

Artificial Intelligence and the Reconfiguration of Customer Relationship Management: An Integrated Theoretical Framework of Intelligent Capabilities, Value Creation, and Integration Conditions

Dr. Bessas Hocine^a, Dr. Herbadji Abdelghani^a
hocinebess@hotmail.com University of sétif-ALGERIA.
abdelghaniherbadji@yahoo.fr University of sétif-ALGERIA.

Received: 30/05/2025

Accepted: 20/08/2025

Published: 11/12/2025

Abstract

The integration of artificial intelligence (AI) into customer relationship management (CRM) is progressively transforming organizational capabilities, processes, and value creation mechanisms. However, the literature remains fragmented across research on AI technologies, AI-CRM capabilities, customer experience, organizational outcomes, and the conditions underlying successful integration. This article aims to propose an integrated theoretical framework that brings together these different levels of analysis. An integrative literature review was conducted to synthesize the main studies addressing artificial intelligence, CRM, relationship marketing, customer experience, and organizational capabilities. The proposed framework combines the Resource-Based View, the dynamic capabilities perspective, and the Stimulus–Organism–Response model to explain the chain linking technological and informational resources to AI-CRM capabilities, the transformation of CRM processes, customer value creation, and organizational outcomes. The analysis conceptualizes AI-CRM as a multidimensional organizational capability based notably on analytical, predictive, personalization, and interactive/relational capabilities. It also highlights the role of technological, organizational, and environmental conditions, ethical governance, and human–AI complementarity in realizing value. The main contribution of the study therefore lies in a multilevel integration of the AI-CRM literature, moving beyond a purely technological conception of artificial intelligence and positioning it as a lever for broader organizational and relational transformation.

Keywords: Artificial intelligence; AI-CRM; customer relationship management; organizational capabilities; dynamic capabilities; value creation; customer experience; personalization; ethical governance; human–AI complementarity.

Introduction

The digital transformation of organizations has profoundly reshaped the ways in which customer relationships are managed. In an environment characterized by intensifying competition, the proliferation of customer touchpoints, and the continuous growth in the volume and diversity of customer data available, Customer Relationship Management (CRM) can no longer be viewed merely as a technological system designed to store and exploit commercial information. It has increasingly become a strategic and cross-functional approach aimed at coordinating the processes, information, and interactions required to create value for both customers and organizations. In this perspective, Payne and Frow (2005) notably advanced a conception of CRM based on a strategic, cross-functional, and process-oriented approach, structured around five cross-functional processes: strategy development, value creation, multichannel integration, information management, and performance assessment (Payne & Frow, 2005).

The rise of artificial intelligence (AI), however, introduces a qualitative transformation of this logic. The integration of techniques such as machine learning, predictive analytics, natural language processing,

conversational agents, and, more recently, generative artificial intelligence enables CRM systems to move beyond traditional data recording and analysis functions. These technologies can be leveraged for customer segmentation, behavioral prediction, recommendation, enhancement of the customer experience, decision-making, and the automation of certain marketing and relationship-management activities (De Mauro et al., 2022; Ledro et al., 2022). Accordingly, the literature on AI in marketing has progressively developed around several application domains, including consumer analytics, consumption experience, decision-making, and financial outcomes (De Mauro et al., 2022).

This evolution has contributed to the emergence of the concept of *AI-powered CRM*, which should not, however, be reduced to the mere addition of artificial intelligence tools to a pre-existing CRM system. Recent research increasingly conceptualizes AI-CRM as a set of organizational capabilities that enable organizations to mobilize data, technologies, and skills in order to generate actionable knowledge and improve customer relationship management processes. The review by Ledro et al. (2022), based on 212 peer-reviewed articles, identifies three major research subdomains: Big Data and CRM as an information infrastructure, the application of AI and machine learning to CRM activities, and the strategic management of AI integration into CRM. More recently, Alnofeli et al. (2025) conceptualized AI-powered CRM around dimensions including data management, multichannel integration, and service offerings, while Alnofeli et al. (2026) conceptualize AI-powered CRM as a higher-order organizational capability that may contribute to marketing ambidexterity, profitability, and competitive advantage (Ledro et al., 2022; Alnofeli et al., 2025; Alnofeli et al., 2026).

This distinction is theoretically important. From the perspective of the *Resource-Based View*, technologies and data may constitute strategic resources, but their mere possession is not sufficient, in itself, to generate sustained competitive advantage. Value creation depends on an organization's ability to mobilize and combine its resources in ways that develop value-creating skills and capabilities (Wernerfelt, 1984; Barney, 1991). In the context of AI, this issue is even more significant because of the rapid evolution of technologies and competitive conditions. The dynamic capabilities perspective complements the resource-based approach by emphasizing an organization's ability to sense opportunities, seize them, and reconfigure its resources and processes in environments characterized by technological change and innovation (Teece et al., 1997; Teece, 2007). Recent research in relationship marketing explicitly draws on this perspective to examine the role of AI in organizational adaptation and the transformation of customer relationships (Roy et al., 2025).

At the same time, the integration of AI into CRM transforms not only an organization's internal capabilities but also the nature of customer interactions. AI-based applications can alter how customers perceive the relevance, speed, quality, and personalization of interactions. Recent literature on consumer engagement with AI technologies highlights the growing importance of chatbots, voice assistants, and other intelligent technologies in shaping consumer experiences and interactions. The systematic review by Hollebeek et al. (2024), based on 89 studies, identifies several mechanisms through which AI technologies can influence consumer engagement and value creation. Therefore, the impact of AI-CRM cannot be adequately understood solely through organizational indicators; it is also necessary to examine the mechanisms through which AI-assisted interactions influence customer perceptions and responses (Hollebeek et al., 2024).

However, the literature does not support the conclusion that artificial intelligence has an automatically positive effect on customer relationships. The benefits associated with AI-CRM remain contingent upon data quality, systems integration, organizational capabilities, available skills, and the manner in which AI is effectively embedded within the organization's processes. Recent research on AI integration into CRM also emphasizes the importance of governance, data protection, and *ethics by design*. Ledro et al. (2025) show that the successful integration of AI into CRM depends on several organizational and technological conditions and place considerable emphasis on ethical considerations in the design and implementation of AI-CRM systems. This literature therefore calls for moving beyond a linear and deterministic conception of the relationship between technological adoption and performance (Ledro et al., 2025).

The issue becomes even more complex with the emergence of generative artificial intelligence. Whereas traditional AI applications in CRM have largely relied on analytical, predictive, classification, and recommendation functions, generative technologies introduce new possibilities for content generation, conversational interaction, support for marketing activities, and interaction personalization. Recent literature nevertheless emphasizes that research on GenAI in marketing remains relatively young and raises both opportunities and concerns regarding output quality, human oversight, risks, and governance (Cillo & Rubera, 2025; Grewal et al., 2025). This evolution therefore expands the range of possibilities offered by AI-CRM while reinforcing the need for an organizational and relational analysis of its implications.

Despite the rapid increase in publications devoted to artificial intelligence, marketing, customer experience, and CRM, knowledge in the field remains relatively fragmented. Some studies focus on technological and analytical applications of AI, others examine AI-CRM capabilities and their organizational effects, while still others concentrate on customer experience and engagement or on the conditions governing AI integration. The review by Ledro et al. (2022), based on 212 peer-reviewed articles, already demonstrates the existence of several distinct subdomains within the AI-CRM literature. Similarly, Hollebeek et al. (2024) highlight the interdisciplinary nature of a corpus of 89 studies devoted to consumer engagement with AI technologies. These studies suggest that the field has developed considerably while remaining distributed across multiple levels of analysis (Ledro et al., 2022; Hollebeek et al., 2024).

Accordingly, the scientific problem does not lie in the absence of research on AI and CRM, but rather in the need to better articulate their different levels of analysis. It remains particularly important to understand how AI-related technological resources are transformed into AI-CRM capabilities, how these capabilities reconfigure customer relationship management processes, through which mechanisms they may contribute to value creation for customers and organizations, and under what technological, organizational, environmental, human, and ethical conditions this transformation can effectively produce the expected outcomes. This orientation is consistent with recent research that conceptualizes AI-CRM as an organizational capability and seeks to link its microfoundations to relational and organizational outcomes (Roy et al., 2025; Alnofeli et al., 2026).

Against this background, the present article pursues an essentially conceptual and integrative objective. It aims to propose a theoretical framework linking the technological resources of artificial intelligence to AI-CRM capabilities, then to the transformation of customer relationship management processes and to value-creating outcomes for customers and organizations. The proposed framework draws complementarily on the *Resource-Based View* to conceptualize the strategic role of resources (Wernerfelt, 1984; Barney, 1991), the dynamic capabilities perspective to explain their transformation and reconfiguration (Teece et al., 1997; Teece, 2007), and a *Stimulus–Organism–Response* perspective to illuminate the mechanisms underlying customer responses (Mehrabian & Russell, 1974). The framework is further enriched by incorporating the technological, organizational, and environmental conditions of integration, as well as ethical requirements and human–AI complementarity.

The objective is therefore not to propose a new AI-CRM model *ex nihilo*, but rather to provide a structured theoretical synthesis of previously fragmented streams of research in order to better understand the following value-creation chain: **technological resources** → **AI-CRM capabilities** → **transformation of relational processes** → **customer value** → **organizational value**, while highlighting the conditions that may strengthen or constrain this chain. This perspective makes it possible to move beyond a strictly technology-centered conception of AI-CRM and to conceptualize it as a broader organizational and relational transformation.

2. Research Methodology

2.1. Nature and Research Approach

The present study adopts a conceptual **integrative literature review** approach. This methodological choice is justified by the interdisciplinary nature of the topic, which lies at the intersection of artificial intelligence, marketing, customer relationship management, strategic management, information systems, and customer experience. An integrative review makes it possible to bring together theoretical, conceptual, and empirical studies in order to produce a structured synthesis of existing knowledge, identify convergences and divergences in the literature, and develop theoretical linkages that may contribute to understanding the research problem (Whittemore & Knafl, 2005; Torraco, 2005; Snyder, 2019).

