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How to Leverage Artificial Intelligence: Based Customer Relationship Management in B2B Marketing using Micro Foundations of Dynamic Capability Approach

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ABSTRACT

The transition to Business-to-Business (B2B) models in relationship management and Artificial Intelligence-based Customer Relationship Management (AI-based CRM) is a complex yet definitive process. From the perspectives of both firms and government institutions, AI-based CRM is increasingly regarded as a strategic organizational activity. Both profit-oriented and non-profit organizations are now challenged to implement AI in ways that generate substantial business value. Despite the growing interest, research on the application of AI in B2B marketing—whether for commercial or social purposes—remains limited. To address this gap, this study adopts a dynamic capabilities framework, particularly focusing on micro-foundations within firms and government institutions. Four case studies of Indonesian public and private sector organizations that have integrated AI into their B2B marketing strategies were examined. The key findings highlight several critical intersectoral elements, revealing connections among essential concepts and their impact on overall business value. Additionally, the study suggests that B2B practices in both firms and government offices yield similar outcomes, mediating between technological readiness and the potential of AI-based CRM.

1. Introduction

Recently, many companies and government offices have recognized the significant benefits of implementing AI in business, particularly through automation and data analytics. Although AI is becoming increasingly prevalent in managerial contexts, researchers have provided valuable insights into AI over the past few decades [25,31]. Studies have linked AI to competition and subsequent productivity gains [10,11,22]. However, only 14% of respondents across organizations currently believe that AI has a major impact on their offerings. Nonetheless, 63% expect to see substantial impacts within the next five years [32,33]. Additionally, empirical research on AI's value remains in its early stages, with limited understanding of the mechanisms by which AI investments can generate business value [9,15]. This gap is surprising given the widespread adoption of AI initiatives by many

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enterprises. As a result, there is still a need for a clear framework on how organizations should approach AI investments to maximize business value [10].

Customer Relationship Management (CRM) has become widely utilized to manage business processes, communicate with suppliers and wholesalers, access product and service information and automate marketing activities [8,18]. Companies that have developed strong CRM systems, especially those integrating AI-based CRM, experience accelerated advancements in AI technology, which are crucial for maintaining a competitive edge in CRM [30]. In practice, current CRM features require large volumes of data processed in real-time—tasks that are nearly impossible to accomplish without the support of AI. Examples of these features include personalized website experiences, programmatic advertising, personality insights, chatbot services and facial and image recognition technology [30]. Therefore, leveraging AI-based CRM presents a promising opportunity to enhance marketing effectiveness.

Previous research has primarily focused on digital marketing within a business-to-business (B2B) context, examining AI-based CRM from a prospective research angle [18]. Other studies, however, have investigated AI's impact without considering its integration with CRM [6]. Additionally, the role of AI in B2B marketing within traditional CRM-centred approaches has received limited attention in the scholarly literature [1]. Analysing the potential of AI in B2B marketing and uncovering the processes and factors that contribute to business value offers significant academic and practical implications [13]. Thus, AI-based CRM is becoming increasingly essential in B2B marketing, particularly when approached through the Micro-foundations of the Dynamic Capabilities Approach.

Jarrahi *et al.,* [40] found that the emergence of AI capabilities promises enhanced decision-making, which may require a new division of labour between workers and smart machines compared to traditional organizational structures. Therefore, organizational resources must be strategically managed to achieve business advantages through an AI capabilities framework that integrates the resource-based view and knowledge-based view theories [41]. Recent studies also highlight AI's potential to reshape value creation in businesses [6,17]. However, Budhwar *et al.,* [29] suggest that the extent to which AI can be categorized as technology-based remains ambiguous, given the necessity for personal, moral and legal compliance by AI systems. There is also a need for principles and regulations to assess how effectively AI enhances human capacity and the potential impacts of these configurations [29].

CRM is recognized as a vital component for organizations, contributing to their reputation among customers and social media users [23]. Despite its importance, there is still limited empirical research examining the mechanisms through which AI adds business value in B2B marketing [6]. Similarly, with the rise of digitalization, companies must adopt CRM strategies to build and maintain customer relationships. CRM has been used extensively to streamline organizational processes [14], enabling B2B marketing to focus on implementing AI-based CRM in digital marketing [4,5].

For B2B marketing, intelligent solutions are necessary to automate processes, including aligning, standardizing, structuring and customizing data within complex business environments [12]. Government agencies face similar needs. Therefore, this research aims to identify factors related to the successful implementation of AI-based CRM using the micro-foundations of the Dynamic Capability Approach. Additionally, it is essential to collect data on significant phenomena and specific arguments that remain underexplored in the literature, especially from the perspectives of key stakeholders [6]. However, there is currently no literature discussing the deployment of AI-based CRM supported by various key factors or exploring how AI-based CRM could impact organizational performance to achieve a competitive advantage in B2B contexts.

The Dynamic Capabilities View (DCV) has emerged as a dominant theoretical perspective and approach in management research over the past decade. It was first introduced in a journal

publication by Bruni *et al.,* [3] and since then, numerous definitions of DCV have been proposed in the literature. The Dynamic Capability Approach builds upon the resource-based view, suggesting that companies must continuously align, adapt and reconfigure their resources and capabilities within a changing environment to maintain sustained competitive advantage and achieve above-normal returns [37]. While dynamic capabilities can provide firms with a competitive edge, their effectiveness depends on the dynamism of the external environment [35]. Research on dynamic capabilities remains limited in process industries, particularly regarding process innovation and digitalization [19].

In Table 1 below, I present definitions applicable to each process, along with the actions they encompass [7]. Although extensive research explores how AI-based CRM can enhance competitiveness for firms and government institutions, there is limited understanding of how the specific elements introduced by AI-based CRM impact underlying dimensions and the micro-foundations that support them [20,21].

