

THE IMPACT OF AI ON CRM - INSIGHTS FROM A BUSINESS MODEL CANVAS PERSPECTIVE

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Rapid and complex technologies development may have a disruptive effect on existing paradigms of doing business. Successful customer relationship management as one of the key levers for sales productivity, includes among others, trustworthiness in delivering expected value proposition, transparency in collaboration, truthful and safe information exchange in acquisition of new customers, optimizing customer retention, designing and maintaining proper communication channels and ensuring effective process scenarios – all of them very strongly impacted by technologies. One such impactful technology is, based on its current pace of development, Artificial Intelligence (AI). Considering its game-changing role, AI tools offer to redefine communication landscapes, introducing benefits but also risks in shaping the relationships with customers. Meanwhile, while rethinking and innovating new value creation models for customers, businesses rely on well-known frameworks and approaches in designing alternatives for customers. Business Model Canvas, being one of those structured approaches, can be a useful perspective for experimenting with AI in order to gain insights on how AI can impact customer relationship management in terms of collaboration, analytics and operations.

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1 Introduction

Digital transformation implies significant changes in the organization's business processes, resulting with a high impact on the customer relationship management (CRM) processes as well. According to Buttle and Malkan (2019) CRM aims to create and maintain profitable relationships with customers by designing and delivering high quality value. The basic framework of the customer-oriented business philosophy is given by the organization's business model, which includes the key elements of how and what the organization offers (Value), to whom (Customers) and how (Processes). Although CRM innovations are not necessarily always related to technology, contemporary innovation usually includes at least some technological improvements. This paper investigates the impact of one of the most unpredictable and disruptive technologies - artificial intelligence, and its role on changes designed in the business model of an organization while reconsidering how and what new value may be offered to customers.

Ozay et al. (2024) provided a bibliometric analysis, concluding, among other, that evolution of CRM is tracing its advancement from 1960s to 1980s as a function of information industry revolution, followed by the "Birth of Automation" via PCs in the 1990s. The rise of cloud computing and social media introduced "Social CRM", followed by the 2010s shift to SaaS and "analytical CRM" for predicting lifetime value. Today, "AI-based CRM" uses automation and predictive insights to deliver personalized customer experiences at scale, making it an essential tool for modern business strategy.

Saha (2025) states that, when compared to traditional CRM, AI powered CRMs boost conversion rates of potential customers to becoming paying buyers from 30% to 65%, by replacing manual data entry with predictive analytics and real-time audience targeting, then AI-powered personalization and sentiment analysis increase retention rates from 45% to over 80%, and AI chatbots and automated ticketing provide instant, 24/7 support, vastly outperforming the 10% response capacity within traditional CRM.

In the study of Averineni et al. (2024) a framework for using AI, and its supportive technologies, namely Machine Learning and Natural Language Processing, is presented, showing the potential to drastically transform CRM by implementing AI, starting with the strategic level of development.

CRM can benefit from using AI, but as of yet, similar to other disciplines, it lacks proper context for AI application, and therefore relying on individual preferences of AI tool users and usually without adequate context description of the case AI is used in. For contributing to this gap of scarce context taxonomy, we propose a conceptual framework based on four variables that can serve as a set of components needed to describe the context, necessary for AI content prompting related to CRM.

2 Theoretical background

Customer relationship management is the crucial tool for any organization for ensuring audience for whatever the business is delivering. It covers every phase of customer lifecycle, from customer acquisition and onboarding, over enhancing sales operations, improving customer experience, maintaining retention rates, keeping the relationship with the customer but also managing the offboarding. Supporting mechanisms for a successful CRM are data, effective processes, stakeholders ready to co-create value and operational customer channels – all of them leading the organizational culture to be more focused on innovation.

Ayaz et al. (2024) explore how AI-driven decision-making and human understanding can be enhanced in the context of ensuring more precise targeting in marketing campaigns. By applying AI techniques for exploitation of the massive volumes of data, to analyze data and gain insights for customer experience personalization, and optimization of decision-making processes, this study contributes to more transparency and interpretability of AI systems in decision-making. Alnofeli, Akter & Yanamandram (2025) propose an AI-enabled CRM capabilities framework consisting of three major dimensions (data management including data governance, data intelligence and privacy and security), multi-channel integration through content and process consistency, and tailored service offerings oriented on personalization, automation, meaningfulness and novelty. Furthermore, Alnofeli et al. after empirically testing their proposed AI-enabled CRM capabilities framework, conclude that organization can significantly enhance their organizational

performance in a sense that those dimensions and their sub-dimensions effect profitability and competitive advantage.