The purpose of this review is therefore not to statistically estimate an average effect between variables, as in a meta-analysis, but rather to synthesize, compare, and integrate the main contributions of the literature in order to develop a conceptual framework capable of explaining the transformation of customer relationship management under the influence of artificial intelligence.

2.2. Literature Search Strategy

The literature search was structured around several sets of keywords combined using the Boolean operators “AND” and “OR.” The main terms included:

- “artificial intelligence” OR “AI”;
- “customer relationship management” OR “CRM” OR “AI-powered CRM”;
- “customer experience”;

- “customer engagement”;
- “personalization” OR “hyper-personalization”;
- “predictive analytics”;
- “conversational AI” OR “chatbot”;
- “generative AI” OR “GenAI”;
- “customer loyalty” OR “customer retention”;
- “trust” OR “privacy” OR “AI ethics”;
- “dynamic capabilities”;
- “organizational readiness” OR “technological readiness.”

The literature search primarily focused on academic publications indexed in recognized bibliographic databases, particularly Scopus, Web of Science, and ScienceDirect. Where necessary, the search was complemented by examining the references cited in the selected studies, as well as by consulting theoretical or methodological publications directly relevant to the research problem.

2.3. Temporal Scope and Selection Criteria

Given the rapid evolution of artificial intelligence, particular attention was given to studies published during the last decade, with priority assigned to recent research addressing AI-CRM, customer experience, generative artificial intelligence, human–machine interactions, and AI-related organizational capabilities.

However, earlier studies were not excluded when they constituted foundational theoretical references or essential contributions to understanding CRM, the Resource-Based View, dynamic capabilities, the Stimulus–Organism–Response model, or literature review methodologies.

The inclusion criteria were as follows:

1. Scientific articles published in peer-reviewed academic journals;
2. Studies addressing, directly or indirectly, artificial intelligence, CRM, relationship marketing, customer experience, or AI-related organizational capabilities;
3. Studies providing a conceptual, theoretical, empirical, or methodological contribution relevant to the research problem;
4. Publications enabling the identification of mechanisms, capabilities, outcomes, or conditions associated with AI integration into customer relationship management.

Documents that did not provide a sufficiently established scientific contribution were excluded, including commercial content, non-peer-reviewed professional publications, duplicates, and studies whose content was too distant from the central research problem.

2.4. Literature Analysis and Synthesis Procedure

The literature was analyzed according to a progressive logic inspired by the principles of integrative reviews: identification of relevant studies, selection and assessment of their contributions, extraction of key concepts and findings, comparison of convergences and divergences, followed by thematic and theoretical synthesis (Whittemore & Knafl, 2005).

The analytical categories were progressively refined throughout the analysis in order to group the main recurring themes identified in the selected studies. The literature was therefore organized around several levels corresponding to the research problem:

1. AI-related technological and informational resources;
2. AI-CRM capabilities;
3. Transformation of customer relationship management processes;
4. Value creation and customer experience;
5. Organizational and competitive outcomes;
6. Technological, organizational, and environmental conditions of integration;
7. Ethical issues, trust, and human–AI complementarity.

This classification makes it possible to move beyond a simple juxtaposition of findings and to identify conceptual relationships among the different levels of analysis, with the objective of constructing an integrated representation of the value-creation process associated with AI-CRM.

2.5. Construction of the Conceptual Framework

The final stage consists of confronting the main findings of the literature with the selected theoretical foundations. The **Resource-Based View** is used to explain the strategic role of data, technological infrastructures, and AI-related resources. The **dynamic capabilities perspective** is then used to explain the transformation and reconfiguration of these resources into organizational capabilities capable of adapting CRM processes. The **Stimulus–Organism–Response** perspective is used complementarily to illuminate the

mechanisms through which AI-assisted interactions may influence customer perceptions and responses. Finally, the technological, organizational, and environmental dimensions are incorporated as contextual conditions that may facilitate or constrain the exploitation of AI-CRM capabilities.

The synthesis of these different perspectives leads to the development of an integrated conceptual framework linking **AI-related technological resources, AI-CRM capabilities, the transformation of relational processes, value creation for customers and the organization, and the conditions governing successful AI integration and its governance.**

2.6. Rigor and Traceability of the Review

To enhance the reliability of the synthesis, the selected references were organized in a literature matrix including, in particular, the author, year of publication, journal, study objective, theoretical framework employed, methodology, empirical context where applicable, main findings, identified limitations, and potential contribution to the proposed conceptual framework.

This procedure ensures an explicit correspondence between the arguments developed in the article and the scientific studies on which they are based, while limiting the risks of arbitrary selection, redundancy, and excessive interpretation of the findings.

3. Theoretical Foundations

3.1. The Resource-Based View: From Resource Ownership to AI-CRM Capability

The **Resource-Based View (RBV)**, primarily associated with the seminal works of Wernerfelt (1984) and Barney (1991), conceptualizes the organization as a collection of resources and capabilities that may constitute a source of competitive advantage when certain conditions are met. From this perspective, superior organizational performance does not simply result from operating within a particular industry or adopting technologies available on the market, but rather from the organization's ability to mobilize and combine value-creating and difficult-to-imitate resources.

Applied to artificial intelligence in customer relationship management, this perspective requires a clear distinction between technology and the organizational capability to exploit it. Customer data, IT infrastructure, CRM systems, machine learning algorithms, predictive analytics tools, and conversational technologies may constitute important resources. However, their mere possession does not guarantee either improved customer relationships or the achievement of competitive advantage. The strategic issue instead concerns how these resources are integrated into organizational processes and capabilities.

This distinction is particularly important in the context of AI-CRM. Recent research explicitly drawing on the RBV shows that technological, human, and organizational resources do not necessarily produce identical effects and that their contribution depends on their integration within the organizational architecture. Recent research on AI implementation in CRM systems provides empirical support for this perspective by highlighting the role of business architecture in AI-CRM implementation, while also emphasizing that the effects of technological and human resources may vary depending on the implementation context.

From this perspective, AI-CRM can be understood as the outcome of the organized mobilization of technological, informational, and human resources. Data become strategically valuable only when they can be transformed into relevant information, and subsequently into knowledge and decisions. Similarly, an artificial intelligence tool becomes an organizational capability only when it is embedded in routines, decision-making processes, and customer interactions.

This perspective therefore allows us to propose an initial conceptual chain:

Technological and informational resources → organizational integration → AI-CRM capabilities → value creation.

The RBV thus constitutes the first theoretical level of our framework. It explains the strategic potential of the resources mobilized within AI-CRM, but it is not sufficient to explain how the organization renews and reconfigures this potential in an unstable technological environment.

3.2. The Dynamic Capabilities Perspective: Transforming and Reconfiguring AI-CRM Resources

The **dynamic capabilities perspective** complements the RBV by shifting attention from the resources possessed by an organization toward its ability to integrate, develop, and reconfigure its resources and capabilities in environments characterized by rapid change (Teece, Pisano & Shuen, 1997; Teece, 2007).

This perspective is particularly relevant in the context of artificial intelligence. Technologies, models, data, and applications evolve rapidly, while customer expectations and forms of interaction are simultaneously changing. An organization may therefore possess a high-performing CRM infrastructure at a given point in time and gradually see its relational capability decline if it fails to renew its technologies, skills, and processes.

Within the proposed framework, dynamic capabilities make it possible to conceptualize AI-CRM as an evolving capability rather than as a simple information system. The organization must first be able to detect changes in customer needs and behaviors, as well as opportunities arising from new technologies (**sensing**). It must then be able to seize these opportunities by developing or integrating appropriate AI applications (**seizing**). Finally, it must be able to reconfigure its resources, processes, capabilities, and modes of interaction in order to maintain the relevance of its customer relationships (**transforming**).

This interpretation is supported by recent research on AI and relationship marketing. Roy et al. (2025), based on 67 interviews with managers, explicitly link artificial intelligence, dynamic capabilities, and relationship marketing outcomes, arguing that AI technologies can support organizational adaptation to market changes and evolving customer preferences throughout the customer journey.

Similarly, recent research on AI-powered CRM conceptualizes AI-CRM as an organizational capability capable of supporting marketing ambidexterity and, through this mechanism, contributing to profitability and competitive performance. This literature draws, in particular, on the microfoundations of dynamic capabilities to explain how AI-CRM capabilities can be developed and evolve at the organizational level.

From this perspective, the four functional capabilities identified in our synthesis—**analytical capability, predictive capability, personalization capability, and interactive/relational capability**—should not be viewed as autonomous technologies. Rather, they represent functional manifestations of the organization's ability to mobilize AI within customer relationship management processes.

Accordingly, the dynamic capabilities perspective complements the chain proposed by the RBV:

Resources → AI-CRM capabilities → reconfiguration of CRM processes → adaptation of customer relationships.

3.3. The Stimulus–Organism–Response Perspective: Understanding the Customer-Side Mechanism of Value Creation

The RBV and the dynamic capabilities perspective primarily explain transformation from the organizational side. However, they do not, on their own, explain how customers perceive and interpret interactions mediated by artificial intelligence.

For this reason, our framework draws complementarily on the **Stimulus–Organism–Response (S-O-R)** perspective, initially developed in the work of Mehrabian and Russell (1974) and widely applied in consumer behavior research. From this perspective, characteristics of the environment constitute stimuli that may trigger internal reactions in individuals, which may subsequently lead to behavioral responses (Mehrabian & Russell, 1974).

Applied to AI-CRM, this logic makes it possible to distinguish three levels.

The first level corresponds to the **stimulus**, represented by the characteristics of AI-assisted interactions, including personalization, interactivity, accessibility, response speed, information quality, recommendations, conversational assistance, and service automation. Recent studies explicitly applying the S-O-R model to AI-based marketing efforts identify information, interactivity, accessibility, and personalization as characteristics that may constitute stimuli in the relationship between AI and consumers (Armutcu et al., 2024).

The second level corresponds to the **organism**, that is, the customer's internal evaluations and states. These may include perceived value, perceived usefulness or intelligence of the system, trust, satisfaction, emotional responses, and engagement. Recent research on AI-based personalization indicates that personalization stimuli may influence perceptions such as trust and perceived usefulness, which subsequently contribute to consumer engagement (Teepapal, 2025).

