is: how can GenAI improve the effective use of CRM systems? The structure of this article is as follows. The literature review section discusses the essence of CRM, followed by the specifics of GenAI CRM, in order to then demonstrate the impact of GenAI on CRM systems, presenting the broad benefits provided by a GenAI-powered system. The next section discusses the research methods used and then, based on an analysis of secondary information sources and the analysis of selected applications, identifies areas of the company's operation where GenAI-based solutions (specific functionalities) can be used effectively in CRM systems. The final section

presents some conclusions and theoretical and practical implications, as well as the limitations of the conducted analyses and directions for future research.

2. Literature review – from CRM to GenAI CRM

2.1. The essence of CRM

Customer relationship management (CRM) can be defined, depending on the context, as a business approach, a marketing strategy or an information system. In the case of business approach, it is considered as the business strategy of the organisation [20]. In the case of marketing strategy, CRM is interpreted from the point of view of long-term customer relationship management [21], whereas in relation to an information system, it is a tool to increase customer value by motivating the loyalty of the best customers [22]. It can be said that these concepts coincide, as they are guided by the same objective, to build the value of the organisation by fostering the value of customers by creating lasting relationships with them through the value provided. In this context, the information system acts as a tool for achieving the outlined objective.

In the context of the considerations undertaken, CRM will be perceived as all the possibilities provided by the IT system that enable interactions with customers and foster their satisfaction and loyalty while creating value for them. This includes applications, data, orchestrations and workflows that support areas of organisation activity such as marketing, sales, commerce, service, and customer success.

2.2. Generative AI in CRM

Generative artificial intelligence (GenAI) is a branch of AI that enables computers to create original and realistic content: text, images, music and more. Using the power of machine learning models (generative adversarial networks (GANs) and variational autoencoders (VAEs), GenAI technology generates new results.

“Generative AI models learn from extensive datasets during a training phase, capturing patterns and structures present in the data. For instance, GANs consist of a generator and a discriminator. The generator produces content resembling the training data, while the discriminator distinguishes between real and generated content. Through an iterative process, the generator improves its output by fooling the discriminator, resulting in the creation of increasingly authentic and high-quality generated content” [23].

Traditional CRM systems have not been able to utilise their capabilities effectively due to their complexity and the resulting time required to operate them. GenAI-supported CRM systems simplify the use of the system's capabilities and accelerate speed, thereby increasing efficiency, productivity and customer focus.

2.3. The impact of GenAI on CRM – GenAI CRM

GenAI transformed CRM's value. The implementation and use of GenAI-enabled CRM brings a number of benefits in different areas of the organisation. It enables the achievement of new levels of productivity, the delivery of differentiated personalised customer experience (CX), improved product recommendations, a significantly higher return on investment as well as higher revenues [18] [24].

The integration of the CRM system with GenAI translates directly into the core focus of customer relationship management, which is customer loyalty [25]. Its growth, assisted by GenAI, is closely linked to the building of long-term customer relationships through the use of machine learning (ML) by CRM systems to analyse data on customer behaviour, preferences and brand interaction [24]. With ML, customers experience a highly personalised interaction with the company, offering customers a unique, extraordinary experience, which ultimately strengthens the customer's relationship with the brand.

Going one step further from a customer relationship management point of view, by utilising the capabilities of GenAI in CRM, predictive modelling can be performed so that customer needs can be anticipated and reacted to, which also serves to strengthen loyal customer relationships. GenAI-powered CRM also underlies the customer service process in areas such as recommendation systems, speed of service or personalisation, among others. All of the above may help create increasingly strong, mutually beneficial relationships based on trust.



GenAI in CRM systems also helps suggest product recommendations to customers, a service that would not be possible in traditional CRM systems [13][24]. By collecting an increasing amount of data on previous purchase preferences, browsing history, geolocalisation and much more, a high level of personalisation is achieved in terms of recommended products that are precisely tailored to customers' needs and preferences. In addition, personalisation of recommendations takes place in real time thanks to the GenAI models used. This is mutually beneficial for both customers and the company, leading to higher product sales and greater customer satisfaction, which in turn can result in stronger loyalty and long-term relationships.