Table 1
Dynamic capabilities and underlying processes [6]

	Sensing	Seizing	Transforming
Definition	Sensing is defined as the identification and assessment of opportunity Underly	Seizing is explained as the mobilization of resources to address an opportunity and to catch value from doing it	Transforming is explained as the continued organization renewal of the organization
Underlying Activity	• Gathering marketing Intelligence • Spotting opportunities • Identifying target market Segments • Spotting changing customer, needs and customer innovation • Interpreting changes and uncertainties • Conceptualizing new user needs/business models activities	• Creating competencies • Selecting decision-making action • Picking partners and allocation canals • Committing to R&D • Moving capitals to address opportunities • Forming alliances and joint ventures	• Achieving recombination's • Re-engineering process • Reconfiguring capabilities • Managing knowledge • Asset co-specialization • Dynamic aligning of tangible capitals
Value Creation	• Locating for first mover advantage • Establishing entry time	• Leveraging complementary assets • Continued renewal	• Overcoming threats • Transforming business model

To examine this phenomenon, the present study employs multiple case study approaches to address two key research questions:

i. How do businesses and government agencies leverage AI-based CRM to support B2B marketing processes in dynamic environments?
ii. What are the critical success factors for creating business value from AI-based CRM dynamic capabilities in B2B marketing?

There is a pressing need to advance research on AI-based CRM applications and their impact on organizational performance [36]. The implementation of CRM in B2B marketing can enhance AI's effectiveness in data processing and pattern recognition by analysing customer data in digital domains [16]. Thus, the integration of AI and CRM is a powerful strategy in B2B marketing. To address

this, the study draws on the Dynamic Capabilities View, particularly utilizing the micro-foundations approach and develops insights from four case studies of mid-to-high-tech organizations in Indonesia that use AI for their B2B marketing needs.

The objectives of this research project are to:

i. Explore how to leverage AI-based Customer Relationship Management in B2B marketing through the Micro-foundations of the Dynamic Capability Approach.
ii. Identify key factors that contribute to creating business value from AI-based CRM in B2B marketing.

2. Methodology

2.1 Data Collection

Given that empirical research on the utilization of AI for strategic growth in B2B environments is still in its early stages, I chose an in-depth case study methodology [2]. This method was selected because it enables the collection of rich descriptions of complex phenomena, providing detailed insights that are not yet fully understood in the literature from the perspective of diverse key stakeholders [39]. Additionally, the case study approach is particularly effective for exploratory research that seeks to answer "how" questions [34], which aligns with the questions in this study. My study design incorporates an exploratory framework, following a replication logic in which a series of cases are treated as experiments to confirm or refute specific observations [38].

This research was conducted in mid-to-high-tech firms and government offices in Indonesia that actively use AI in their operations, as these organizations exhibit advanced utilization of AI as a core component of their competitive strategies [26]. Organizations increasingly recognize that AI is not just a tool for gaining a competitive edge, but an essential element for maintaining stability in a competitive environment [6]. In this study, I selected two firms and two government offices, all of which have implemented AI-based CRM for at least two years. These organizations initiated their AI-based CRM projects around the same time, ensuring comparable maturity levels. In their respective sectors, each firm and government office are among the national leaders in terms of revenue, profit, customer base and employee numbers. They also have significant international presence, with a substantial portion of their revenue generated from activities outside their home country. To select suitable organizations, I conducted an extensive search through the internet and my personal network, aiming to find organizations with sufficient diversity for generalizability while ensuring comparability in key aspects.

Data were collected using semi-structured interviews with eight employees directly involved in the implementation and use of AI-based CRM. The participants included information and data analysts, directors, operational managers and heads of IT departments. The experience and knowledge of these respondents reflect their years in the industry and their tenure within their respective organizations. Interviews were conducted from August to October 2023, each lasting approximately 60 to 80 minutes. All interviews were recorded and transcribed with the participants' consent. Additionally, each participant completed a consent form and was informed about the research objectives and the use of the data collected. To enhance data differentiation and saturation, I also utilized supplementary materials such as company and government reports, observations, previous research materials, news articles, industry reports and other publicly available data and information.

2.2 Data Analysis

After collecting the data, the next step involved analysing it. I used a qualitative approach based on Miles and Huberman [42] and employed thematic analysis to explore the data. This analysis followed a structured and iterative process, incorporating data comparison, emerging themes and the latest literature to support each phase. The first step was to develop separate case studies for each company and government office (GO), examining patterns in the informants' responses and noting any variations in their descriptions of how AI-based CRM is used to support B2B marketing management. In government offices, marketing refers to 'social marketing,' which is not profit-oriented.

To conduct the analysis, I used a composite of pre-defined codes based on the concepts outlined in Table 1, along with an open-coding schema to identify additional relevant facets. I also analysed the underlying processes and core conditions that link problem-solving with improvements in B2B marketing actions in both firms and government offices. To ensure the dependability of the codes developed, the coding was carried out independently by the author and themes were refined until an inter-coder reliability of over 80% was achieved [42]. Evaluating inter-coder reliability (ICR) in the coding framework is widely recognized as a best practice in qualitative research. Applying ICR helps to enhance the systematicity, transparency and communicability of the coding process, thereby promoting a more rigorous analysis [28].

Table 2
Profile of the case firms and government offices

Firm	Year founded	Industry	Number of employees	Annual revenue	Implementation of AI (in Year)
Firm A	1998	Leather	74	700 million Rupiahs	2018
Firm B	2008	Food	82	2 billion Rupiahs	2015
GO C	1945	Government Institution	235	-	2012
GO D	1973	Government Institution	175	-	2013

Table 3
Profile of informants

Firm	Respondent	Duration (Minutes)	Years in the related industry/GO	Years in the firm
Firm A	A1. Director	60	12	10
	A2. Operational Manager	65	10	7
	A3. Senior IT	62	8	5
Firm B	B1. Director	60	14	14
	B2. Operational Manager	62	10	5
	B3. Senior IT	60	15	8
GO C	C1. Head of IT department	65	18	15
	C2. Information and data analyst	63	13	8
	C3. Senior IT	60	15	10
GO D	D1. Head of IT department	63	20	20
	D2. Information and data analyst	60	11	5
	D3. Senior IT	65	12	9

Following the initial analysis, I connected related ideas across the cases. In this phase, I focused on deriving insights from the coding process and establishing links among selected categories and emerging themes. While organizing concepts to identify main ideas, I allowed additional constructs and patterns to emerge from the primary data. To enhance the generalizability of the findings and expand the theoretical arguments, I conducted a comparative analysis both within and across categories for each case study. The objective was to explore how operations had evolved in the two companies and the two government offices with the implementation of AI-based CRM, how these changes were executed and the challenges encountered. Any disagreements between coders were resolved through discussion. Subsequently, I developed an initial version of the findings, which I shared with key informants to assess credibility and address any misunderstandings or overlooked information.