The third level corresponds to the **response**, which may take the form of purchase intention, service reuse, increased engagement, repurchase intention, stronger retention, or brand loyalty. In their study of AI in the banking sector, Armutcu et al. (2024) show that information, interactivity, accessibility, and personalization associated with AI-based marketing efforts influence brand experience, brand preference, and repurchase intention, with brand experience also playing a mediating role in certain relationships.

Recent empirical research explicitly applying the S-O-R model to AI-assisted marketing thus shows that information, interactivity, accessibility, and personalization can influence consumer experience and preferences, which may in turn contribute to behavioral intentions such as repurchase intention (Armutcu et al., 2024). Complementarily, research on AI-based personalization highlights the role of perceptual variables such as trust, privacy concerns, and perceived usefulness in the process leading to consumer engagement (Teepapal, 2025).

The value of the S-O-R model for our research therefore lies in providing a **relational mechanism** linking AI-CRM capabilities to customer responses. It helps avoid an overly deterministic conception in which technology adoption would directly lead to loyalty. Between technological capability and customer behavior lie perceptual, cognitive, and affective mechanisms that may vary according to the characteristics of the interaction and the context of use.

Accordingly, the relationship can be theoretically formulated as follows:

AI-CRM capabilities → customer experience and perceptions → trust/value/satisfaction → relational responses.

This approach is particularly relevant for explaining why the same technology may produce different outcomes depending on the context, the nature of the task, the quality of the interaction, and the perceived characteristics of the system. Recent research on interactions with AI technologies indeed suggests that consumer responses depend not only on technological functionalities but also on how these functionalities are perceived and interpreted by users (Hollebeek et al., 2024; Armutcu et al., 2024).

3.4. Complementarity of the Theoretical Perspectives

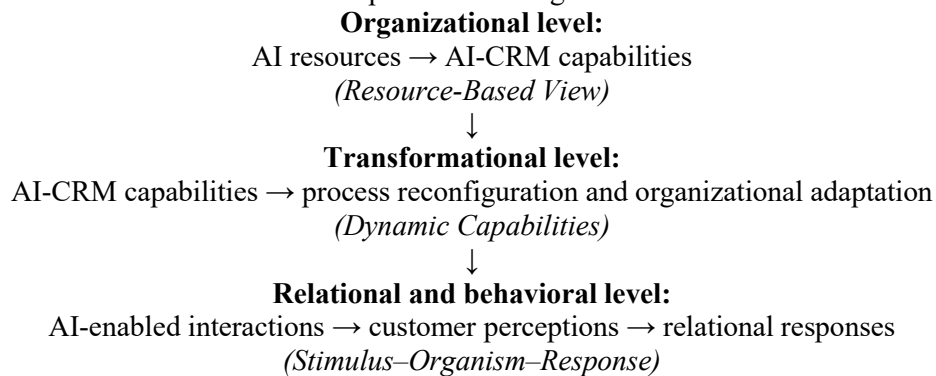
The three perspectives employed in this study are not considered competing approaches. Rather, they correspond to three complementary analytical levels of the phenomenon under investigation.

The **Resource-Based View** addresses the question: *Which resources can provide the foundation for AI-CRM capability?* It therefore identifies the strategic role of data, infrastructure, technologies, and skills (Wernerfelt, 1984; Barney, 1991).

The **dynamic capabilities perspective** addresses the question: *How does the organization transform and renew these resources in order to adapt to an evolving environment?* It explains the transition from resources to capabilities and the reconfiguration of CRM processes (Teece et al., 1997; Teece, 2007).

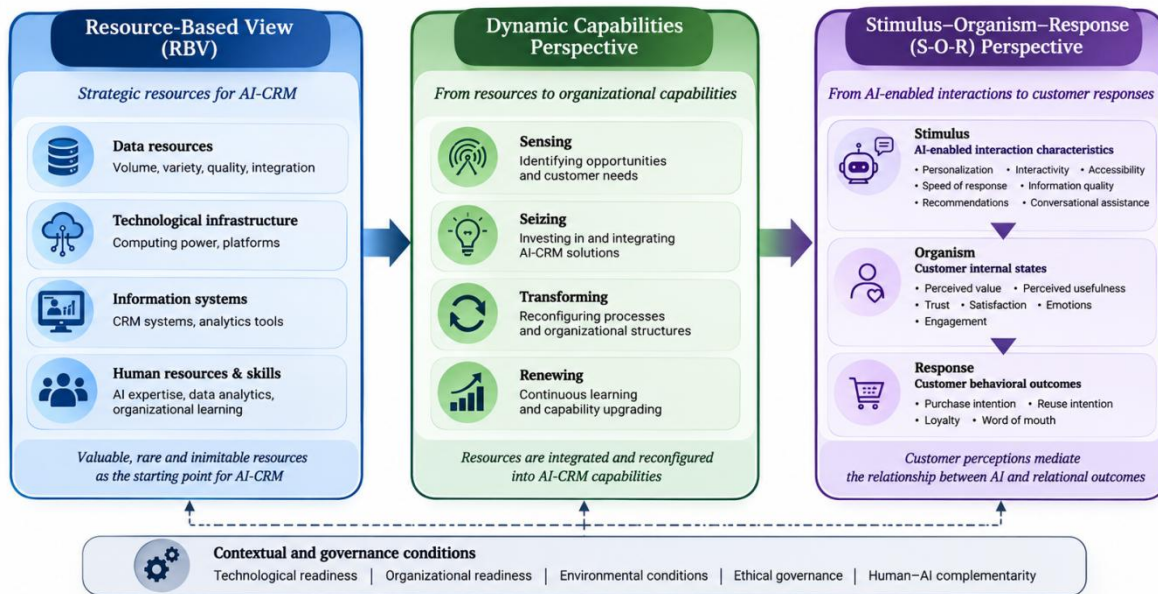
The **Stimulus–Organism–Response** perspective finally addresses the question: *Through which mechanisms are these organizational transformations translated into customer perceptions and responses?* It therefore introduces the individual and relational level that is essential for analyzing value creation (Mehrabian & Russell, 1974; Armutcu et al., 2024).

The theoretical framework can therefore be represented through a three-level articulation:



This articulation makes it possible to move beyond two reductive conceptions of AI-CRM. The first consists of viewing artificial intelligence as a simple technology whose effects would automatically be positive. The second consists of examining only customer responses without considering the resources, capabilities, and organizational transformations necessary to produce these interactions.

AI-CRM is therefore conceptualized in this article as a **process of organizational and relational transformation**, in which technology constitutes an enabling but not sufficient condition for value creation.



Source: Developed by the authors based on Wernerfelt (1984), Barney (1991), Teece et al. (1997), Teece (2007), and Mehrabian and Russell (1974).

Figure 1. Theoretical Foundations of AI-CRM: From Strategic Resources to Customer Responses

3.5. Theoretical Positioning of the Proposed Framework

In light of this articulation, our framework considers AI-CRM value creation to result from a transformation chain rather than from a direct relationship between technology and performance. Technological and informational resources provide the initial potential; AI-CRM capabilities enable this potential to be mobilized and leveraged; dynamic capabilities contribute to its renewal and adaptation; and, finally, the quality of the resulting interactions may influence customer experience and responses. This logic is consistent with recent research conceptualizing AI-CRM as an organizational capability and highlighting the need to transform technological resources into value-creating capabilities and processes (Alnofeli et al., 2025; Alnofeli et al., 2026; Roy et al., 2025).

This chain can be summarized as follows:

AI resources → AI-CRM capabilities → CRM process transformation → customer experience and value → relational and organizational outcomes.

This chain nevertheless remains conditional. Recent literature shows that successful AI-CRM implementation also depends on data quality, systems integration, organizational capabilities, available skills, and implementation conditions (Ledro et al., 2025; Alnofeli et al., 2025). Consequently, technological, organizational, and environmental conditions, together with ethical requirements and human-AI complementarity, are considered in our framework as **conditions for value realization** rather than merely as external constraints.

This perspective establishes the theoretical foundation for the conceptual model developed in the following section.

4. Critical Synthesis of the Literature

4.1. From the Introduction of AI Technologies to the Development of AI-CRM Capabilities

The literature on artificial intelligence in customer relationship management reveals a gradual evolution in the conceptualization of AI-CRM. Early studies primarily focused on the exploitation of data and analytical applications aimed at improving traditional CRM activities. The bibliometric review by Ledro, Nosella, and Vinelli (2022), based on 212 peer-reviewed articles published between 1989 and 2020, identifies three major research subdomains: the use of Big Data and CRM as an information infrastructure, the application of artificial intelligence and machine learning to CRM activities, and the strategic management of AI integration into CRM. This evolution reflects a gradual shift from a predominantly informational conception of CRM toward a more capability-oriented and strategically integrated perspective.

From this perspective, artificial intelligence should not be viewed merely as a collection of technological tools. Applications of *machine learning*, predictive analytics, natural language processing, and

recommendation systems constitute means through which organizations can develop analytical, predictive, personalization, and interactive capabilities. Research on the use of *machine learning* in marketing also demonstrates a wide range of applications encompassing consumer understanding, experience enhancement, decision-making, and financial outcomes.

This conceptual evolution is reinforced by recent research that explicitly conceptualizes AI-CRM as a multidimensional organizational capability. Alnofeli et al. (2025), for example, identify three fundamental dimensions of AI-powered CRM: data management, multichannel integration, and personalized service offerings. Their study emphasizes that AI-CRM capability is not limited to the existence of AI technology but requires coherent organization of data, channels, and services.

A more recent contribution by Alnofeli et al. (2026) conceptualizes AI-powered CRM as a higher-order organizational capability and empirically shows, based on a survey of 205 employees in the Australian banking sector, that this capability is associated with marketing ambidexterity, which subsequently contributes to profitability and competitive advantage.

These findings converge toward a first conclusion: the strategic value of AI lies not solely in the technology itself, but in the organization's ability to transform its technological and informational resources into capabilities integrated into CRM operations.

However, the literature remains heterogeneous in terms of how these capabilities are conceptualized. Some studies emphasize data management and multichannel integration, others focus on analytical and predictive applications, while others prioritize interactions and service offerings. This diversity reflects the multidimensional nature of AI-CRM. Our synthesis therefore proposes grouping these contributions according to a functional logic distinguishing four complementary capabilities: **analytical, predictive, personalization, and interactive/relational capabilities**. This classification constitutes a functional synthesis of the literature rather than a replication of any single prior model.