The use of GenAI in CRM systems significantly improves conversion rates [26]. Through the use of AI algorithms, it is possible to analyse large amounts of data in real time which allows for immediate response and action. “AI for CRM takes into account various factors such as customer browsing behaviour, historical data and real-time interactions to deliver highly targeted incentives, promotions or content. For example, if a user browsed a specific product category but did not make a purchase, artificial intelligence can run a personalised promotion related to those products, pushing the customer towards a conversion” [24]. The use of GenAI in CRM systems therefore optimises conversion, which is a big change from static rule-based CRM. “This technology allows companies to deliver tailored experiences at scale, increasing both the likelihood and value of conversions” [24].

Another area of positive impact of GenAI in CRM systems is the reduction of the customer churn rate. This is an extremely important area from a customer relationship management perspective. AI algorithms within CRM systems can analyse large amounts of customer data on an ongoing basis, including an unlimited number of factors that determine customer churn. These factors can be related to potential customer churn directly, via customer service or purchase history, or indirectly, through customer engagement. In the case of the customer engagement indicator, which can indirectly announce the possibility of a customer leaving, it is possible to observe the change in the amount of engagement with the company through different communication channels (email, web, social media). The analysis carried out using the GenAI-powered CRM system in this area makes it possible to identify customers with a high risk of leaving and implement a strategy to prevent churn. The customer retention strategy can include action related to personalising customer contacts, implementing activities based on a recommender system and special offers. By using GenAI and analysing historical data, it is possible to develop the most effective retention strategy.

The examples cited of actions that can be taken by leveraging the analytical and predictive capabilities of CRM systems based on GenAI and machine learning algorithms provide organisations with the opportunity to react in advance and take action to prevent customer churn and support customer retention, which ultimately translates into financial results organisations and their stability.

Another area improved by using GenAI in CRM systems is customer content discovery [24]. This creates the opportunity to improve customer satisfaction and engagement [27] thanks to the analysis – by platforms using ML algorithms – of customer preferences based on their behavior and course of iteration. The implementation of a CRM system based on GenAI brings double benefits – both for the client and for the system user (organisation). In the case of the client, it is possible to highly personalise the content provided (articles, video content, etc., and recommended products). This brings with it a better customer experience, stronger commitment and satisfaction, which may ultimately translate into increased purchasing activity. This is therefore a double benefit for the organisation, because on the one hand, processes related to customer service and the experience provided are optimised, and on the other hand, it helps to build, strengthen and develop relationships with customers who are increasingly loyal and make more frequent purchases, and therefore, boost the company's revenue.

One undoubted advantage of using GenAI CRM systems is the economic benefits – cost savings [26] [28], in various areas of the company's operations. On the one hand, the automation of processes related to customer service and data entry, and on the other hand, the analysis and segmentation of customers based on this in order to differentiate activities within them, reduces labour costs and human error. In addition, the ability to forecast future customer behaviour and sales trends based on historical data enables the proper allocation of resources and expenditures on appropriately selected marketing activities.

In summary, the use of GenAI in CRM systems supports the optimisation of processes in the company related to customer relationship management through properly selected marketing action to help build relationships from the point of view of customer needs and preferences, while allowing companies to achieve better results with less expenditure.

With GenAI-based solutions in CRM systems, organisations can achieve a higher return on investment (ROI)

[26] [29] than when using classic CRM based on manual control. The machine learning algorithms used in modern CRM systems, combined with GenAI, provide the opportunity to go beyond standard analytics – suggesting optimal customer relationship management strategies through customer engagement, recommendation systems – for instance, GenAI embedded in CRM provides the opportunity, for example, to design a personalised digital marketing communication campaign, a personalised product recommendation system, or dynamically adjust pricing models by analysing real-time data and predictive analytics in real time. Generating optimal product, pricing or promotional strategies leads to process optimisation in the aforementioned areas, and ultimately maximises the profitability of the actions taken. As a result, it provides a much greater opportunity for organisations to effectively and efficiently manage customer relationships through better customer segmentation and the use of better solutions to support real-time personalisation and prediction. This provides the opportunity to make much better use of the company's resources, generating higher revenues. This is a clear advantage in favour of using GenAI-based CRM systems over traditional CRM systems.