The adoption of AI for CRM is not limited to profit-oriented organizations. Gabay, Jonathan, & Reyhav (2024) investigate AI-driven CRMs and its role in automating routines, improving segmentation and prioritization, providing virtual assistance, and guiding employees in the public sector. Also, Krishna & Vyas (2024) research the integration of advanced predictive models in the healthcare sector, emphasizing the significance of prediction models in disease prevention, allowing thereby timely intervention, but also mentioning the value of personalization and continuous patient monitoring while complying with privacy and data protection regulation. Ethical questions related to privacy and data protection pose an important issue in the study of Khneyzer, Boustany & Dagher (2024) related to implementing AI-Driven Chatbots in CRM. The authors state that in addition to beneficial economic and managerial implications, biased or incorrect results, mechanisms underlying the applied AI systems in terms of accountability, transparency and trust issues are still relevant research topics for future research.

Ledro, Nosella & Pozza (2023) investigate some challenges AI brings when integrated with CRM systems, highlighting that it requires a cultural shift towards data-driven and customer-centric approaches, so the successful implementation relies on good communication between departments involved into capturing data (like marketing and sales) as well as clear policy guidelines for data governance. Data privacy and related regulation compliance is identified and addressed by Penubelli (2024) as a challenge as well, for being an important responsibility of businesses using AI-powered CRMs.

Three basic CRM subsystems (Reynolds, 2002; Dyche, 2002) which shape interactions with customers:

- Collaborative CRM, which enables the integration of communications and information between organizational departments, stakeholders and processes. Its goal is to provide integrational mechanisms which rely on data management and analytics related to customers, but also to ensure compatibility of data from different sources, incoming and outgoing

through different channels, and appearing in different forms – from traditional to GenAI content.

- Analytical CRM is often called the “back office”, since its role is to collect, analyze, process and distribute data collected from users and design marketing strategies, based on insights gained through data analytics. At this level, the aim is to collect data through various sources on time and with enough reliability while facing the problem of the large amount of data that needs to be processed.
- Operational CRM aims to improve everyday customer communication, while being responsible for automating processes, ensuring resources, executing activities, operationalizing set goals and keeping operations focused on delivering the designed value proposition. That is why this level of CRM is considered as the CRM “front office” in delivering operations and ultimately getting the job done.

For designing and rethinking organizational business model, well-known frameworks and approaches are used. The Business Model Canvas (BMC), by Osterwalder et al. (2014), stands as the most widely adopted and used framework. It serves as a tool for defining new value creation of products and services, but also for continuous management. Its nine core components are focusing on defining and reaching the market through segments, relationships, and distribution channels, then on infrastructure through addressing the essential organizational building blocks—key partners, activities, and resources, the value propositions that center on leveraging new technologies and innovation to enhance products or services and financial viability for evaluating the cost structures and revenue streams generated by the business. Grgurević (2017) reorganizes these nine elements into the Business Model Option (BMO) matrix, consisting of The Operational Model - defined by internal structural elements, The Commercial Model - consisting of customer-facing components and The Value Proposition - focusing specifically on the core product or service offering. Although the BMO concept originates from the BMC, it differs from the original BMC by representing a simplified alternative approach, providing more focused management view on three perspectives important for easier decision making: demand (focusing on the commercial aspects), value proposition (as the answer to the demand) and supply (shaping the operational response). In our study we decided to opt for the BMO matrix instead of BMC because it can sufficiently represent the idea of business model integration in our framework by implementing

the demand-value-supply paradigm, while at the same time it enables us to focus on fewer alternatives (three instead of nine elements) of the CRM-AI context.

3 Methodology

Following the idea of gaining insights how AI tools impact CRM, the goal of this paper is to design a conceptual framework for investigating how AI tools can contribute to rethinking and redesigning the value proposition. Decision on how, when and to which extent to use AI is not simple to make, because various criteria can impact that decision. Empirically and depending on the organizational goals, the priorities of business model improvement initiatives may vary. Given the diversity of available AI tools, the level of acceptance of technological tools and trustworthiness of data, the following criteria were initially ideated primarily based on conceptual reasoning:

- Real Data Sensitivity, RDS – this criterion is linked to the required level of usage of real data in AI prompts versus organizational exploration readiness to create content without the necessity to use historical or existing data;
- Disruptive Innovation Potential, DIP – this criterion takes into account how strong the AI use depends on coupling with previous initiatives, legacy projects or systems and similar innovation limiting aspects of transformational efforts; and
- Intent Disclosure Level, IDL – this criterion explains the need for openly expressing the intention behind the usage of AI tools for CRM purposes.