4.2. Transformation of CRM Processes: From Customer Knowledge to Relational Action

One of the main contributions of artificial intelligence lies in its ability to reduce the distance between data collection and relational action. In traditional CRM, customer data may be used to develop profiles, segment customers, or analyze past performance. The integration of AI progressively makes it possible to move beyond retrospective analysis by facilitating the identification of trends, the prediction of behaviors, and the recommendation of appropriate actions.

Analytical capability enables heterogeneous data to be transformed into actionable information. Predictive capability adds a forward-looking dimension by making it possible to anticipate certain behaviors, needs, or relational risks. Personalization then translates this knowledge into offers or communications adapted to the customer's profile and context. Finally, conversational and interactive technologies enable these capabilities to be incorporated directly into customer touchpoints.

The literature on consumer engagement with AI technologies confirms this evolution. The systematic review by Hollebeek et al. (2024), covering 89 studies, identifies three major outcomes of AI-enabled engagement: improved service accuracy, the creation of perceived consumer value, and reduced effort required to accomplish tasks. The authors also show that the consequences of AI-assisted engagement concern consumers, firms, and human–AI relationships simultaneously.

The transformation of CRM processes can therefore be interpreted according to a **customer journey** logic. AI may contribute to acquisition through prospect identification and qualification, to engagement through the personalization of content and interactions, to service through conversational assistance and the automation of certain requests, and to retention through the early identification of disengagement risks and the direction of preventive actions.

However, this transformation does not imply that all CRM processes should be automated. Recent literature instead suggests differentiating between tasks that can be effectively handled by AI and those that require human intervention. The value of AI-CRM therefore depends less on maximizing the degree of automation than on the organization's ability to assign each task to the actor—human or artificial—best positioned to perform it.

This observation leads to viewing AI-CRM as a **reconfiguration of relational processes**, rather than as mere automation of those processes.

4.3. From Operational Performance to Customer Experience and Value

A second stream of research focuses on the consequences of AI from the customer's perspective. This literature shows that the performance of an AI-CRM system cannot be evaluated solely through internal indicators such as speed, productivity, or cost reduction.

Interactions with AI systems can alter perceptions of service quality, ease of use, recommendation relevance, experience personalization, and the level of effort required from customers. These perceptions may subsequently influence satisfaction, engagement, trust, and behavioral intentions.

The systematic review by Hollebeek et al. (2024) confirms this orientation by identifying perceived value creation and reduced consumer effort among the main outcomes associated with engagement with AI technologies.

Accordingly, the relationship between AI-CRM and loyalty should not be conceptualized as a direct and automatic relationship:

AI → loyalty

but rather as a more complex relational chain:

AI-enabled interaction → perception of value and quality → trust/satisfaction/engagement → relational behaviors.

This distinction is important because it recognizes the role of customers' cognitive and affective mechanisms in transforming technological capabilities into relational outcomes.

4.4. From Potential Benefits to Organizational and Competitive Outcomes

A third stream of research examines the consequences of AI-CRM at the organizational level. Several studies show that the strategic use of AI in customer relationship management can contribute to improved relational and organizational performance.

Recent research goes further. Alnofeli et al. (2026) show that AI-powered CRM can be considered a higher-order organizational capability and that its influence on performance operates, in particular, through marketing ambidexterity. This mediation is theoretically important because it indicates that AI-CRM does not necessarily generate performance through a direct technological effect; rather, it may contribute to developing an organizational capability that enables firms to simultaneously exploit existing activities and explore new opportunities.

This observation is consistent with the logic of the Resource-Based View and dynamic capabilities: technologies may constitute important resources, but their contribution to performance depends on their integration into organizational capabilities that can be mobilized and renewed.

The literature therefore leads to a distinction between two levels of value:

Customer

value:

experience, satisfaction, trust, engagement, and loyalty.

Organizational

value:

efficiency, profitability, relational performance, and competitive advantage.

This distinction helps avoid a one-dimensional view of AI-CRM performance. An organization may improve its operational efficiency without necessarily improving customer experience; conversely, a more personalized customer experience may generate additional costs if it is not supported by an appropriate organizational architecture. The strategic challenge therefore lies in achieving **alignment between customer value and organizational value**.

4.5. Conditions for Value Realization: Technology, Organization, Environment, and Ethics

The fourth stream of research introduces an essential dimension: the effects of AI-CRM are strongly dependent on the context in which integration takes place.

The first condition concerns **data quality and governance**. AI systems depend on data that are sufficiently relevant, accessible, integrated, and secure. A fragmented data architecture may limit the system's ability to develop a coherent view of the customer and, consequently, reduce the relevance of recommendations or decisions.

The second condition concerns **technological and multichannel integration**. AI-CRM cannot operate effectively when different information sources and customer touchpoints remain isolated. Recent research on the multidimensional nature of AI-CRM specifically identifies data management and multichannel integration as fundamental capabilities of the system.

The third condition is **organizational**. AI adoption requires skills, training mechanisms, managerial support, and change-management capabilities. Organizations must also be able to redefine certain routines and responsibilities in order to integrate AI systems into existing processes.

The fourth condition is **environmental**. Organizations operate in environments characterized by different levels of competitive pressure, technological turbulence, and regulatory constraints. These factors may influence both the relevance and the pace of AI-CRM integration.

Finally, the fifth condition is **ethical and relational**. Data-driven personalization can generate value when it is perceived as relevant and useful, but it may also raise concerns regarding privacy, transparency, data use, or accountability for automated decisions. Ethics should therefore not be considered a peripheral issue added after system design, but rather as a condition for the sustainability of the relationship.

Recent literature on AI-CRM confirms this movement toward an integrated governance approach in which data, privacy, and ethical design considerations are incorporated into the AI integration process itself. This orientation is consistent with the concept of “**ethics by design**,” according to which ethical considerations should be incorporated from the design stage rather than addressed only after deployment.

4.6. Convergences, Divergences, and Limitations in the Literature

The cross-sectional analysis of the studies reviewed reveals several areas of convergence.

First, the literature converges on the view that AI can strengthen analytical, predictive, personalization, and interactive capabilities within CRM processes.

Second, recent studies converge on the finding that technology alone is insufficient to generate value. Data quality, organizational integration, capabilities, and the ability to transform existing processes play a decisive role.

Third, recent research increasingly recognizes that value creation should be analyzed simultaneously from the perspectives of both the organization and the customer.

Fourth, the emergence of generative AI and conversational interactions is progressively expanding the scope of AI-CRM, shifting some systems from predominantly analytical and predictive roles toward more generative, interactive, and adaptive functions.

However, several divergences remain.

The first concerns the **nature of AI-CRM capability itself**. Some studies adopt a conception centered on data and technological integration, whereas others place greater emphasis on services, interactions, or organizational outcomes. Differences among these conceptualizations suggest that AI-CRM is a multidimensional construct whose manifestations may vary across contexts.

The second divergence concerns the **relationship between automation and relational quality**. Although automation can reduce customer effort and accelerate response times, it does not necessarily guarantee a richer relationship. The appropriateness of automation depends, in particular, on the nature of the task, its complexity, and the degree of human involvement required.

The third divergence concerns the **relationship between personalization and trust**. More extensive personalization may increase the perceived relevance of an offering, but excessive or insufficiently transparent use of data may simultaneously increase privacy concerns.

Finally, a fourth tension emerges between a **replacement-oriented conception of AI** and a **human–AI complementarity perspective**. Recent research increasingly supports the latter perspective, in which AI performs tasks for which automated processing offers a relative advantage, while human employees retain a central role in situations requiring contextual judgment, accountability, or the management of complex interactions.

4.7. Theoretical Gap and Positioning of the Present Study

The examination of the literature shows that research on AI and CRM is now sufficiently developed to rule out the assumption that the field simply suffers from a lack of studies. The review by Ledro et al. (2022) had already identified 212 articles addressing the intersection between AI and CRM, while broader reviews have demonstrated the considerable scope of research on AI in marketing, consumer behavior, and psychology.

The scientific challenge instead lies in the **fragmentation of analytical levels and explanatory mechanisms**. One stream of literature examines technologies and data; another investigates AI-CRM capabilities; another focuses on customer experience and engagement; another analyzes organizational performance; and yet another examines adoption conditions, governance, and ethical issues.

Recent studies have begun to reduce this fragmentation. The multidimensional conceptualization of AI-CRM and, more recently, the organizational capability model proposed by Alnofeli et al. (2026), represent important advances in this direction.

Nevertheless, these contributions leave open the question of how to articulate the following different levels:

technological resources → AI-CRM capabilities → transformation of relational processes → mechanisms of customer value creation → organizational outcomes,

while explicitly considering the technological, organizational, environmental, ethical, and human conditions that may influence this chain.

It is precisely at this level that the present study is positioned. The objective is not to propose a new technological taxonomy or to reproduce an existing AI-CRM capability model, but rather to connect the different explanatory levels identified in the literature within an **integrated theoretical framework**.

The originality sought is therefore one of **theoretical synthesis and integration**. The proposed framework aims to explain not only what AI enables organizations to do within CRM, but, more importantly, **how and under what conditions technological resources can be transformed into relational capabilities and subsequently contribute to value creation for both customers and organizations**.

This perspective naturally leads to the construction of the conceptual framework presented in the following section.

5. Integrated AI-CRM Conceptual Framework and Theoretical Propositions

5.1. General Logic of the Conceptual Framework

The synthesis of the literature shows that the contribution of artificial intelligence to customer relationship management cannot be adequately represented by a direct relationship between technological adoption and performance. Such a representation would implicitly assume that the mere possession of AI tools automatically improves customer relationships and organizational outcomes. However, recent research on AI-CRM shows that value realization depends on the organization's ability to integrate technologies, data, and human resources into coherent organizational capabilities (Alnofeli et al., 2025; Alnofeli et al., 2026).

The framework proposed in this study therefore rests on a multi-level transformation chain:

Technological and informational resources → AI-CRM capabilities → CRM process transformation → customer value creation mechanisms → relational and organizational outcomes.