The use of GenAI in CRM systems compared to traditional CRM systems gives companies that have implemented them the opportunity to gain a competitive advantage [25] [26] [30]. The latter may be achieved by an organisation with GenAI-powered CRM maximising both analytical and predictive capabilities. Competitive advantage can be gained in the following areas: better understanding of customer needs, preferences and behaviour, personalised experiences, identification of market trends, identification of customer preferences. This provides the company with tangible benefits – for example: faster and more informed decision-making for maximum impact, freeing the organisation's human potential from repetitive processes in favour of more creative activities (increase in focussed productivity). By using GenAI CRM and thus optimising customer relationship management activities companies can achieve a competitive advantage.

As can be seen from the issues discussed above, the benefits of using GenAI in CRM systems can be enormous. It all depends on tailoring the CRM system to the needs of the company and the specific goals to be achieved, as well as the effective use of the system's capabilities in practice. Therefore, in the next step, operational areas where GenAI CRM can be used will be analysed and examples of GenAI tools implemented in CRM systems such as Einstein GPT, Sugar CRM and Microsoft Dynamics 365 will be discussed.

3. Research methodology

In order to address the research problem presented in the introduction (how can GenAI improve the effective use of CRM systems?) the research procedure followed three steps:

1. Analysis of the literature,
2. Analysis of secondary sources,
3. Case studies of GenAI CRM applications.

Initially, an analysis of the literature on CRM, the essence of the concept, traditional and GenAI-based CRM systems and the benefits of implementing GenAI within the aforementioned systems was carried out. The literature analysis was based on the WoS, Scopus and Google Scholar databases.

Subsequently – using secondary sources – an analysis was made of the CRM systems available on the market based on GenAI and the functional areas recommended for their use in companies.

Finally, some case studies – selected applications – were investigated in which GenAI-based solutions had been implemented. The aim was to indicate real areas and activities where it is possible to increase effectiveness and efficiency by using CRM systems based on GenAI.

4. Research results and discussion

4.1. Functional domains of GenAI CRM applications in business analysis

One of the key questions managers ask when implementing GenAI-based CRM systems in their companies is how it might impact the trust and relationships built with customers and employees over the years [19]. As can be

seen, it is therefore crucial to recognise the value delivered by the GenAI application in CRM systems. This value should be seen from the standpoint of the business areas associated with CRM that can be improved. The aim is to demonstrate an increase in the effectiveness of action undertaken in the aforementioned key functional areas through the use of GenAI. This is the subject of the analyses undertaken in this section.

As we observe and as the results of research MarketResearch.biz [31] show, the importance of GenAI will increase over the coming years. This is because the potential underlying the use of GenAI in CRM systems is tremendous. The results of a study by MarketResearch.biz estimate that the market value of GenAI in CRM will have risen to around USD 119.9 million by 2032.

The crucial point for effectively uses the potential that GenAI brings to CRM systems is to determine the business value to be achieved. To maximise this value, it is necessary to integrate GenAI solutions with other technologies in CRM systems within the interactions between customers, partners and employees. Technologies influential in realising the full potential of GenAI are predictive artificial intelligence, voice, experience management, or workflow technology. It is important to integrate the aforementioned technologies into the user's processes and interaction capabilities. It is also important to develop assumptions about the value delivered by the system. The value of the system is assessed in terms of feasibility and impact on interactions with customers and employees. The criteria for measuring the effectiveness of the CRM system include, for example, personalisation of contacts, speed of customer service, creation of new, unique customer experiences, or saving time for employees, which can be allocated to other tasks.

The customer relationship management process in a CRM architecture must be integrated with actions taken at so-called touch points. Therefore, at the core of its design process should be the identification of the so-called customer journey path along its entire length before building the CRM system architecture. The efficiency of CRM systems can be increased through the use of AI, and since last year, GenAI. The goal underlying the design of such a GenAI-powered CRM system should be the assumed target customer experience. The starting point for delivering the intended customer experience is to identify the functional areas in the customer's purchase path and to identify for each of them the key functionalities that can be delivered by integrating GenAI with the CRM system used by the company (Table 1).