These criteria are not comprehensive in terms of the opportunities and challenges that affect the application of AI in CRM, but rather represent guidelines for an acceptable and transparent application of AI. The lack of regulation when it comes implementing AI in various disciplines, results with uncertainty when it comes to understanding or it potentially leads to misinformation. The three criteria (RDS, DIP and IDL) proposed in our framework, were inspired by different perspectives on AI usage, and the lack of clear guidelines or a widely accepted consensus on AI usage as reported (unicef, Möller; Kwon 2025). Based on our understanding the three criteria form the minimum description of a context that allows positioning of any case of content prompting with AI tools and its usage for CRM. The criteria can be mapped to main theoretical concepts from the previous section: CRM goals, BMC

dimensions, CRM subsystems. Based on the literature analysis following goals (i.e. success aspects) of CRMs emerged as relevant: better targeting, innovation, personalization, transparency and trust. These goals are addressed in approaches of improving organizational business models, but due to the acceptance of BMCs in digital transformation initiatives, this method simplified in the BMO matrix (Supply, Demand and Value Proposition dimension) was selected in order to keep a clear focus on three CRM subsystems: collaborative, analytical and operational CRM. In this way, it is possible to design a conceptual framework that represents AI usage options in the context of CRM, shown in Figure 1.

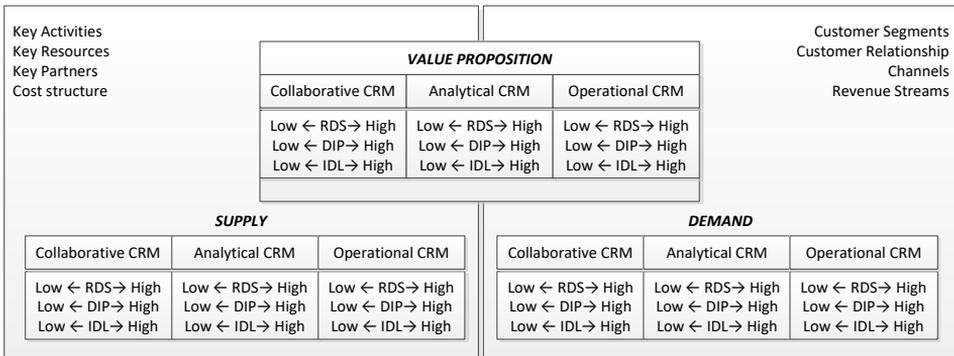


Figure 1: Conceptual framework of AI usage options in the context of CRM

Source: Own

Desired priorities of CRM goals for an organization will impact how AI usage criteria are met, so for each of the BMC dimension and CRM subsystem feasible use-cases can be defined. These use-cases, explained by examples, are presented in Table 1 in the following section.

4 Results

As discussed in the Methodology section, the decision on how to use AI in CRM depends on many criteria which can impact that decision. Our framework focuses on four variables presented in Table 1. First variable is the CRM goal, defining the scope or the desired state referenced to better targeting, innovation, personalization, transparency and trust, as identified in literature review.

Table 1: Examples of AI use-cases

CRM goal (scope)	BMC dimension (limitations)	CRM subsystem (range)	AI usage criteria (rules of engagement)	Use-case example
Case 1				
Personalization	Demand	Analytical	RDS→ High DIP→ High Low ← IDL	AI tools are used for analyzing large amount of data that needs to be processed, for creating scenarios of innovative customer experience with existing services company is offering, allowing the company to explore and select viable options.
<p>Context Description: A company aims to introduce more customer experience options which could be perceived as more personalized. This is aligned with other CRM initiatives and contributes to designing future marketing strategies, based on data collected through various sources (analytical CRM). Existing data on customers is available and so far, credible (RDS→ High), the aimed customer segments were previously willing to try different options (DIP→ High), even if the company doesn't ask for consent in advance (Low ← IDL).</p>				
Case 2				
Trust	Supply	Collaborative	RDS→ High Low ← DIP IDL → High	AI tools are used for analyzing existing data on business processes performance, for proposing process improvements based on case studies and best practices within the industry, creating visualizations on step-by-step introduction of new policies, providing predictions of future performance, allowing the company to explore alternatives.
<p>Context Description: A company aims to improve customers' trust, believing this would boost perceived value of services quality and assist retaining existing market shares. This is aligned with other CRM initiatives and contributes to integration of interest of various stakeholders. Internal processes improvement depends on real data (RDS→ High), the existing stakeholders are willing to adjust or adopt new policies and changes (Low ← DIP), as long as there is a clear communication about intentions behind the initiative (IDL → High).</p>				
Case 3				
Innovation	Value Proposition	Operational	Low ← RDS DIP→ High Low ← IDL	AI tools are used for designing a plan for a new marketing campaign, relying on trained models from AI, without the need to follow existing paradigms. Among proposed alternative scenarios for a new approach, marketers can work on initial ideas proposed by the AI tool.
<p>Context Description: A company aims to introduce innovation at the operational level of CRM. The "front office" in delivering operations needs a strong disruptive campaign for acquiring customers for a new digital product ready to be launched (operational CRM). There is no existing data on customers since it is a new product entering a new market (Low ← RDS), there are no limitations on the execution of a marketing campaign (DIP→ High), the selected customer segment is open to any kind of approach in reach attempts (Low ← IDL).</p>				