This chain is not strictly linear. Its effectiveness depends on technological, organizational, environmental, and ethical conditions, as well as on the organization's ability to establish an appropriate complementarity between AI systems and human employees.

The proposed framework does not seek to replace previous conceptualizations of AI-CRM. Rather, it aims to integrate them into a theoretical architecture linking the resource level, capability level, process level, customer experience level, and organizational outcome level.

5.2. From Technological Resources to AI-CRM Capabilities

The AI systems deployed in CRM rely on a set of resources including customer data, digital infrastructures, CRM systems, computing capabilities, algorithms, machine learning models, and the human skills required for their design and use.

However, consistent with the logic of the **Resource-Based View**, possession of these resources does not in itself constitute an organizational capability. Their strategic potential depends on the organization's ability to integrate and exploit them coherently.

From this perspective, AI-CRM can be understood as an organizational capability resulting from the coordinated mobilization of technological, informational, and human resources. This interpretation is consistent with recent studies that explicitly conceptualize AI-powered CRM as a multidimensional organizational capability rather than as a simple software solution or collection of technological applications (Alnofeli et al., 2025; Alnofeli et al., 2026).

On this basis, we formulate the following proposition:

Proposition 1 (P1).

The availability and integration of AI-related technological, informational, and human resources constitute the foundation for developing AI-CRM capabilities; however, their possession alone is insufficient to generate relational or organizational value.

This proposition establishes a fundamental distinction between technology and organizational capability. It also helps avoid technological determinism, according to which the adoption of an AI solution would automatically lead to improved performance.

5.3. Functional Dimensions of AI-CRM Capabilities

The existing literature does not provide a single taxonomy of AI-CRM capabilities. Recent studies emphasize data management, multichannel integration, and service offerings, whereas other research focuses more strongly on analytical, predictive, personalized, or conversational functions.

To capture this diversity without claiming to reproduce a single prior model, the present study proposes a functional synthesis based on four complementary capabilities.

5.3.1. Analytical Capability

Analytical capability refers to the organization's ability to transform customer-related data into useful information and knowledge for understanding customer behaviors, preferences, segments, and interactions.

This capability represents a starting point in the value-creation process because effective personalization and prediction generally require sufficiently rich and structured customer knowledge.

5.3.2. Predictive Capability

Predictive capability refers to the ability to use data and algorithmic models to anticipate certain future behaviors, needs, or events, such as churn risk, purchase probability, potential customer value, or the likely response to a marketing action.

It therefore enables CRM to move from a predominantly reactive logic toward a more prospective one.

5.3.3. Personalization Capability

Personalization capability refers to the organization's ability to adapt content, recommendations, offers, and interactions to the characteristics and context of each customer.

This capability represents one of the main mechanisms through which AI-generated knowledge can be converted into customer-perceived value.

5.3.4. Interactive and Relational Capability

Interactive and relational capability refers to the ability to deploy AI in direct interactions with customers, particularly through conversational agents, virtual assistants, and automated or AI-augmented response systems.

This dimension brings AI-CRM closer to actual customer touchpoints and enables analytical and predictive capabilities to be translated into relational actions.

These four dimensions should nevertheless be considered complementary rather than completely independent capabilities. Effective personalization generally depends on high-quality data and sufficient analytical capability; useful predictive action requires integration and intervention capabilities; and intelligent interaction, in turn, depends on the availability of relevant customer information.

We therefore formulate:

Proposition 2 (P2).

AI-CRM capabilities can be conceptualized as an integrated functional set comprising analytical, predictive, personalization, and interactive/relational capabilities, whose complementarity contributes to the organization's ability to transform AI-related data and technologies into relevant relational actions.

This proposition does not claim the existence of a new universal taxonomy. Rather, it represents a functional synthesis intended to articulate dimensions that have been identified in different forms throughout the literature.

5.4. From AI-CRM Capabilities to CRM Process Transformation

The strategic value of AI-CRM lies not only in the performance of its tools but also in their ability to transform the processes through which organizations manage customer relationships.

Analytical capability improves customer knowledge; predictive capability enables the anticipation of certain developments; personalization enables the adaptation of offers; and interactive capability allows this information to be incorporated into customer touchpoints.

These capabilities may therefore intervene at different stages of the customer journey:

Acquisition → Engagement → Service → Retention.

During acquisition, AI can contribute to prospect identification and qualification. During engagement, it can facilitate the personalization of content and interactions. In service, it can reduce response times and automate or augment certain tasks. In retention, predictive models can help identify customers at risk of disengagement and guide preventive actions.

Recent literature on consumer engagement with AI technologies confirms that such technologies can produce outcomes related to service accuracy, perceived value creation, and reduced consumer effort (Hollebeek et al., 2024).

However, these transformations should not be equated with systematic automation. AI integration may instead lead to a redistribution of tasks between technological systems and human employees.

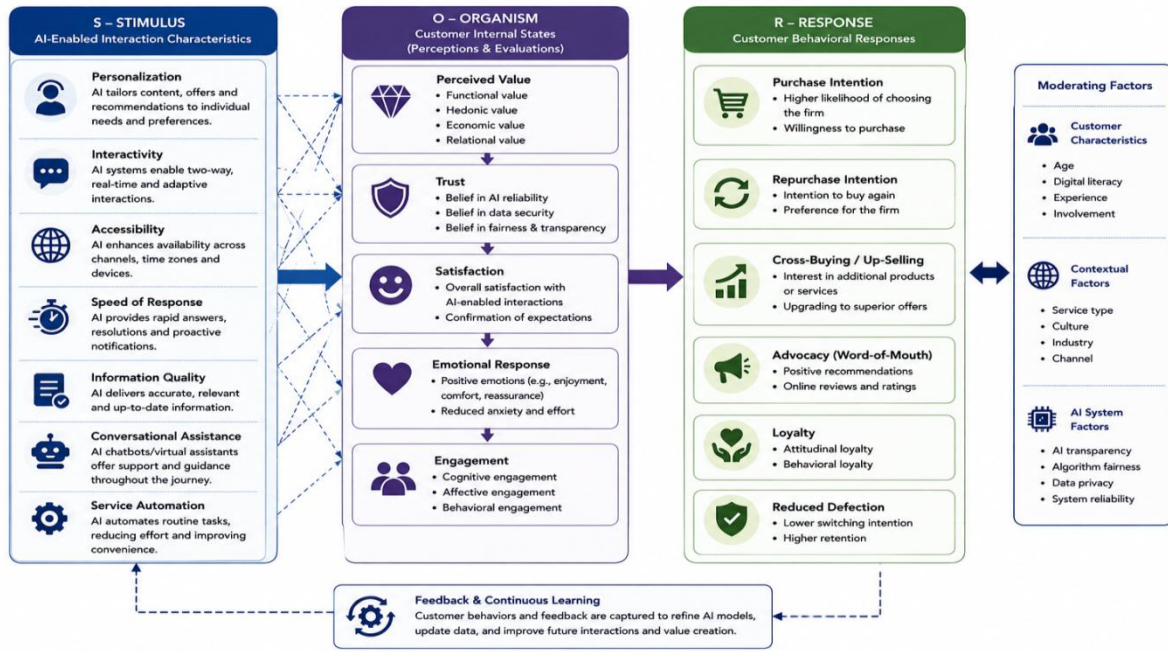
We therefore propose:

Proposition 3 (P3).

AI-CRM capabilities can contribute to the transformation of customer relationship management processes by strengthening acquisition, engagement, service, and retention functions, with the extent of this transformation depending on the organization's ability to integrate AI into its processes rather than use it as an isolated technology.

This proposition therefore introduces a distinction between **technological adoption** and **organizational transformation**.

5.5. From Process Transformation to Customer Value Creation



Source: Developed by the authors based on Mehrabian & Russell (1974); Hollebeek et al. (2024); Roy et al. (2025); Ledro et al. (2022, 2025); Teepapal (2025); Armutcu et al. (2024); Kumar et al. (2026).

Source: Developed by the authors based on Mehrabian and Russell (1974), Hollebeek et al. (2024), Armutcu et al. (2024), Teepapal (2025), and related literature.

Figure 2. AI-CRM Customer Value Creation Mechanism: A Stimulus–Organism–Response (S-O-R) Model

The transformation of CRM processes does not automatically guarantee an improvement in the customer relationship. Outcomes depend on how customers perceive and interpret interactions with AI systems. From an S-O-R perspective, AI-CRM functionalities can be considered stimuli. Personalization, speed, interactivity, recommendation relevance, and service availability therefore constitute characteristics of the relational environment that may influence customer perceptions.

These stimuli may affect several internal states:

- perceived value;
- perceived usefulness;
- perceived relevance;
- trust;
- satisfaction;
- engagement.

They may subsequently translate into behavioral responses such as repurchase intention, continuation of the relationship, recommendation, or loyalty.

The systematic review by Hollebeek et al. (2024), which examines research on consumer engagement with AI technologies, shows that AI technologies can contribute to value creation and reduced consumer effort, while also highlighting the need to better understand the mechanisms linking technological characteristics to engagement outcomes.

On this basis:

Proposition 4 (P4).

The influence of AI-CRM capabilities on customer relational outcomes may operate through perceptual and relational mechanisms such as perceived value, experience, trust, satisfaction, and engagement.

This proposition provides an important safeguard against a simplistic conception of the relationship:

AI → loyalty.

The proposed framework instead considers customer responses as an essential intermediate level in value realization.

5.6. From Customer Value to Organizational Value

Customer value creation represents an essential, but not sufficient, component of the strategic logic of AI-CRM.

An improved experience, greater satisfaction, or stronger loyalty may contribute to organizational outcomes such as increased retention, improved customer lifetime value, reduced relational costs, and, ultimately, improved performance.

However, recent literature indicates that the transition from AI-CRM capability to organizational performance may be indirect. The study by Alnofeli et al. (2026) is particularly important in this regard: it conceptualizes AI-powered CRM as a higher-order capability and shows that its influence on profitability and competitive advantage operates, in particular, through marketing ambidexterity.

This observation reinforces the idea that technology does not directly create performance; rather, it may contribute to the development of organizational capabilities that can modify processes and decision-making.