Table 1. GenAI-powered CRM functional domains

Functional domains of CRM	GenAI-powered CRM functions
Marketing	Content Creation Transcreation Partner Co-Marketing Social Media Sentiment Analysis Search (SEO and SEM)
Sales	Seller Productivity Sales Enablement Customer-Centric Offers Intelligent Lead Generation and Prospecting Personalised Sales Incentive Offers Sales Target and Compensation Communication
Commerce	Streamlined Shopping Experience Hyper-Personalised Search Results Dynamic Product Information Management Optimised Purchase Plans
Service	Time to Resolution Agent Assist
Customer Success	Customer Expansion Customer Value Realisation

Marketing, sales, trade, service and customer success were identified as the key functional areas identified in

Table 1. Each of the functional domains indicates the functions that can be implemented using GenAI CRM, including content creation, analyses (e.g., sentiment analysis on social media), website positioning and promotion, personalisation of product offers for customers and incentive offers for salespeople, delivery of exceptional experiences, management of purchasing and sales plans and optimisation of related processes, etc.

4.2. GenAI for CRM – Einstein GPT, Sugar CRM, and Microsoft Dynamics 365 functionalities analysis

Einstein GPT is recognised as the world's first GenAI technology in CRM systems [16]. Einstein GPT is open and extensible. It combines public and private AI models built specifically for CRM that rely on real-time data. Private AI models are understood to mean “those developed by Salesforce that are used by customers using the functions of Einstein's technology layer” [17]. The above-mentioned combination of two types of models allows you to directly ask questions in the CRM system in natural language, thanks to which the content generated by AI over time follows the changing needs of customers and the content they generate. This is a direct benefit for the company because it allows system users to save time. Additionally, Einstein GPT can leverage GenAI capabilities by directly accessing OpenAI's enterprise-grade ChatGPT technology. This is made possible thanks to the partnership between Salesforce and OpenAI. It is also possible to extend Einstein GPT and integrate it with external models. Further CRM software enhanced by GenAI has been introduced by SugarCRM Inc. and Microsoft Corporation, among others. Einstein GPT just as Sugar CRM, and MS Dynamics 365 (including e.g. Dynamics 365 for Sale, Dynamics 365 Customer Insights, Microsoft Copilot for Sales applications) enable the mass delivery of AI-created content in interactions occurring within a deployed CRM system in functional areas such as marketing, sales, commerce, service and application building (Table 2).

The functional areas supported by Einstein GPT, Sugar CRM, and MS Dynamics 365 are consistent with those presented in Table 1. The key areas are: marketing, sales, commerce and service (Table 2).

Table 2. GenAI in CRM – an analysis of applications: Einstein GPT, Sugar CRM, and Microsoft Dynamics 365

Functional domains of CRM	GenAI-powered CRM functions		
	Einstein GPT (March 7, 2023)	Sugar CRM (October 5, 2023)	MS Dynamics 365 (April 1, 2024)
Marketing	Dynamically generate personalised content to engage customers and prospects across email, mobile, web, and advertising	Enhanced personalisation of digital marketing communication campaigns Generate new content in foreign languages and translate existing texts Advanced audience segmentation of targeted digital communication campaigns	Development of 360-degree customer profiles Create summaries of customer preferences Create a segment and provides a quick overview and editing options before launching the campaign Automatically insert tailored, engaging content and add visual elements using pre-built blocks such as images, links and more Marketers can use off-the-shelf digital channels or any custom customer journey channel, such as direct mail or a custom SMS provider
Sales	Auto-generate personalised agent chat replies Auto-generate a natural language summary during case wrap-up Generate knowledge articles from past case notes	Generate personalised e-mails and texts Access to all call scripts Generate personalised offers	Generate sales forecasts Design and develop personalised email content ideas Customer journey data can be targeted directly to salespeople. Data like

			interactions, customer lifetime value, churn risk and even lead scoring with next best actions can be displayed to the relevant sales teams
Commerce	Commerce Cloud Einstein provides artificial intelligence-powered merchandising tools to deliver actionable insights and tailored customer experiences in B2C commerce	-	-
Service	Auto-generate personalised agent chat replies Auto-generate a natural language summary during case wrap-up Generate knowledge articles from past case notes	Automatic handling of routine queries Personalised assistance through customer history generation and service history summaries Generate personalised step-by-step guides for users	Design personalised customer journey Customer data can be updated and analysed and used in a personalised way to increase customer satisfaction and loyalty rates

The functionalities assigned to each functional area (Table 2) show that GenAI embedded in CRM systems supports automation, accelerates and optimises marketing, sales and customer service.

Einstein GPT for marketing dynamically generates personalised content for communication via email, mobile devices, websites and advertising to increase engagement with current and potential customers. Sugar CRM and MS Dynamics 365 have similar functionality, including smarter segmentation to create targeted digital marketing communication campaigns.