Source: own

The second variable is the BMC dimension from the Business Model Option (BMO) matrix, targeting the internal structural elements (the supply dimension), customer-facing components (the demand dimension) or focusing specifically on the Value proposition i.e. the core product or service offering which need to be redesigned (the value dimension). This variable is needed for understanding the existing limitations or the lack of it in the future initiatives supported by AI. The third variable is the CRM subsystem, explaining the type of work the AI initiative is scoping. Therefore, the differentiation of the collaborative, analytical or operational CRM delivers the range of the AI initiative. These three variables also provide the context for acquiring inputs by AI tools. The fourth variable is dealing with AI usage criteria: Real Data Sensitivity, RDS; Disruptive Innovation Potential, DIP; and Intent Disclosure Level, IDL. All three AI usage criteria need to be evaluated in order to round up the context for AI usage and provide the rules of engaging AI tools for gathering inputs in an AI initiative. Examples for the usage of our framework is given in Table 1.

For illustrating the use of the framework for the first case, an example of prompts with and without context is given, showing the difference of explaining the context using our proposed framework.

Prompt example without context:

“I want to create scenarios of innovative customer experience with existing services company is offering, allowing the company to explore and select viable options.”

Prompt example with context:

“I want to create scenarios of innovative customer experience with existing services company is offering, allowing the company to explore and select viable options. The context is following: A company aims to introduce more customer experience options which could be perceived as more personalized. This is aligned with other CRM initiatives and contributes to designing future marketing strategies, based on data collected through various sources (analytical CRM). Existing data on customers is available and so far, credible (Real Data Sensitivity is High), the aimed customer segments were previously willing to try different options (Disruptive Innovation Potential is High), even if the company doesn't ask for consent in advance (Intent Disclosure Level is low).

Real Data Sensitivity, RDS – this criterion is linked to the required level of usage of real data in AI prompts versus organizational exploration readiness to create content without the necessity to use historical or existing data;

Disruptive Innovation Potential, DIP – this criterion takes into account how strong the AI use depends on coupling with previous initiatives, legacy projects or systems and similar innovation limiting aspects of transformational efforts; and

Intent Disclosure Level, IDL – this criterion explains the need for openly expressing the intention behind the usage of AI tools for CRM purposes.”

The presented cases in Table 1 illustrate the application of our framework of implementing AI tools in CRM based on variables and activities of defining the proposer context for the usage of AI. Insights gained from this research offer to explore different use-cases impacting the business performance related to CRM.

5 Conclusions

The evolution of CRM went through several waves is advancement from taking care of customers, through automations and social CRM to AI-supported CRM. Today, "AI-based CRM" uses all the benefits from the previous waves offering to deliver new paradigms for contemporary business strategy. In order to do this, CRM must provide a proper context for prompts used in AI tools, relying on algorithms and training models of AI tools. Based on the premise that based on inputs, equally quality-worth outputs can be expected, we propose a framework based on four variables that can serve as a set of components needed to form a context, necessary for proper use-cases.

Our research has some limitations. It is based on experience and empirical understanding of what might be achieved, when inputs are clearly stated and set. The variable related to AI usage criteria is certainly not comprehensive, opening the space of criteria for further research. On the other side, this is an attempt to bring in some systematization in the decision continuum of how the context can be defined in order to set the stage for a disclosed implementation of AI tools in CRM. Further research could therefore be oriented on describing other variables or AI usage criteria enabling a more focused case description.

Based on our initial proposition of the framework, the AI usage criteria (Real Data Sensitivity, RDS; Disruptive Innovation Potential, DIP; and Intent Disclosure Level, IDL) are setting the stage of using AI tools for CRM. The importance of Real Data Sensitivity depends not only on the organizational estimation of the significance of this criterion, but also on the transparency issues related to the trust organizations have towards AI tools in how the data will be handled. In case of using or entering real data into AI tools, the transparency of how this data will be used onwards, is an open question for many organizations. Disruptive Innovation Potential is a criterion that is related to the trust of companies to generate as many distinctive scenarios as possible, ensuring thereby a landscape of variations normally not to be expected in

brainstorming activities in traditional analytical approaches. The diversity of combinations and execution plans can be entrusted in AI tools for offering various scenarios, valuable enough to be evaluated by marketing experts. Lastly, the Intent Disclosure criterion forms the transparency playground, which either needs to be covered or can be avoided by ethical issues challenges; the demand for transparency can vary, based again on the context of a use-case AI tools that are intended to be implemented. Finally, a more in-depth exploration of these criteria reveals the need to be more honest in the beginning of what is expected from using AI tools, and on the other hand, it shows that setting the right context before using AI tools is essential for gaining useful outputs that can be valuable for CRM initiatives.

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