We therefore propose:

Proposition 5 (P5).

The contribution of AI-CRM to organizational performance may operate indirectly through the transformation of organizational capabilities and processes and, in certain contexts, through customer value creation, rather than through a direct and automatic effect of technological adoption.

This proposition integrates the two value perspectives:

Customer value → potential organizational outcomes.

It also prevents technological efficiency from being confused with strategic performance.

5.7. Technological, Organizational, and Environmental Conditions as Boundary Conditions

The literature shows that the ability to exploit AI-CRM is strongly dependent on the organizational context in which the technology is integrated.

From a technological perspective, data quality, systems integration, interoperability, security, and infrastructure availability constitute fundamental conditions. Alnofeli et al. (2025) specifically identify data management and multichannel integration as essential components of AI-CRM capabilities.

From an organizational perspective, skills, managerial support, training, organizational culture, and change management influence the ability to transform a technological solution into an organizational practice.

From an environmental perspective, competitive pressure, technological change, and regulatory requirements may accelerate or slow down AI integration.

These factors should therefore not be regarded merely as “obstacles” external to the model. They represent **boundary conditions** that may determine the extent to which AI-CRM resources and capabilities are effectively converted into value.

We formulate:

Proposition 6 (P6).

The realization of the effects of AI-CRM capabilities on process transformation and value creation depends, in particular, on the level of technological, organizational, and environmental readiness of the firm.

5.8. Ethical Governance, Trust, and the Sustainability of Relational Value

One of the major challenges of AI-CRM lies in the possibility that the same data enabling greater personalization may simultaneously generate concerns regarding privacy, transparency, or the use of personal information.

This tension prevents personalization from being considered an automatically positive source of value. Personalization perceived as relevant may increase value and satisfaction; personalization perceived as intrusive or insufficiently transparent may, conversely, reduce trust.

Ethical governance should therefore be integrated into the design and use of AI-CRM. Recent research on AI-CRM highlights, in particular, the importance of data governance, privacy, and the integration of ethical considerations into system design (Ledro et al., 2025; Teepapal, 2025).

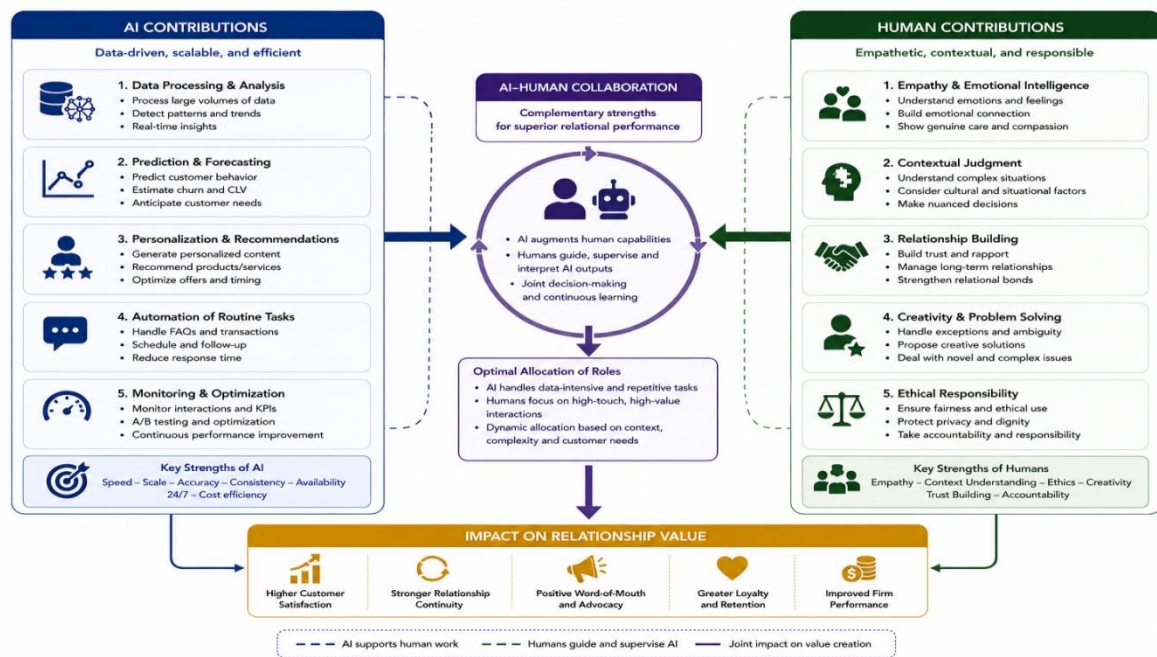
Ethics is therefore considered in our framework not as an independent variable directly producing loyalty, but as a **condition for the sustainability of relational value creation**.

We formulate:

Proposition 7 (P7).

Ethical governance of AI-CRM—including privacy, transparency, fairness, and accountability—may condition the ability of AI practices to generate and maintain the trust required for sustainable customer relationships.

5.9. Human–AI Complementarity and the Reconfiguration of Relational Work



Source: Developed by the authors based on Davenport and Ronanki (2018); Davenport et al. (2020); Dellermann et al. (2019); Hollebeek et al. (2024); Huang and Rust (2021); Verhoef et al. (2021).

Source: Developed by the authors based on Hollebeek et al. (2024) and Ledro et al. (2025).

Figure 3. Human–AI complementarity in AI-CRM and its contribution to relationship value

The integration of AI into CRM also raises the question of the relationship between automation and human intervention.

A strictly substitutive conception views AI as a means of progressively replacing human activities. A complementary conception, by contrast, considers that the value of AI lies in its ability to augment human capabilities and redistribute tasks according to the comparative advantages of each actor.

AI has relative advantages in processing large volumes of data, detecting patterns, making predictions, and performing certain repetitive tasks. Human employees, however, retain important advantages when situations require empathy, contextual judgment, accountability, or the management of complex interactions.

In CRM, this distinction is particularly important because relationship quality does not depend solely on transactional efficiency. Sensitive situations, complex complaints, or highly emotional interactions may require human intervention even when an initial analysis or response is performed by AI.

We therefore propose:

Proposition 8 (P8).

Complementarity between artificial intelligence capabilities and human skills may strengthen the organization's ability to convert AI-CRM resources into relational value, particularly in complex, ambiguous, or emotionally sensitive interactions.

This proposition complements the framework by introducing a non-deterministic conception of digital transformation: the future of intelligent CRM does not necessarily depend on replacing humans, but on the quality of the articulation between human and artificial capabilities.

5.10. Integrated Conceptual Framework

The preceding propositions lead to the following integrated conceptual framework:

Technological, informational, and human resources related to AI



AI-CRM Capabilities

- Analytical capability
- Predictive capability
- Personalization capability
- Interactive/relational capability



CRM Process Transformation

- Acquisition
- Engagement

- Service
- Retention

↓

Customer Value Creation Mechanisms

- Perceived value
- Experience
- Trust
- Satisfaction
- Engagement

↓

Relational Outcomes

- Repurchase
- Loyalty
- Recommendation
- Relationship continuation

↓

Organizational Outcomes

- Efficiency
- Customer lifetime value
- Profitability
- Performance
- Competitive advantage

This main chain is subject to several **cross-cutting conditions**:

- Technological readiness
- Organizational readiness
- Environmental conditions
- Ethical governance
- Human–AI complementarity

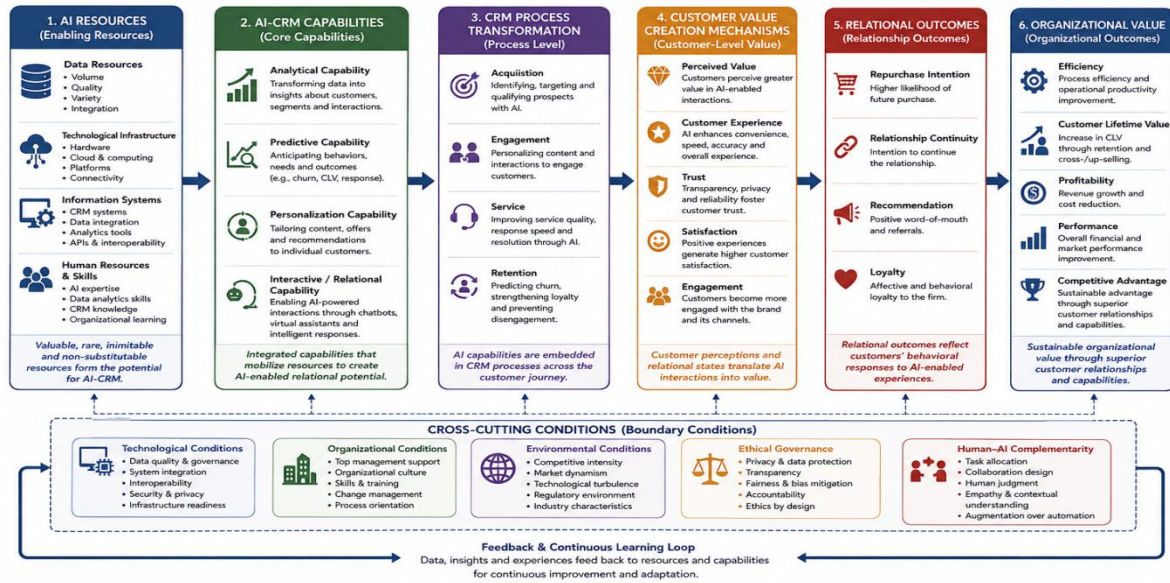
The model can therefore be summarized through the following logic:

Resources → Capabilities → Transformation → Customer Value → Relational Outcomes → Organizational Outcomes

under technological, organizational, environmental, ethical, and human conditions.

The main contribution of the framework is therefore not to claim that artificial intelligence directly produces better customer relationships. Rather, it demonstrates that AI-CRM value creation depends on an **organizational and relational transformation chain**, in which technology constitutes the starting point, while capabilities, processes, customer perceptions, and governance conditions determine the effective realization of value.

A multi-level transformation model from AI resources to organizational value under contextual conditions



Source: Developed by the authors based on Alnofeli et al. (2025, 2026); Barney (1991); Teece et al. (1997); Teece (2007); Payne and Frow (2005); Hollebeek et al. (2024); Ledro et al. (2025); Mehrabian and Russell (1974).