Einstein GPT for sales as well as Sugar CRM, and MS Dynamics 365, similarly to marketing, helps automatically generate e-mail content, plan meetings and provides support for initiating new interactions. MS Dynamics 365 also enables more personalised customer journeys using AI-assisted guidance and predictive analytics. Based on the customer information available in the system, it is also possible to generate real-time, data-driven, personalised, sales offers.

Einstein GPT for commerce is a special case in point. It combines Salesforce's AI models together with GenAI technology from partner ecosystems with real-time data from the Salesforce Data Cloud. This helps manage and harmonised all a company's customer data. For example, “using customer demographics and contact or purchase history, Einstein GPT for Commerce can create personalised product lists or generate engagement with each individual customer without pre-loaded product descriptions or pre-entered information. (...) Merchants can also design personalised promotional offers with personalised, automatically generated messages for customers delivered via WhatsApp, SMS or email” [40].

Einstein GPT and the other two applications analysed for service enables the automatic generation of personalised responses, which, thanks to the speed of response and content personalisation, has a positive impact on customer satisfaction. It can also create articles in a “knowledge database” according to case histories and notes. Sugar CRM provides quicker solutions to customer problems through adaptation to the GenAI system. MS Dynamics 365 allows for the creation of a personalised customer path.

In order to build customer confidence in implementing GenAI in their CRM systems, the following principles are crucial: understanding the basics – knowing what generative CRM is and what it can and cannot do, assessing the infrastructure of current CRM systems and whether they can cope with GenAI-based CRM, training and upskilling, and managing data for accuracy and reliability.

At the same time, it should be borne in mind that human supervision is necessary. GenAI may generate counter-intuitive insights. “Algorithms, no matter how sophisticated, cannot replace the nuances of human intuition. There is a risk of over-reliance on data and missing the intangible human element” [33].

5. Conclusions

Undoubtedly, the integration of AI into CRM systems is a watershed moment affecting almost every industry. The convergence of GenAI with CRM over the past year brings with it a multiplied synergy that is shifting the course of customer interactions in a groundbreaking way towards a level of personalisation. Due to the early stage of the solution's lifecycle, this article aimed to identify areas where GenAI can improve the use of CRM systems in business. The secondary data analysis carried out revealed functional areas where efficiencies are possible compared to traditional CRM systems (Table 1-2). These are primarily related to more personalised marketing communication and offers as well as the creation of unique customer experiences. This enhances the effectiveness and efficiency of action undertaken to build lasting relationships – manifested in more purchases, satisfaction, loyalty and, consequently, recommendations. As the analysis revealed, “AI significantly improves CRM systems by automating repetitive tasks, offering predictive analytics and facilitating more meaningful interactions with customers. With AI, CRM systems can better analyse customer data, assess purchase behaviour and even predict future customer needs” [30]. This is possible, among other things, through the implementation of GenAI-based CRM solutions such as those mentioned – Einstein GPT, Sugar CRM and MS Dynamics 365 – supporting the aforementioned processes.

From the point of view of the theoretical implications, it is apparent that there is a need to empirically verify the assumptions made regarding the functional domains adopted (Table 1) and the benefits achieved (section 2.3) in relation to the different industries where GenAI CRM has been implemented. It is necessary to highlight two areas of benefit resulting from the implementation of GenAI CRM systems, namely analytical and predictive.

As far as the contribution to business is concerned, the use of solutions such as Einstein GPT, Sugar CRM or MS Dynamics 365 in CRM systems is undoubtedly recommended, as it brings a number of benefits from both the customer and the company's point of view. Among the areas mentioned are the optimisation of customer interaction processes and, in a broader context, relationship building and management. In addition, such an area in which the company is achieving unprecedented benefits is massive, advanced personalisation enabling the delivery of exceptional customer experiences. This brings with it tangible economic benefits for the user of the systems through increased efficiency and competitive advantage.

GenAI CRM appears, in the context of the future, to be “the central nervous system of the modern enterprise, connecting seamlessly with other core business functions – from human resource and supply chain management to research and development. The entire organisational matrix can potentially be aligned to the intelligent, dynamically evolving customer profiles generated by CRM” [1]. From the point of view of building and managing customer relationships, GenAI CRM may well change the way we think and act in business, which heralds numerous new opportunities for much more effective and efficient operations.

