



The impact of artificial intelligence (AI) and customer relationship management (CRM) on integrated marketing communications (IMC)

Vera Butkouskaya^{a,b,*}

^a Business Department, Autonomous University of Barcelona, Spain

^b Graduate School of Business, HSE University, Moscow, Russia

ARTICLE INFO

Keywords:

Artificial intelligence (AI)
Customer relationship management (CRM)
Integrated marketing communications (IMC)
Structural equation modelling (SEM)
AI in business strategy
Emerging market

ABSTRACT

Implementing Artificial Intelligence (AI) in marketing management is a contemporary research topic that requires empirical investigation. This article examines how AI and Customer Relationship Management (CRM) jointly shape Integrated Marketing Communications (IMC) in a rapidly digitalising emerging-market context. Data from 384 surveys of marketing managers were analysed using partial least squares structural equation modelling (PLS-SEM) to test the theoretical model. The results confirm that AI significantly enhances CRM, which in turn positively influences IMC. However, AI does not directly affect IMC; rather, its impact is fully mediated through CRM. These findings clarify a capability sequencing logic whereby AI functions as an upstream analytical capability, while CRM routines provide the organisational mechanism through which AI-enabled insights are embedded and translated into coherent, cross-channel communication. The study contributes to research in marketing management, data-driven communication, and generative AI by demonstrating the central role of CRM in enabling AI-driven improvements in IMC. The findings also offer valuable insights for marketing managers and policymakers, emphasising that AI adoption should be complemented by CRM capability development and robust customer-data governance to achieve meaningful communication outcomes.

1. Introduction

Recent advancements in Artificial Intelligence (AI), including the rapid diffusion of generative AI (GenAI), are reshaping contemporary marketing practice and altering how firms design and deliver communications (Dwivedi et al., 2023; Kshetri et al., 2023). AI technologies—such as predictive analytics, conversational agents, and automated content-generation systems—now constitute core elements of digital business strategies, enabling firms to scale personalization, enhance customer engagement, and automate decision processes. These developments align with broader technological forecasting trends that highlight AI's growing influence on organisational behaviour and market interactions (Borges et al., 2021; Wirtz et al., 2023). Within this context, AI is increasingly positioned as a transformative force for customer-centric communication processes, including Integrated Marketing Communications (IMC), which rely on message consistency, data integration, and cross-channel coordination (Kliatchko, 2005; Kumar and Reinartz, 2016). While prior research has examined technological and innovation-related antecedents of IMC (Butkouskaya et al., 2021; Pisicchio and Toaldo, 2021), the implications of AI for IMC remain

insufficiently theorised and empirically validated.

To provide a coherent theoretical lens for these relationships, this study draws on the dynamic capabilities view (Teece et al., 1997; Teece, 2007). From this perspective, AI can be interpreted as an upstream analytical capability that enhances the generation of customer insights, whereas IMC is an organisational coordination capability that requires cross-functional alignment, data integration, and consistent execution across channels. CRM practices represent the routines through which firms store, interpret, and operationalise customer data across touchpoints, thereby enabling the deployment of AI-enabled insights into coordinated communications. This capability sequencing logic implies that AI is unlikely to translate into integrated communications unless it is embedded in CRM routines that support organisational integration.

Dynamic capabilities view provides an appropriate theoretical foundation for this study when assessed against the IMPACT criteria for theory selection (i.e., interestingness, matching, parsimony, applicability, conceptual rigor, and testability; Hollebeek et al., 2025). The lens is interesting in its challenge to the common technology adoption assumption that artificial intelligence should directly improve integrated marketing communications, as dynamic capabilities view

* Corresponding author at: Graduate School of Business, HSE University, Moscow, Russia.

E-mail address: Vera.Butkouskaya@uab.cat.

<https://doi.org/10.1016/j.techfore.2026.124850>

Received 11 January 2025; Received in revised form 3 June 2026; Accepted 12 August 2026

Available online 18 August 2026

0040-1625/© 2026 The Author. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

explains how analytical capability creates communication value through organisational routines that sense, seize, and reconfigure customer knowledge for market action (Teece, 2007). Matching is evident in the correspondence between each construct and the lens. Artificial intelligence reflects an upstream sensing and analytical capability. Customer relationship management represents the routine that stores, interprets, and activates customer knowledge. Integrated marketing communications represents the coordinated market-facing outcome. Parsimony is achieved through one capability-sequencing logic from artificial intelligence to customer relationship management to integrated marketing communications. Applicability is evident in the Russian emerging-market setting, given rapid digital adoption and uneven organisational readiness. Conceptual rigor is strengthened by treating the three constructs as distinct capability elements rather than interchangeable technologies. Testability is built into the mediation model, which directly examines whether customer relationship management carries the effect of artificial intelligence on integrated marketing communications.