Source: Developed by the authors based on Alnofeli et al. (2025, 2026); Barney (1991); Teece et al. (1997); Teece (2007); Payne and Frow (2005); Hollebeek et al. (2024); Ledro et al. (2025); Mehrabian and Russell (1974).

Figure 4. Integrated AI-CRM Conceptual Framework

6. Discussion and Contributions of the Study

6.1. General Discussion

The present study starts from a central observation: artificial intelligence does not transform customer relationship management merely because it introduces new technologies, but because it can enable organizations to develop new capabilities, reconfigure their relational processes, and modify the ways in which value is created with customers.

This interpretation is consistent with the recent evolution of the literature. Research on AI-CRM has progressively moved from a technology-centered approach toward a perspective that is more strongly oriented toward organizational capabilities. Alnofeli et al. (2025) identify data management, multichannel integration, and service offerings as essential components of AI-CRM capabilities, while their research published in 2026 conceptualizes AI-powered CRM as a higher-order organizational capability and demonstrates its association with marketing ambidexterity, profitability, and competitive advantage.

Our framework builds on this evolution while extending the level of analysis. It does not focus solely on the conditions required to develop AI-CRM capability, but seeks to explain how this capability extends into customer relationship processes and how it can ultimately contribute to value creation for both customers and organizations.

The proposed chain—**resources** → **capabilities** → **process transformation** → **customer value** → **organizational outcomes**—thus connects several streams of research that are often examined separately.

6.2. First Contribution: Moving Beyond Technological Determinism

The first theoretical contribution of the proposed framework lies in moving beyond a deterministic conception of artificial intelligence.

A strictly technological perspective could lead to the assumption that adopting AI solutions automatically improves CRM performance. However, recent research indicates that investment in AI does not automatically guarantee the realization of economic or relational value. Alnofeli et al. (2026), in particular, emphasize the importance of developing AI-CRM as an organizational capability capable of transforming technological resources into strategic outcomes.

Our framework therefore considers technology as an **enabling condition rather than a sufficient cause**.

The distinction can be expressed as follows:

Technology ≠ capability

and:

Capability ≠ automatic performance.

Between these different levels lie organizational integration, process transformation, human skills, and customer value-creation mechanisms.

This distinction provides a theoretical response to the risk of viewing AI as a universal solution independent of organizational context.

6.3. Second Contribution: Connecting Organizational and Relational Levels

A second contribution consists of bringing together two analytical levels that are often separated in the literature.

On the one hand, research on AI-CRM primarily addresses resources, capabilities, systems integration, and organizational performance. On the other hand, research on customer engagement and experience examines consumers' perceptions and behaviors toward AI technologies.

The systematic review by Hollebeek et al. (2024), based on 89 studies, illustrates the diversity of this literature and identifies, among other outcomes, improved service accuracy, AI's contribution to perceived value creation, and reduced consumer effort. The authors also highlight outcomes relating to consumers, firms, and human–AI collaboration.

The proposed framework therefore establishes a bridge between these two levels:

Organizational capabilities → AI-enabled interactions → customer perceptions → relational outcomes.

This articulation helps explain why the same technological capability may produce different outcomes depending on how it is integrated into customer interactions.

6.4. Third Contribution: Conceptualizing AI-CRM as Process Transformation

A third contribution concerns the shift from viewing CRM primarily as a technological system toward viewing it as a **system of relational processes**.

AI can intervene at several stages of the customer journey, including acquisition, qualification, engagement, service, and retention. However, value does not result simply from the presence of AI at each of these stages. It depends on the coherence among the different capabilities and their integration into an overall relational process.

This interpretation is consistent with recent research conceptualizing AI-CRM as a multidimensional capability integrating, among other elements, data, channels, and services.

It also aligns with the findings of Hollebeek et al. (2024), showing that the effects of AI on engagement extend beyond technological efficiency to include perceived value, consumer effort, and outcomes associated with human–AI collaboration.

AI-CRM should therefore be understood as a **reconfiguration of the relational process**, rather than as a simple technological layer added to traditional CRM.

6.5. Fourth Contribution: Integrating Customer Value and Organizational Value

Another contribution of the framework is to avoid an excessive separation between organizational objectives and customer objectives.

From a strategic CRM perspective, organizational performance cannot be sustainably separated from the firm's ability to create and maintain relevant value for its customers.

Our model therefore establishes a conceptual relationship between two forms of value.

Customer value:

- experience;
- perceived value;
- trust;
- satisfaction;
- engagement;
- loyalty.

Organizational value:

- efficiency;
- retention;
- customer lifetime value;
- profitability;
- performance;
- competitive advantage.

This conception is consistent with recent findings showing that AI-CRM can contribute to performance through intermediate organizational capabilities. Alnofeli et al. (2026), for example, show that AI-powered

CRM contributes to marketing ambidexterity, which is associated with profitability and competitive advantage.

The theoretical implication is important: **performance should not be considered an immediate technological effect, but rather as the potential outcome of a value-creation chain.**

6.6. Fifth Contribution: Explicitly Introducing Conditions for Value Realization

Recent literature confirms that AI-CRM does not operate independently of the context in which it is integrated.

The study by Ledro et al. (2025), in particular, shows that integrating AI into CRM requires attention to customer-data centralization, model retraining, continuous user involvement, and *ethics by design*.

Recent research on GenAI-CRM extends this perspective by examining the role of organizational and environmental conditions in transforming GenAI-related skills into CRM capabilities and market outcomes. Kumar et al. (2026), in particular, highlight the role of top management support and technological turbulence in this dynamic.

The proposed framework therefore considers technological, organizational, and environmental factors as **boundary conditions**.

This conception is preferable to a simple list of “challenges,” because it makes it possible to understand that the same capabilities may produce different outcomes depending on the context in which they are mobilized.

6.7. Sixth Contribution: Repositioning Ethics within the Value-Creation Mechanism

One important contribution of recent literature is the progressive abandonment of the view of ethics as a secondary issue.

In the CRM context, data represent both a strategic resource and a potential source of risk. The more detailed information an organization possesses about customers, the greater its potential ability to personalize interactions; however, the use of such data may also generate concerns regarding privacy, transparency, and the use of personal information.

Recent AI-CRM literature explicitly emphasizes the importance of *ethics by design* and data governance.

Our framework therefore places ethics at the level of the **conditions for relational sustainability**.

The proposed logic is not:

Ethics → loyalty

but rather:

Ethical governance → trust → possibility of sustaining relational value creation.

This distinction avoids an excessive simplification of the relationship between ethics and performance.

6.8. Seventh Contribution: Recognizing Human–AI Complementarity

The literature on engagement with AI technologies indicates that AI outcomes may also concern human–AI collaboration. Hollebeek et al. (2024) explicitly identify this dimension among the potential consequences of engagement with AI technologies and emphasize the need to better understand the implications of such collaboration for consumers, firms, and interactions.

In CRM, this issue becomes particularly important when interactions involve a high degree of complexity or emotional involvement.

AI can be particularly effective at:

- analyzing large volumes of data;
- identifying patterns;
- performing certain predictions;
- recommending actions;
- automating certain repetitive tasks.

Human employees, however, remain essential for:

- empathy;
- contextual judgment;
- resolving ambiguous situations;
- accountability;
- emotionally sensitive interactions.

The contribution of the framework is therefore to consider **human–AI complementarity** as a principle of organizational design rather than as an opposition between automation and human work.

6.9. Managerial Implications

The managerial implications of the proposed framework can be grouped into five orientations.

First: moving from a technology-purchasing logic to a capability-building logic

Managers should not evaluate only the availability or sophistication of AI solutions. They should also assess the organization's ability to integrate these solutions into data, processes, skills, and decision-making.

The managerial question therefore becomes:

“What organizational capability do we want to build through AI?”

rather than:

“Which AI technology should we purchase?”

Second: building a coherent data architecture

AI-CRM performance depends heavily on the quality of the information on which systems operate. Data centralization, quality, updating, security, and governance should therefore be considered strategic investments.

Third: selecting the level of automation according to task characteristics

Not all interactions should be automated to the same degree.

Repetitive, high-volume, and relatively structured tasks may be more extensively automated or AI-augmented. Conversely, complex, sensitive, or emotional situations may require stronger human intervention. The managerial objective should therefore not be to maximize automation, but to achieve an appropriate allocation of tasks between AI systems and human employees.

Fourth: integrating ethical governance from the design stage

Data protection, transparency, bias monitoring, accountability, and human-intervention mechanisms should be integrated into the design and use cycle of AI-CRM systems rather than addressed after deployment. This orientation directly reflects the *ethics by design* logic highlighted by Ledro et al. (2025).

Fifth: simultaneously measuring customer value and organizational value

AI-CRM performance indicators should not be limited to cost savings or productivity.

They should also incorporate:

- satisfaction;
- experience;
- trust;
- engagement;
- retention;
- customer lifetime value;
- profitability.

This approach helps prevent purely technological optimization from occurring at the expense of customer relationship quality.

6.10. Implications for Future Research

The proposed framework gives rise to several avenues for future research.

First, future research could empirically test the different dimensions of AI-CRM capabilities to determine whether analytical, predictive, personalization, and interactive/relational capabilities constitute distinct dimensions or manifestations of a higher-order organizational construct.

Second, future studies could examine the mediating mechanisms linking AI-CRM capabilities to organizational outcomes. Trust, perceived value, customer experience, and engagement represent potential mechanisms that could be empirically tested.

Third, future research could further investigate the conditions under which automation actually improves customer relationships and those under which it may produce less favorable outcomes.

Fourth, the rapid emergence of GenAI justifies research examining differences between predictive AI systems and generative AI systems. Recent empirical studies have already begun to investigate the mechanisms linking GenAI-enabled CRM capabilities to different organizational and market outcomes.

Fifth, human–AI complementarity deserves particular attention, especially in complex, ambiguous, or highly emotional service situations.

Finally, longitudinal research would be particularly valuable for determining whether the effects observed for AI-CRM persist over time or evolve as customers and employees progressively gain experience with AI technologies.

6.11. Limitations of the Study

This study has several limitations that should be acknowledged.