In terms of limitations, this study was based on secondary sources analysis as well as case studies of GenAI CRM applications only. This is because this study is exploratory in nature and represents a first step in an area dedicated to GenAI in CRM systems. Subsequent steps will be devoted to the effectiveness of GenAI CRM implementations in the context of marketing. Case studies are planned, based on companies that have implemented such solutions and qualitative research with managers and employees responsible for and using GenAI CRM in their daily work.

References

- [1] PRIORITIES 2022-2024 Introduction : MSI Research Priorities Process Macro Trends Affecting MSI ' s 2022-2024 Research Priorities. (2022);1–12.
- [2] Netskope Threat Labs: Attackers Taking Notice as Generative AI App Usage Among Enterprise Employees Increases by 400% [Internet]. (2024) [cited 2024 Jan 18]. Available from: <https://www.netskope.com/press-releases/netskope-threat-labs-attackers-taking-notice-as-generative-ai-app-usage-among-enterprise-employees-increases-by-400>
- [3] Fiszer, Dorota. (2023) "Przywitaj się z Einstein GPT!" [Internet]. 7 March. [cited 2024 Jan 13]. Available from: <https://sforce.pl/index.php/2023/03/07/przywitaj-sie-z-einstein-gpt/>
- [4] Marr, Bernard. (2023) "A Short History Of ChatGPT: How We Got To Where We Are Today" [Internet]. May 19. [cited 2023 Nov 25]. Available from: <https://www.forbes.com/sites/bernardmarr/2023/05/19/a-short-history-of-chatgpt-how-we-got-to-where-we-are-today/>
- [5] Yuen, T. Mak. (2023) "ChatGPT explained: Stats, market trends, and the future of generative AI" [Internet]. March 29. [cited 2023 Nov 24]. Available from: <https://www.insiderintelligence.com/insights/chatgpt-stats-trends/>