During this stage, I linked the emerging themes and ideas with the theoretical constructs developed in the literature review. This involved an iterative process of moving back and forth between the emerging themes and established theories to develop coherent arguments for my findings and to extend theoretical insights [39]. In the following sections, I discuss the findings generated from the four case studies. First, I investigated whether the adoption of AI-based CRM altered the approach these organizations use for B2B marketing activities. Second, I examined the mechanisms and key elements that connect these investments to enhanced B2B marketing performance. Careful attention was given to all data collected to ensure a thorough analysis.

3. Results

3.1 Leveraging AI-Based CRM to Allow Dynamic Capabilities for B2B Marketing

AI is a key component of the new era of smart technologies, offering firms the potential for competitive advantage. In today's highly volatile environment, researchers have increasingly used industry dynamism as a contextual element, operationalizing it as a moderating variable in AI-CRM capabilities [27].

Aligned with my research questions, I initially examined how the recognition and leveraging of AI-based CRM has reshaped the goals of B2B marketing in the four case studies. I found that AI utilization led to advancements in developing innovative marketing approaches, faster response times, new insights and additional revenue sources. In this section, I focus specifically on performance improvements. Across the four cases, AI implementation supported a broad range of management activities aligned with both commercial and social marketing. Given that government offices were also included, the term "marketing" here encompasses both commercial and public-sector contexts. Table 4 below outlines the types of AI technologies applied by each firm and government office and their impact on marketing activities.

Informants across all four cases reported that AI-based CRM provided enhanced insights into aspects of B2B marketing, enabling more informed response strategies and the development of new business models to strengthen their competitive positioning (Table 5). Notably, the informants identified four main areas of improvement enabled by AI solutions, which aligned with the underlying dimensions of dynamic capability.

Firstly, all case studies indicated that AI usage allowed them to gain a deeper understanding of customer needs and key issues. In the case of government offices, "customers" refer to citizens requiring public services. Both firms and government offices were able to process large volumes of information organizing it meaningfully to avoid information overload. AI facilitated access to a broader range of accurate insights, enabling the discovery of valuable patterns in data related to market conditions and general trends.

Secondly, they observed a significant transformation in customer interactions. Following AI implementation, they were able to provide more detailed and comprehensive outputs to customers, reducing costs and enhancing service quality. AI-based CRM enabled organizations to optimize resource allocation and substantially improve internal processes.

Thirdly, informants highlighted the role of AI-based CRM in creating new offerings and solving customer problems, opening up additional revenue streams. Furthermore, AI empowered organizations to strengthen customer relationships by enhancing their product and service offerings through valuable insights. These insights allowed for more detailed and reliable responses to customer needs and reduced the time needed to implement changes.

This evidence leads to the following concept:

Table 4
The implementation of AI and their effect on B2B marketing activities

Firm	AI-Based CRM technology (—ies) used	Effect on B2B marketing activities
Firm A	Intelligent agents (bot) Social Media Machine learning	• Identification of customer necessities • Insight formation and commercialization • Enhancing in competitive advantages
Firm B	Intelligent agents (bot) Social Media Machine learning	• Identification of customer necessities • Enhancing in competitive advantages • Customer Engagement
GO C	Metaverse MPP Mall Digital Databased system	• Identification of customer necessities • Enhancing in excellence service • Automatic replies to identify problems • Citizen trust
GO D	Databased system Intelligent agents (bot) Social Media Machine learning	• Identification of customer necessities • Enhancing in excellence service • Citizen trust • Third parties' engagement

3.2 Leveraging AI-Based CRM to Help B2B Marketing Operations Guiding Performance Developments through Dynamic Capabilities

I conducted an in-depth study of each sub-component within dynamic capabilities—sensing, seizing and transforming—to ensure evidence for each sub-concept. While examining these three phases within the dynamic capability Approach, I observed both similarities and differences in how AI-based CRM solutions are utilized. As noted by informant A1 in Firm A:

We have expanded a number of services to carry out better monitoring of what our customers need as well as to come across arising opportunities or threats based on social media machine learning. Our approach is to be driven by doing beyond other companies might do. We are not only monitoring in real-time what customer needs and wants but also undertaking to predict their need and requirement in the near future.

Another informant from Firm B (B2), elaborated how they integrate the data to predict external environments. He said:

Our customers, primarily companies, interact with us frequently through various channels, most commonly via social media and chat assistants (which are automated rather than human-operated). In recent years, we launched an online virtual agent platform, recognizing the necessity to stay current

with technological advancements, particularly in the AI sector, as many other companies have adopted similar solutions. This platform enables our corporate partners to access information at any time, allowing us to engage with them around the clock. Additionally, we are actively identifying the most frequently asked questions and investigating any potential issues with our products. We have developed several solution options for recurring challenges, enabling us to quickly provide effective resolutions tailored to our partners' needs, whether they are companies or individual clients.