First, the proposed framework is conceptual in nature and does not provide direct statistical validation of the proposed relationships. The theoretical propositions therefore need to be tested against empirical data in future research.

Second, the literature on AI-CRM is evolving extremely rapidly. The emergence of new forms of AI, particularly GenAI and agentic systems, may rapidly modify practices and concepts in the field. The conclusions should therefore be interpreted as a synthesis situated within an evolving technological environment.

Third, existing studies exhibit substantial contextual diversity. Findings obtained in banking, tourism, retail, services, or B2B contexts cannot necessarily be directly transferred to all sectors. This diversity represents both a limitation to the generalizability of findings and an opportunity for comparative cross-industry research.

Fourth, certain dimensions of the framework—particularly human–AI complementarity, ethical governance, and the mechanisms linking personalization, trust, and value—require further empirical validation.

Finally, the present study provides a theoretical integration of existing research and does not claim to eliminate the plurality of AI-CRM conceptualizations. Diversity of approaches remains an important characteristic of the field and also constitutes a significant source of opportunities for future research.

6.12. Final Positioning of the Contribution

The contribution of this study can ultimately be summarized at three levels.

First	level	—	conceptual:
AI-CRM is considered a multidimensional organizational capability rather than a simple collection of technological tools.			

Second	level	—	explanatory:
The framework connects technological and informational resources, AI-CRM capabilities, process transformation, customer value-creation mechanisms, relational outcomes, and organizational outcomes.			

Third	level	—	conditional:
Value creation is considered dependent on technological and organizational readiness, the environmental context, ethical governance, and human–AI complementarity.			

Thus, the main contribution of the study lies in a **multi-level integration of the AI-CRM literature**, making it possible to move beyond a purely technological view of artificial intelligence and to conceptualize it as a lever for transforming customer relationship management capabilities and processes.

This perspective leads to a conception of AI-CRM in which technology constitutes the starting point, but where final value depends on the organization's ability to transform technology into capabilities, capabilities into relational processes, and these processes into sustainable experiences and value for both customers and the firm.

7. Conclusion

Artificial intelligence is progressively transforming customer relationship management by reshaping organizations' analytical capabilities, the ways in which they interact with customers, and the processes through which value is created. However, the literature analysis conducted in this study shows that this transformation cannot be explained solely by the adoption of artificial intelligence technologies. Technology constitutes an enabling resource whose effects depend on the organization's ability to integrate it into its data, processes, skills, and decision-making mechanisms.

Based on an integrative literature review, this study proposed a conceptual framework that connects several levels of analysis. The Resource-Based View made it possible to consider data, technological infrastructures, information systems, and AI-related skills as resources that can support value creation. The dynamic capabilities perspective then helped explain how these resources can be integrated, developed, and reconfigured to build AI-CRM capabilities adapted to an evolving technological and competitive environment. Finally, the Stimulus–Organism–Response perspective introduced the customer's perspective by emphasizing the perceptual and relational mechanisms that may link AI-assisted interactions to behavioral responses.

The proposed synthesis therefore conceptualizes AI-CRM as a **multidimensional organizational capability**, whose main functional manifestations can be grouped into analytical, predictive, personalization, and interactive/relational capabilities. These capabilities can contribute to the transformation of CRM processes by strengthening different stages of the customer journey, particularly acquisition, engagement, service, and retention.

However, this transformation does not automatically generate value. Customer value creation depends on how AI-assisted interactions are perceived and interpreted by customers. Perceived value, experience, trust,

satisfaction, and engagement therefore emerge as important mechanisms that can transform technological capabilities into relational outcomes. These outcomes may subsequently contribute, under certain conditions, to organizational value creation through retention, customer lifetime value, efficiency, profitability, and competitive advantage.

One of the main lessons of this study is therefore the need to move beyond the simplified relationship “AI → performance.” The proposed framework instead adopts a more comprehensive transformation logic:

Resources → AI-CRM Capabilities → Process Transformation → Customer Value → Relational Outcomes → Organizational Value.

This chain remains conditional. Data quality, technological integration, organizational readiness, available skills, managerial support, and environmental conditions may strengthen or constrain the organization’s ability to exploit AI-CRM. Similarly, ethical issues relating to privacy, transparency, fairness, and accountability must be incorporated into the design and governance of AI systems. Ethics therefore appears not as a peripheral dimension, but as an important condition for trust and the sustainability of relational value. The study also highlights the importance of **human–AI complementarity**. The strategic objective of AI-CRM should not necessarily be to maximize automation, but rather to achieve an appropriate allocation of tasks between artificial systems and human employees. AI can make an important contribution to processing large volumes of data, detecting patterns, performing predictions, and automating certain tasks, while human intervention remains particularly important when interactions require empathy, contextual judgment, accountability, or the management of complex situations.

From a theoretical perspective, the main contribution of this study lies in the **multi-level integration of perspectives** that are often mobilized separately in the literature. The proposed framework seeks to connect organizational resources and capabilities with transformations in CRM processes, and then with customer-level value-creation mechanisms and organizational outcomes. Its originality therefore lies primarily in this logic of theoretical integration and synthesis.

From a managerial perspective, this approach suggests that organizations should not approach AI-CRM solely as a technological investment. Priority should instead be given to building an integrated organizational capability based on a coherent data architecture, adapted processes, appropriate skills, responsible governance, and effective human–AI complementarity.

Finally, given the conceptual nature of this study, the proposed relationships cannot be considered empirically established. They constitute theoretical propositions derived from the integration of the literature and should be subjected to empirical validation in future research. Quantitative and qualitative studies could, in particular, test the multidimensional structure of AI-CRM capabilities, examine the mediating mechanisms of value creation, and analyze the conditions under which AI effectively improves customer relationships. Longitudinal research will also be necessary to assess the stability of these effects in a context characterized by the rapid evolution of GenAI and increasingly autonomous AI systems.

Ultimately, AI-CRM should not be viewed as merely a technological evolution of traditional CRM. It represents a potential **organizational and relational transformation**, whose success depends on the firm’s ability to convert technological resources into capabilities, capabilities into effective relational processes, and these processes into sustainable experiences and value for both customers and the organization.

References

- Alnofeli, K. K., Akter, S., & Yanamandram, V. (2025). Unlocking the power of AI in CRM: A comprehensive multidimensional exploration. *Journal of Innovation & Knowledge*, 10(3), 100731. <https://doi.org/10.1016/j.jik.2025.100731>
- Alnofeli, K. K., Akter, S., Yanamandram, V., & Hani, U. (2026). AI-powered CRM capability model: Advancing marketing ambidexterity, profitability and competitive performance. *International Journal of Information Management*, 86, 102981. <https://doi.org/10.1016/j.ijinfomgt.2025.102981>
- Armutcu, B., Tan, A., Ho, P. S. S., Chow, M. Y. C., & Gleason, K. C. (2024). The effect of bank artificial intelligence on consumer purchase intentions. *Kybernetes*, 54(10), 5529–5553. <https://doi.org/10.1108/K-01-2024-0145>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Cillo, P., & Rubera, G. (2025). Generative AI in innovation and marketing processes: A roadmap of research opportunities. *Journal of the Academy of Marketing Science*, 53, 684–701. <https://doi.org/10.1007/s11747-024-01044-7>

- De Mauro, A., Sestino, A., & Bacconi, A. (2022). Machine learning and artificial intelligence use in marketing: A general taxonomy. *Italian Journal of Marketing*, 2022, 439–457. <https://doi.org/10.1007/s43039-022-00057-w>
- Grewal, D., Satornino, C. B., Davenport, T., & Guha, A. (2025). How generative AI is shaping the future of marketing. *Journal of the Academy of Marketing Science*, 53, 702–722. <https://doi.org/10.1007/s11747-024-01064-3>
- Kumar, V., Kumar, S., Čepel, M., Troise, C., & Chatterjee, S. (2026). Exploring the relationship between GenAI-CRM and market effectiveness: The moderating role of top management support and technology turbulence. *European Journal of Innovation Management*, 29(5), 1625–1645. <https://doi.org/10.1108/EJIM-06-2025-0827>
- Hollebeek, L. D., Menidjel, C., Sarstedt, M., Jansson, J., & Urbonavicius, S. (2024). Engaging consumers through artificially intelligent technologies: Systematic review, conceptual model, and further research. *Psychology & Marketing*, 41(4), 880–898. <https://doi.org/10.1002/mar.21957>
- Ledro, C., Nosella, A., & Vinelli, A. (2022). Artificial intelligence in customer relationship management: Literature review and future research directions. *Journal of Business & Industrial Marketing*, 37(13), 48–63. <https://doi.org/10.1108/JBIM-07-2021-0332>
- Ledro, C., Nosella, A., Vinelli, A., Dalla Pozza, I., & Souverain, T. (2025). Artificial intelligence in customer relationship management: A systematic framework for a successful integration. *Journal of Business Research*, 199, 115531. <https://doi.org/10.1016/j.jbusres.2025.115531>
- Ledro, C., Nosella, A., & Vinelli, A. (2025). Leveraging artificial intelligence for sustainable customer relationship management: A critical review and a conceptual framework. *Journal of Cleaner Production*, 535, 147142. <https://doi.org/10.1016/j.jclepro.2025.147142>
- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. MIT Press.
- Payne, A., & Frow, P. (2005). A strategic framework for customer relationship management. *Journal of Marketing*, 69(4), 167–176. <https://doi.org/10.1509/jmkg.2005.69.4.167>
- Roy, S. K., Tehrani, A. N., Pandit, A., Apostolidis, C., & Ray, S. (2025). AI-capable relationship marketing: Shaping the future of customer relationships. *Journal of Business Research*, 192, 115309. <https://doi.org/10.1016/j.jbusres.2025.115309>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. <https://doi.org/10.1002/smj.640>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z)
- Teepapal, T. (2025). AI-driven personalization: Unraveling consumer perceptions in social media engagement. *Computers in Human Behavior*, 165, 108549. <https://doi.org/10.1016/j.chb.2024.108549>
- Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4(3), 356–367. <https://doi.org/10.1177/1534484305278283>
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180. <https://doi.org/10.1002/smj.4250050207>
- Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52(5), 546–553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>