Despite AI's expanding role in marketing, empirical research examining how AI influences IMC remains fragmented and limited (Mariani et al., 2022). Existing studies demonstrate that AI can shape customer experience quality and communication effectiveness through personalised interactions, automated messaging, and real-time content adaptation (Huang and Rust, 2021). Research on AI-enabled services further shows that AI-driven interfaces significantly affect users' perceptions, engagement, and acceptance of communication technologies (Kautish and Khare, 2022; Shah et al., 2023). These findings suggest that AI may influence IMC outcomes, yet integrating AI into IMC also creates organisational challenges related to data quality, message coordination, and cross-channel alignment (Zahay et al., 2009; Kliatchko, 2005; Zahay et al., 2009). However, the direct role of AI in shaping IMC—beyond general digital transformation narratives—remains theoretically underdeveloped, partly because it is often implicitly assumed that stronger analytics automatically yield communication integration. This overlooks a central tension: IMC is fundamentally an organisational coordination problem, whereas AI is a tool whose outputs may remain fragmented unless embedded in routines that align decisions and execution across channels. This constitutes the first major gap addressed in this study.

Parallel to these developments, the data-driven marketing literature underscores the centrality of Customer Relationship Management (CRM) as the primary organisational mechanism for storing, analysing, and operationalising customer data (Gupta et al., 2021; Peltier et al., 2003). CRM systems consolidate interactions across channels, enabling firms to personalise communications, coordinate messaging, and strengthen IMC execution (Lamrhari et al., 2022). Yet, although CRM is widely recognised as a foundation for integrated communications, relatively little is known about its interaction with AI in shaping IMC outcomes—specifically, whether CRM constitutes the organisational mechanism through which AI-enabled insights are translated into coordinated communications—a second critical gap in existing research.

Emerging research further suggests that AI increasingly enhances CRM processes by automating data analysis, improving customer profiling, and supporting personalised interactions (Chatterjee et al., 2021). In many studies, however, AI is conceptualised merely as a subcomponent of CRM—an operational tool embedded within existing systems. This narrow conceptualisation overlooks AI's broader role as an independent technological capability that spans content creation, predictive modelling, and customer interaction design. Recognising AI as a distinct construct raises important unanswered questions regarding its direct versus CRM-mediated influence on IMC. Clarifying this relationship constitutes the third gap motivating this study, particularly regarding whether AI influences IMC primarily through CRM routines rather than via a direct effect.

Against this background, examining how CRM practices shape IMC effectiveness—particularly when organisations adopt AI—is essential

for understanding technology-enabled communication strategies and their broader implications for organisations and markets (Chatterjee et al., 2021). CRM's role as the central repository of customer insights suggests that it may represent a key mechanism through which AI influences communication integration (Abdullateef et al., 2010). Moreover, despite the rapid diffusion of AI technologies in emerging economies, empirical research from such contexts remains scarce, limiting understanding of how organisational readiness and institutional conditions shape AI–CRM–IMC dynamics (Markova et al., 2021). The gap addressed in this study is therefore not simply that AI and IMC have received limited joint attention. The sharper problem is that prior work often treats AI as a direct driver of communication effectiveness, whereas IMC requires organisational coordination rather than analytics alone. This creates a theoretical tension between technological potential and organisational deployment. Drawing on Lim's (2026) guidance on theoretical gap problematisation, novelty, and interestingness, this study positions its theoretical novelty as an extension of dynamic capabilities view to an AI-enabled communication setting and as a specification of CRM as the organisational routine that explains full mediation. The theoretical interestingness lies in a counterintuitive boundary condition: AI improves IMC only when CRM converts AI-generated insights into coordinated customer knowledge, channel decisions, and message execution. Thus, the contribution is not the claim that AI supports marketing or that CRM supports IMC, but the mechanism-based explanation that AI remains analytically powerful but communication weak unless CRM provides the organisational routine through which integration is enacted. To address these interconnected gaps, this study investigates the relationships among AI, CRM, and IMC by answering three research questions: (1) Does AI directly influence IMC? (2) How does CRM affect IMC effectiveness? (3) Does CRM mediate the relationship between AI and IMC? Using survey data from 384 marketing managers collected in March 2024, the study employs Partial Least Squares Structural Equation Modelling (PLS-SEM) to evaluate these relationships.