This technology has significantly reduced the amount of work handled by human employees, leading to a reduction in our workforce as certain roles are replaced by automation. However, this shift also allows us to reallocate our existing workforce to focus on more productive and value-added activities

On the other hand, GO C, a government institution, has begun integrating AI into its operations, particularly in interactions with its business customers. GO C is a licensing office that frequently engages with companies, other government agencies and individuals seeking permit approvals. A statement from informant C1 from GO C highlights this point:

We collect substantial amounts of data from citizens, including data from government agencies and individual applicants. Additionally, we have expanded numerous channels to acquire this data. Previously, we analysed data only when specific information was available; now, we can utilize it in real-time. Our office serves customers (applicants) primarily through online permit applications, accessible through various digital platforms, including the JELITA application. Once an application is submitted, our back office in the service and licensing sector verifies both licensing data and required documents. Upon completion, the licensing services sector conducts a field inspection, which is monitored online for efficiency and transparency

Table 5
Evaluating firms and government institutions processes and performance results from AI-Based CRM solutions

Underlying Processes [6]	Indicator	Advantage from AI-Based CRM	Performance Advantages	Firm A	Firm B	GO C	GO D
Sensing							
Customer need identification	The extent to which organizations recognize the needs of its customer foundation	Better identify thematic areas; Sensing of key needs in real-time situation	Customer contentment; Improved Profitability; Increased goodwill	*	*	*	*
Target market identification	The extend to which an organization can find profitable/successful market segments	Getting more essential information from various sources; Forecasting the customer needs	Improve branding; Increased service user	*	*	*	*
Quality monitoring	How an organization can inspect the quality of product or services	Accumulation of customers perspective; Unactive inefficient features	Operation expenses alleviation; Reduction of risk and liability	*	*		

Seizing							
Process Adaptation	The extent to which an organization can merge input and arrange marketing process	Furnish all information to make decision; know the key area prioritize based on knowledge visualization Proactive resources arrangement	Increased dexterity; Reduction of operating expense	*	*	*	
Resource arrangement	The extent to which an organization dynamically set resources in essential area	Make collaboration with other company/institution	Improve the quality of expenses; Improve the collaboration quality	*	*	*	
Transforming							
New business models	How an organization formulating new gaps of conducting business and gaining more profit as well	Develop new idea IT-based in term of service; Utilize insight in facing customers/users	Innovation, human resource improvement in IT-based, customer satisfaction; Profitability	*	*	*	*

Based on the dynamic capabilities, both firms and government office which have been monitoring their customer proclivity closer, their different needs guiding to the following concepts:

3.2.1 Leveraging AI-based CRM to help B2B marketing activities guiding performance developments through enabled sensing

In all four cases, sensing customer needs, identifying emerging opportunities and recognizing market threats are top priorities. However, these organizations do not solely rely on AI-generated insights as the basis for action. Although considerable efforts are directed toward using AI to identify opportunities and threats, additional information sources are also employed to complement decision-making and leverage evolving situations. There is a clear tendency among firms and government institutions to increasingly rely on data-driven insights for seizing opportunities.

In these cases, AI-generated analyses were applied to adapt specific processes in key marketing areas, encompassing both social and commercial marketing activities. For example, Firm A monitored customer sentiment in real-time using natural language processing (NLP), combining this analysis with prior knowledge to develop a customer-focused marketing strategy. This response was then utilized by firms or government offices to explore alternative approaches and evaluate their effectiveness for CRM. These data-driven approaches are subsequently measured for impact, encouraging further refinement and use. Through a process of continuous improvement, firms and government institutions are able to develop diverse customer profiles and formulate tailored strategies to introduce new products and services to various businesses or citizens. Respondent GO1 from GOD elaborated on this process as follows:

Our primary users are citizens handling personal licensing needs, along with companies seeking assistance in establishing their businesses. Our office provides a wide range of licensing services, including driver's license processing. Every day, we receive user feedback and complaints through our system, which we continuously work on to improve as part of our customer relationship management

efforts. This commitment allows us to deliver the best service to citizens, which is our core responsibility

The statement above aligns with the insights provided by an informant from GO C. Both GO C and GO D are government institutions with the shared objective of meeting citizens' licensing requirements. However, GO D operates within a narrower jurisdiction compared to GO C, resulting in differences between the two areas. Respondent D2 noted the following:

Every day, numerous companies, government institutions and community members apply for permits. In the past, processing a single permit could take up to three months or more. Today, however, the processing time has been significantly reduced to just three days for administrative review and field visits (if required). Afterward, relevant officials review the application and if it meets regulatory requirements, the permit is approved. Additionally, we receive complaints from companies and individuals, which we treat as valuable feedback to enhance our system. Overall, we continuously strive to improve our service quality through various service innovations

Those two statements are in line even with the firm A and B. Thus, based on these discoveries, I formulate the following concept:

3.2.2 Leveraging AI-based CRM to help B2B marketing activities guiding performance developments through enabled seizing

In relation to transformation capabilities, the adoption of AI enables Firms A and B to consistently develop innovative new products. Leveraging insights gained through AI has led to an operational transformation in their capabilities. Although Firms A and B share similar characteristics, they differ significantly from government offices C and D due to their distinct objectives—profit-oriented versus non-profit-oriented. For instance, Firm A integrates customer data from various channels with additional data sources, such as information on political trends, trending news topics and economic and financial conditions. This comprehensive data integration enables Firm A to optimize its product marketing strategies. In this context, informant A2 from Firm A noted the following:

Our company exploits data from customer complaints, their input and comments regarding our products and services which we analyse and connect with information circulating on the internet, especially what is currently trending. The result is that our product promotion becomes more effective and efficient. Costs are also reduced because we don't have to buy data because it can be accessed for free. We just need to train employees to be up to date with things that are trending on social media. For instance, currently the trendy leather jacket model is the one worn by artist X, so we modify it according to consumer requirement. We also provide custom products.