- [6] Carvalho, Inês, and Ivanov, Stanislav. (2023) "ChatGPT for tourism: applications, benefits and risks." *Tourism Review*, **79(2)**: 290-303.
- [7] Oviedo-Trespalacios, Oscar, Peden, Amy E., Cole-Hunter, Thomas, Costantini, Adrianna, Haghani, Milad, Rod, JE, et al. (2023) "The risks of using ChatGPT to obtain common safety-related information and advice." *Safety Science* **167(February)**:106244.
- [8] Sok, Sarin, Heng, Kimkong. (2024) "ChatGPT for education and research: A review of benefits and risks." *Available at SSRN*: 4378735. **3(1)**: 110–21.
- [9] Chu, Mi-Na. (2023) "Assessing the Benefits of ChatGPT for Business: An Empirical Study on Organizational Performance." *IEEE Access*. **11(June)**: 76427–36.
- [10] Rane, Nitin. (2023) "Role and Challenges of ChatGPT and Similar Generative Artificial Intelligence in Business Management." *SSRN*.
- [11] Gołąb-Andrzejak, Edyta. (2023) "The Impact of Generative AI and ChatGPT on Creating Digital Advertising Campaigns." *Cybernetics and Systems* **0(0)**:1–15.
- [12] Huh, Jisu, Nelson, Michelle R., and Russell, Cristel Antonia. (2023) "ChatGPT, AI Advertising, and Advertising Research and Education." *Journal of Advertising* **52(April)**: 477–82.
- [13] Kshetri, Nir, Dwivedi, K. Yogesh, Davenport, H. Thomas, and Panteli, Niki. (2024) "Generative artificial intelligence in marketing: Applications, opportunities, challenges, and research agenda." *International Journal of Information Management* **75(4)**: 102716.
- [14] Gołąb-Andrzejak, Edyta. (2023) "AI-powered Digital Transformation : Tools, Benefits and Challenges for Marketers – Case Study of LPP." *Procedia of Computer Science* **219**: 397–404.
- [15] "New Research: 60% of Marketers Say Generative AI will Transform Their Role, But Worry About Accuracy" [Internet]. 5 June. (2023) [cited 2024 Jan 14]. Available from: <https://www.salesforce.com/news/stories/generative-ai-for-marketing-research/>
- [16] "Salesforce Announces Einstein GPT, the World’s First Generative AI for CRM" [Internet]. 7 March. (2023) [cited 2024 Jan 13]. Available from: <https://www.salesforce.com/news/press-releases/2023/03/07/einstein-generative-ai/>
- [17] Mazalon, Lucy. (2023) "Breaking News: Salesforce Einstein GPT Officially Announced" [Internet]. March 7. [cited 2024 Jan 14]. Available from: <https://www.salesforceben.com/breaking-news-salesforce-einstein-gpt-officially-announced/>
- [18] "How Generative AI Will Transform CRM’s Value" [Internet]. Forbes. Forrester. (2023) [cited 2023 Dec 30]. Available from: <https://www.forbes.com/sites/forrester/2023/10/12/how-generative-ai-will-reshape-crms-value/>
- [19] "Guide to GenAI for CRM : Improving human connections between buyers and brands." A Deloitte Digital Perspective. 2023.
- [20] Guerola-Navarro, Vicente, Gil-Gomez, Oltra-Badenes, Raul, and Soto-Acosta, Pedro. (2022) "Customer relationship management and its impact on entrepreneurial marketing : a literature review." *International Entrepreneurship and Management Journal*: 1-41.
- [21] Guerola-Navarro, Vicente, Gil-Gomez, Hermenegildo, Oltra-Badenes, Raul, and Sendra-Garcia, Javier. (2021) "Customer relationship management and its impact on innovation : A literature review." *Journal of Business Research* **129(May)**: 83–7.
- [22] Lubis, Adelina, Dalimunthe, Ritha, Absah, Yeni, and Fawzee Beby, Karina. (2020) "The Influence of Customer Relationship Management (CRM) Indicators on Customer Loyalty of Sharia Based Banking System." **5(1)**:84–92.
- [23] "What is Generative AI?" (2024) [Internet]. Netscope. [cited 2024 Jan 17]. Available from: <https://www.netskope.com/security-defined/what-is-generative-ai>
- [24] Srivastava, Sudeep. (2024) "Personalization at Scale: How AI in CRM is Transforming Customer Engagement" [Internet]. 22 March. Available from: <https://appinventiv.com/blog/ai-in-crm/>
- [25] Rane, Nitin, Choudhary, Saurabh, and Rane, Jayesh. (2023) "Hyper-personalization for enhancing customer loyalty and satisfaction in Customer Relationship Management (CRM) systems." *SSRN*. 4641044.
- [26] Soni, Vishvesh. (2023) "Adopting Generative AI in Digital Marketing Campaigns : An Empirical Study of Drivers and Barriers." *Sage Science Review of Applied Machine Learning*, **6(8)**, 1-15.
- [27] Gołąb-Andrzejak, Edyta. (2021) "Zaangażowanie konsumenta w usługach w ujęciu logiki dominacji usługowej." *Gdańsk: Wydawnictwo Politechniki Gdańskiej*; p. 1–242.
- [28] Gausling, Nick. (2023) "Bots in Suits: Using Generative AI to Revolutionize Your Business." *Romy Group LLC*.
- [29] Taulli, Tom. (2023) "Generative AI: How ChatGPT and Other AI Tools Will Revolutionize Business." *Berkeley: CA: Apress*; p. 145–74.
- [30] Verma, Ramesh Kumar, and Kumari, Nalini. (2023) "Generative AI as a Tool for Enhancing Customer Relationship Management Automation and Personalization Techniques." *International Journal of Responsible Artificial Intelligence* **13(9)**: 1–8.
- [31] MARKET RESEARCH REPORTS [Internet]. (2024) [cited 2024 Jan 19]. Available from: <https://marketresearch.biz/>
- [32] "Einstein GPT - nowe narzędzie poprawi doświadczenie klientów" [Internet]. 4 April. (2024) [cited 2024 Jan 14]. Available from: <https://www.dlahandlu.pl/technologie-i-wyposazenie/einstein-gpt-nowe-narzedzie-poprawi-doswiadczenie-klientow,117630.html>
- [33] Venkatraman, Kannan. (2023) "The Rise Of Generative CRM Systems In The AI Age" [Internet]. October 6. [cited 2024 Jan 16]. Available from: <https://www.forbes.com/sites/forbestechcouncil/2023/10/06/the-rise-of-generative-crm-systems-in-the-ai-age/>