On the other hand, Firm B, which operates in the food industry, is able to analyse data circulating online, both trending and not trending, to catch the defects of their products that have not been identified yet during testing. When defects are found in their products based on the results of the analysis, the technical team operates to identify the source of the problem and adjust the production process. Informant B2 gave the following statement about this activity:

Certainly, before producing goods, we conduct a thorough analysis from various perspectives. However, despite this process, unforeseen issues can still arise. These problems typically relate to

product durability, marketing strategies that have been planned but are not achieving the desired targets and technical challenges, such as insufficient updates to product taste or customer preferences for our products or similar offerings. Fortunately, we are now quicker to detect these issues and hold regular office meetings to address them. We believe that AI-based technology could be highly beneficial, even though we recognize that we have not yet utilized it to its full potential.

From all the description above, leveraging AI-based CRM can generate new opportunities and coalescing data sources to build the customer engagement after passing through the "sensing and seizing" phases. These can facilitate the transformation of customer engagement activities and turn it to configuring. Therefore, I describe the following proposition:

3.2.3 Leveraging AI-based CRM to help B2B marketing activities guiding performance developments through enabled transforming

The final phase in the analysis of the three underlying processes toward strategic innovation in products and services is 'transforming.' Transforming involves the continuous realignment and alignment of both tangible and intangible assets within dynamic organizations. For government offices C and D, an example of an intangible asset is fostering strong collaboration with other government agencies, enabling the exchange of information that supports mutual development and enhances the image of the involved agencies. For firms A and B, restructuring transformation takes the form of partnerships with retailers who agree to accommodate and sell their products under mutually beneficial terms. However, Firm A is still in the process of optimizing its use of AI, as it has not yet fully focused on leveraging AI-based CRM capabilities, as noted by informant A3 from Firm A:

As a senior IT in this company, I notice several things in regard to the use of IT in this digital era. The product and service marketing team always interrelates with the IT department to see how much regular visitor traffic there is and their complaints because on our website, for example, there is a column for inputting suggestions and complaints. Unfortunately, the use of IT in our company is not very massive, until now we are still trying too optimal it. As an IT senior, I feel that there is still a lot of things such needs to be developed regarding the use of AI to improve relationships with customers, especially our customers in the form of shops.

On the other hand, Firm B through Informant B3 stated the opposite:

Our company has already leveraged such AI-based CRM through the dynamic capability approach as you stated. As a staff who in charge in IT, I have to correspond with the marketing department every day to analyse customer needs and complaints. Apart from that, we also attempt to continue to collaborate with other shops to help market our products. We use social media and chatbots to help connect with potential customers, regular customers, even our partners in the form of such shops. Thus, in the end we just have to analyse.

Interestingly, GO C has similar experiences to Firm B, having extensively implemented AI-based CRM in its business processes. GO C utilizes the metaverse, allowing customers—including citizens, other government agencies and private companies—to explore the institution virtually. Additionally, GO C has deployed advanced automated chatbots to handle inquiries from citizens regarding licensing. By leveraging various effective applications, GO C has streamlined its social marketing

efforts, reducing the need for a large workforce to manage relationships with customers (primarily citizens).

As stated by informant C1 from GO C:

We have various applications and we use it properly. We have AI-Based CRM called "Metaverse" which allow users to see our offices' activities through metaverse website, so they do not have to come to office in case they want to see the office activities. Furthermore, if they want to see the office physically, they simply use metaverse system. It allows engagement between users and our institution

This situation is quite different for GO D, which operates in the same sector but in a different region. In terms of transformation, GO D still faces significant challenges. They need to collaborate with other companies to improve their AI-based CRM capabilities. As a licensing institution, GO D requires extensive engagement with various companies. Although they have started implementing AI in their core activities, their system is still far from optimized. GO D may need to adopt pilot systems from GO C, including metaverse websites, advanced analytics and technologies that detect user needs. This assessment is supported by Informant D1 from GO D:

We feel that transforming the leveraging of AI-Based CRM is still lacking. In the near future, we will carry out several collaborations to improve our public services so that relationships with users can be better. Government office in small region like ours still have a lot of things needs to be improved, particularly in terms of applications. For example, in an application there are several menus that do not suitable our institution's needs or there are even menus that we need but are not included in such application.

Thus, from those statement above, I can conclude that Firm B and GO C almost perform AI-Based CRM perfectly. The stages of sensing, seizing and transforming are quite well passed. Meanwhile in Firm B and GO D, the implementation of AI-Based CRM is still inadequate.

3.3 Cross-Case Analysis

While various studies focus on AI-based CRM in B2B digital marketing, as highlighted at the outset of this research, AI-based CRM applications and functions must meet specific foundational parameters to ensure future applicability and effectiveness [18]. My analysis revealed that the use of AI-based CRM in B2B marketing was more extensive in Firm B and GO C than in Firm A and GO D. By examining the specific focus areas and primary duties of each firm and government office, I was able to identify differences in AI-based CRM utilization across these organizations. These disparities can be attributed to the role of data as a core resource, as well as the market type in which each organization operates, whether in central or regional government institutions.

For example, Firms A and B are both private companies but operate in different sectors: Firm A is in the leather craft industry, while Firm B is in the food industry. Firm B has a larger customer base of companies, which necessitates a stronger focus on B2B relationships, whereas Firm A has fewer corporate clients and prioritizes offline sales. Firm A's customers prefer direct interaction with products, which makes offline marketing sufficient to meet their targets, minimizing the need for advanced AI technologies. Consequently, Firm A does not employ technology specialists. In contrast, Firm B views AI as integral to its business strategy, allowing it to stay competitive and maximize customer relationships.

Similarly, my analysis shows that GO C effectively utilizes AI-based CRM. Government institutions like GO C have the primary responsibility of providing public services to citizens, private companies and other government agencies. GO C has successfully optimized its customer satisfaction index and improved social marketing through applications that benefit its stakeholders. This is in stark contrast to GO D, which, as previously discussed, still lacks effective AI utilization. Consequently, the implementation of AI is expected to become a vital component of operations for Firm A and other companies in similar sectors.

In addition, both Firm B and GO C identified security and privacy concerns as critical issues for their key customers. Many customers or users are reluctant to share personal data openly, opting for anonymous accounts due to privacy concerns. This hesitation is largely due to a perceived lack of clear accountability from both firms and government offices. Based on these insights, we developed the following concept. As Respondent C2 from GO C noted:

For certain customers, we usually do not utilize AI-based CRM, especially customers (companies) who want to administer their business permits. We provide dedicated human agents to handle their problems since companies prefer to consult directly with humans. They use AI for small things such as problems with uploading licensing documents or other technical problems. It's different for our customers (citizens), they usually tend to reveal their identity directly without hiding it, so it's easy for us to identify the profile of the customer who is complaining and find the most appropriate solution.

This research suggests that AI brings several uniquely important facets that heighten the significance of security issues related to data artifacts. The effectiveness of AI and its value creation relies on access to large volumes of data at an appropriate level of detail. This dependency creates specific requirements for data richness, especially in inter-organizational contexts such as B2B marketing [6].

While AI solutions have become integral to B2B marketing operations, further research is needed to understand the conditions under which AI truly adds value and how this value is realized. The aim of this study is to empirically investigate the use of AI-based CRM by constructing a theoretical framework grounded in the Dynamic Capability Approach and conducting an in-depth analysis of two firms and two government offices that employ this technology to support their operations. This approach draws on insights from key informants who provided valuable perspectives on the role of AI in enhancing office activities, particularly in managing customer relationships [24].

3.3.1 Theoretical implications

Aligned with the theoretical framework established above, my research on AI utilization in B2B marketing operations generated two main theoretical contributions. First, I found that AI-based CRM can enhance business value and improve public services holistically. The impact of AI is evident through the dynamic capability processes observed in both firms and government offices. These processes demonstrate that the value of AI unfolds through a series of stages. Consequently, firms and government offices that invest in developing AI capabilities for B2B marketing can achieve improved organizational performance, as reflected in higher profit margins, increased customer satisfaction, openness to feedback from the public and enhanced collaboration with other companies or institutions. The findings further contribute to existing research exploring how AI can drive greater business value. Moreover, my study shows that AI-based CRM can positively affect public perception of companies and government institutions and enhance organizational responsiveness in problem-solving. This capability is crucial for maintaining competitiveness in a rapidly changing business

environment. Additionally, the research highlights that AI-based CRM can address specific challenges related to accuracy, timeliness and information complexity.

Secondly, I leveraged emerging literature on the micro-foundations of dynamic capabilities to examine the structures and distinctions in AI-based CRM usage. I analysed how two firms and two government offices gained competitive advantages in marketing by differentiating across three levels of analysis: corporate, business and individual. The analysis revealed a set of underlying factors at each level, with a shared emphasis on delivering high-quality, easily accessible services. Through this research, I propose a new model that expands the previously established conceptual framework. I conclude that, while there are common elements essential to generating business value, the manner in which companies choose to address these elements is pivotal.

Furthermore, my findings offer implications for B2B marketing, particularly regarding the collection of comprehensive customer data. In today's environment, both companies and public organizations increasingly rely on AI to support operations, service delivery and decision-making. Effective AI usage should improve B2B marketing and enhance customer engagement. Across the four case studies, the AI utilization patterns of private companies and government institutions were generally similar. Contrary to the assumption that AI usage in the government sector is inadequate, my findings indicate that GO C demonstrates highly effective AI integration. However, further quantitative research with a larger sample of firms and government institutions is recommended to validate these results.

I also emphasize that the common assumptions in dynamic capability and AI literature may not always apply to B2B marketing. For example, AI functions may be suboptimal when there is insufficient customer or citizen data, leading to overly generalized conclusions. Conversely, AI-based CRM may provide benefits beyond those identified in this study. Issues such as transparency and user education in the development of AI applications for key B2B clients could impact AI's effectiveness. Additionally, despite AI-based CRM adoption, the role of human resources within each organizational unit remains essential, highlighting the importance of human involvement in meeting client or citizen needs. My findings also open a discussion on AI governance to foster public trust and on identifying the appropriate level of analysis for AI governance. In B2B marketing contexts, both social and commercial, where AI usage is prevalent, the study underscores the need to assess structures, procedures and relational mechanisms from the foundational level. These insights call for further research into the components of AI governance and their implementation, as the current research in this area remains limited.

3.3.2 Practical implications

My research provides valuable insights into how AI-based CRM can be utilized by both the private and public sectors due to its substantial impact. Based on the findings, I offer practical recommendations aimed at guiding private companies and government institutions to enhance technology-based applications and foster better governance. For example, I found that all organizations in the study adopt a top-down approach in implementing AI-based corporate operations and government initiatives. However, the research shows that organizations whose core operations are not technology-driven tend to exclude AI-based CRM from their systems, particularly in building customer relationships. Therefore, it is crucial to explore B2B marketing strategies that position AI as a central component.

My research also sheds light on how organizations that are already utilizing AI-based CRM can continue to maximize its potential in B2B marketing. Many existing studies focus on AI as an isolated application without considering its contextual relevance [6]. This study provides guidance on how AI-

based CRM can be effectively integrated within dynamically uncertain organizational environments. I examined this through four case studies, though one organization had not yet prioritized or optimized its AI implementation. Additionally, I propose that organizations, particularly those whose business activities or services are client-oriented, prioritize AI-based CRM in their strategic planning.

4. Conclusions

In this paper, I have developed a micro-foundational theory that optimizes AI deployment through the dynamic capabilities process of sensing, seizing and transforming and analysed how this process impacts B2B marketing activities. I also identified the factors that influence the value of dynamic capabilities for firms and government offices using AI-based CRM to serve corporations, businesses and individuals. This study reveals the contextual nature of AI-based CRM usage in both public and private sector organizations, where the value of implemented solutions depends on various internal and external factors. Based on dynamic capabilities, both firms and government offices closely monitor customer preferences. The differing needs of these organizations inform several concepts by way of leveraging AI-based CRM to:

i. Enhance B2B marketing operations by enabling performance improvements through sensing
ii. Support B2B marketing operations with performance enhancements through seizing
iii. Drive B2B marketing operations with performance improvements through transformation.

This research provides a foundation for future studies, offering insights into how AI-based CRM can effectively support dynamic capabilities in B2B contexts.

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References

[1] Martínez-López, Francisco J. and Jorge Casillas. "Artificial intelligence-based systems applied in industrial marketing: An historical overview, current and future insights." *Industrial Marketing Management* 42, no. 4 (2013): 489-495. https://doi.org/10.1016/j.indmarman.2013.03.001
[2] Benbasat, Izak, David K. Goldstein and Melissa Mead. "The case research strategy in studies of information systems." *MIS quarterly* (1987): 369-386. https://doi.org/10.2307/248684
[3] Bruni, Daniele Severi and Gianmario Verona. "Dynamic marketing capabilities in Science-based firms: An exploratory investigation of the pharmaceutical industry." *British Journal of management* 20 (2009): S101-S117. https://doi.org/10.1111/j.1467-8551.2008.00615.x
[4] Zhang, Chubing, Xinchun Wang, Annie Peng Cui and Shenghao Han. "Linking big data analytical intelligence to customer relationship management performance." *Industrial Marketing Management* 91 (2020): 483-494. https://doi.org/10.1016/j.indmarman.2020.10.012
[5] Castelo-Branco, Isabel, Frederico Cruz-Jesus and Tiago Oliveira. "Assessing Industry 4.0 readiness in manufacturing: Evidence for the European Union." *Computers in Industry* 107 (2019): 22-32. https://doi.org/10.1016/j.compind.2019.01.007
[6] Collins, Christopher, Denis Dennehy, Kieran Conboy and Patrick Mikalef. "Artificial intelligence in information systems research: A systematic literature review and research agenda." *International Journal of Information Management* 60 (2021): 102383. https://doi.org/10.1016/j.ijinfomgt.2021.102383
[7] Conboy, Kieran, Patrick Mikalef, Denis Dennehy and John Krogstie. "Using business analytics to enhance dynamic capabilities in operations research: A case analysis and research agenda." *European Journal of Operational Research* 281, no. 3 (2020): 656-672. https://doi.org/10.1016/j.ejor.2019.06.051
[8] Smith, Davila Reymundo, Neira Callao Kevin Armando and Barrientos Padilla Alfredo. "IT Services Weighting System for Medium-Sized Retail Sector Companies in Peru." *Journal of Advanced Research in Computing and Applications* 27, no. 1 (2022): 1-12.

[9] Duan, Yanqing, John S. Edwards and Yogesh K. Dwivedi. "Artificial intelligence for decision making in the era of Big Data–evolution, challenges and research agenda." *International journal of information management* 48 (2019): 63-71. https://doi.org/10.1016/j.ijinfomgt.2019.01.021

[10] Dwivedi, Yogesh K., Elvira Ismagilova, D. Laurie Hughes, Jamie Carlson, Raffaele Filieri, Jenna Jacobson, Varsha Jain *et al.,* "Setting the future of digital and social media marketing research: Perspectives and research propositions." *International journal of information management* 59 (2021): 102168. https://doi.org/10.1016/j.ijinfomgt.2020.102168

[11] Fang, Eric and Shaoming Zou. "Antecedents and consequences of marketing dynamic capabilities in international joint ventures." *Journal of International Business Studies* 40, no. 5 (2009): 742-761. https://doi.org/10.1057/jibs.2008.96

[12] Farrokhi, Aydin, Farid Shirazi, Nick Hajli and Mina Tajvidi. "Using artificial intelligence to detect crisis related to events: Decision making in B2B by artificial intelligence." *Industrial marketing management* 91 (2020): 257-273. https://doi.org/10.1016/j.indmarman.2020.09.015

[13] Grover, Purva, Arpan Kumar Kar and Yogesh K. Dwivedi. "Understanding artificial intelligence adoption in operations management: insights from the review of academic literature and social media discussions." *Annals of Operations Research* 308, no. 1 (2022): 177-213. https://doi.org/10.1007/s10479-020-03683-9

[14] Kim, Hyung-Su and Young-Gul Kim. "A CRM performance measurement framework: Its development process and application." *Industrial marketing management* 38, no. 4 (2009): 477-489. https://doi.org/10.1016/j.indmarman.2008.04.008

[15] Hashim, Mohd Ekram Alhafis, Nur Safinas Albakry, Wan Azani Mustafa, Banung Grahita, Miharaini Md Ghani, Hafizul Fahri Hanafi, Suraya Md Nasir and Catherina ana Ugap. "Understanding the impact of animation technology in virtual reality: A systematic literature review." *International Journal of Computational Thinking and Data Science* 1 (2024): 53-65. https://doi.org/10.37934/CTDS.1.1.5365

[16] Saura, José Ramón, Pedro Palos-Sanchez and Alicia Blanco-González. "The importance of information service offerings of collaborative CRMs on decision-making in B2B marketing." *Journal of Business & Industrial Marketing* 35, no. 3 (2020): 470-482. https://doi.org/10.1108/JBIM-12-2018-0412

[17] Thirusanku, Janemary and Lo Poh Ai. "Technology Innovation in Event Management." *Journal of Advanced Research in Technology and Innovation Management* 10, no. 1 (2024): 1-13.

[18] Saura, Jose Ramon, Domingo Ribeiro-Soriano and Daniel Palacios-Marqués. "Setting B2B digital marketing in artificial intelligence-based CRMs: A review and directions for future research." *Industrial Marketing Management* 98 (2021): 161-178. https://doi.org/10.1016/j.indmarman.2021.08.006

[19] Chirumalla, Koteshwar. "Building digitally-enabled process innovation in the process industries: A dynamic capabilities approach." *Technovation* 105 (2021): 102256. https://doi.org/10.1016/j.technovation.2021.102256

[20] Kouropalatis, Yiannis, Alessandro Giudici and Oguz A. Acar. "Business capabilities for industrial firms: A bibliometric analysis of research diffusion and impact within and beyond Industrial Marketing Management." *Industrial Marketing Management* 83 (2019): 8-20. https://doi.org/10.1016/j.indmarman.2018.11.012

[21] Lilien, Gary L. "The B2B knowledge gap." *International journal of research in marketing* 33, no. 3 (2016): 543-556. https://doi.org/10.1016/j.ijresmar.2016.01.003

[22] Lun, Low Han, Adam Daniel Effendi, Dzeti Farhah Mohshim, Nabilla Afzan Abdul Aziz, Noreen Izza Arshad and Mitra Mohd Addi. "Readiness and Effectiveness of Synchronous Online Teaching and Learning in Higher Education during COVID-19 Pandemic." *Journal of Advanced Research in Computing and Applications* 20, no. 1 (2020): 1-11.

[23] Malthouse, Edward C., Michael Haenlein, Bernd Skiera, Egbert Wege and Michael Zhang. "Managing customer relationships in the social media era: Introducing the social CRM house." *Journal of interactive marketing* 27, no. 4 (2013): 270-280. https://doi.org/10.1016/j.intmar.2013.09.008

[24] Mauludin, Mochamad Subchan, Moh Khairudin, Rustam Asnawi, Wan Azani Mustafa and S. F. Toha. "The Advancement of Artificial Intelligence's Application in Hybrid Solar and Wind Power Plant Optimization: A Study of the Literature." *Journal of Advanced Research in Applied Sciences and Engineering Technology* 50, no. 2 (2025): 279-293. https://doi.org/10.37934/araset.50.2.279293

[25] Ghani, Miharaini Md, Wan Azani Wan Mustafa, Mohd Ekram Alhafis Hashim, Hafizul Fahri Hanafi and Durratul Laquesha Shaiful Bakhtiar. "Impact of generative AI on communication patterns in social media." *Journal of Advanced Research in Computing and Applications* 26, no. 1 (2022): 22-34.

[26] Mikalef, Patrick, Ilias O. Pappas, John Krogstie and Michail Giannakos. "Big data analytics capabilities: a systematic literature review and research agenda." *Information systems and e-business management* 16 (2018): 547-578. https://doi.org/10.1007/s10257-017-0362-y

[27] Rahman, Muhammad Sabbir, Surajit Bag, Shivam Gupta and Uthayasankar Sivarajah. "Technology readiness of B2B firms and AI-based customer relationship management capability for enhancing social sustainability performance." *Journal of Business Research* 156 (2023): 113525. https://doi.org/10.1016/j.jbusres.2022.113525

[28] O'Connor, Cliodhna and Helene Joffe. "Intercoder reliability in qualitative research: debates and practical guidelines." *International journal of qualitative methods* 19 (2020): 1609406919899220. https://doi.org/10.1177/1609406919899220
[29] Budhwar, Pawan, Ashish Malik, MT Thedushika De Silva and Praveena Thevisuthan. "Artificial intelligence–challenges and opportunities for international HRM: a review and research agenda." *The InTernaTIonal Journal of human resource managemenT* 33, no. 6 (2022): 1065-1097. https://doi.org/10.1080/09585192.2022.2035161
[30] Pearson andrew. "Personalisation the artificial intelligence way." *Journal of Digital & Social Media Marketing* 7, no. 3 (2019): 245-269. https://doi.org/10.69554/JJGR7331
[31] Raisch, Sebastian and Sebastian Krakowski. "Artificial intelligence and management: The automation–augmentation paradox." *Academy of management review* 46, no. 1 (2021): 192-210. https://doi.org/10.5465/amr.2018.0072
[32] Ransbotham, Sam, Philipp Gerbert, Martin Reeves, David Kiron and Michael Spira. "Artificial intelligence in business gets real." *MIT sloan management review* (2018).
[33] Ransbotham, Sam, David Kiron, Philipp Gerbert and Martin Reeves. "Reshaping business with artificial intelligence: Closing the gap between ambition and action." *MIT sloan management review* 59, no. 1 (2017).
[34] Pan, Shan L. and Barney Tan. "Demystifying case research: A structured–pragmatic–situational (SPS) approach to conducting case studies." *Information and organization* 21, no. 3 (2011): 161-176. https://doi.org/10.1016/j.infoandorg.2011.07.001
[35] Schilke, Oliver. "On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism." *Strategic management journal* 35, no. 2 (2014): 179-203. https://doi.org/10.1002/smj.2099
[36] Chatterjee, Sheshadri, Nripendra P. Rana, Kuttimani Tamilmani and Anuj Sharma. "The effect of AI-based CRM on organization performance and competitive advantage: An empirical analysis in the B2B context." *Industrial Marketing Management* 97 (2021): 205-219. https://doi.org/10.1016/j.indmarman.2021.07.013
[37] Teece, David J. *Dynamic capabilities and strategic management: Organizing for innovation and growth*. Oxford University Press, 2009.
[38] Yin, Robert K. *Case study research: Design and methods*. Vol. 5. Sage, 2009.
[39] Yin, Robert K. *Case study research and applications: Design and methods*. Sage publications, 2017.
[40] Jarrahi, Mohammad Hossein, Christoph Lutz, and Gemma Newlands. "Artificial intelligence, human intelligence and hybrid intelligence based on mutual augmentation." *Big Data & Society* 9, no. 2 (2022): 20539517221142824. https://doi.org/10.1177/20539517221142824
[41] Chowdhury, Soumyadeb, Prasanta Dey, Sian Joel-Edgar, Sudeshna Bhattacharya, Oscar Rodriguez-Espindola, Amelie Abadie, and Linh Truong. "Unlocking the value of artificial intelligence in human resource management through AI capability framework." *Human resource management review* 33, no. 1 (2023): 100899. https://doi.org/10.1016/j.hrmr.2022.100899
[42] Huberman, A. "Qualitative data analysis a methods sourcebook." (2019).