This study offers four main contributions. First, it provides empirical evidence on the relationship between AI and IMC, addressing the limited understanding of AI's role in integrated communication strategies and offering a mechanism-based explanation of how such effects materialise. Second, it advances CRM theory by demonstrating CRM's pivotal role in enhancing IMC and by empirically testing CRM as a mediator between AI and IMC, thereby specifying CRM routines as the organisational mechanism that enables AI-enabled insights to translate into integrated communications. Third, it conceptualises AI as an independent marketing capability rather than a subsidiary element of CRM, clarifying its distinct functional pathways as an upstream analytical capability. Finally, by examining an emerging-market context characterised by rapid digital transformation, the study enriches the geographical and organisational diversity of research on AI-enabled communication systems.

The article begins with a literature review, followed by an explanation of the data collection and analysis process. The discussion section elaborates on the study's findings, while the conclusion highlights its primary contributions and outlines avenues for future research that reflect the ongoing evolution of technology in society.

2. Literature review

2.1. Integrated marketing communications

Integrated Marketing Communications (IMC) emphasises the coordinated use of communication tools and the delivery of consistent messages across channels to create a unified brand experience (Kitchen et al., 2004). Beyond its traditional focus on promotional integration, IMC increasingly encompasses data-driven activities that allow firms to align content, timing, and communication flows across multiple touchpoints (Butkouskaya et al., 2021). In the broader literature, IMC is

conceptualised along a continuum: from narrow interpretations centred on message and tool integration to broader strategic views that frame IMC as a cross-functional organisational process (Butkouskaya et al., 2020; Tafesse and Kitchen, 2017).

From a managerial perspective, IMC effectiveness depends on the organisation's ability to collect, consolidate, and utilise customer information to personalise communication and coordinate decision-making across channels (Peltier et al., 2003; Zahay et al., 2009). This positioning emphasises IMC as a stakeholder-centric framework designed to unify content, orchestrate media touchpoints, and leverage customer insights for measurable outcomes (Butkouskaya et al., 2021). Key components of IMC include message and channel consistency, strategic use of customer data, and a relational orientation toward audiences.

In contemporary digital environments, IMC increasingly relies on technological systems that facilitate data integration, personalisation, and cross-channel coordination (Peltier et al., 2003; Zahay et al., 2009). Technologies such as Customer Relationship Management (CRM) systems and Artificial Intelligence (AI) applications provide the informational and analytical capabilities necessary to support integrated communication processes (Abdullateef et al., 2010; Lamrhari et al., 2022; Huang and Rust, 2021). Thus, to understand how IMC operates in data-driven contexts, it is essential to examine the technological foundations—particularly CRM and AI—that may strengthen an organisation's capacity to deliver coherent and effective communication strategies (Bock et al., 2020).

To theorise these technology-enabled integration mechanisms, we draw on the dynamic capabilities view, which explains how firms convert analytical resources into coordinated market actions through complementary organisational routines (Teece et al., 1997; Teece, 2007). In this study, IMC is conceptualised as a coordination capability that requires orchestration across channels and functions, while CRM represents the routines and processes that embed customer insights into organisational decision-making and communication execution. AI, in turn, strengthens the firm's analytical capacity to generate and update customer insights, but its contribution to IMC depends on whether such insights are effectively deployed through CRM routines.

2.2. Customer relationship management

Customer Relationship Management (CRM) is a central concept in contemporary data-driven marketing, reflecting an organisation's ability to integrate people, processes, and technology to build and maintain profitable customer relationships (Abdullateef et al., 2010; Sin et al., 2005). CRM has evolved significantly over time, shifting from transactional views toward holistic, relationship-oriented strategies that prioritise customer knowledge, long-term engagement, and personalised value creation (Guerola-Navarro et al., 2022; Sin et al., 2005). From this perspective, CRM represents not only a technology but also an organisational philosophy that facilitates deeper customer understanding and more responsive communication practices (Chatterjee et al., 2021). From a dynamic capabilities perspective, CRM can be viewed as a set of organisational routines that integrate customer information across functions and translate insights into coordinated marketing actions.

CRM systems function as repositories of customer information that consolidate behavioural, transactional, and interaction data across channels. This data integration enables firms to personalise communications, tailor product and service offerings, and develop targeted marketing strategies (Abdullateef et al., 2010; Guerola-Navarro et al., 2022). For example, companies commonly use CRM insights to design loyalty programmes, generate personalised recommendations, or orchestrate follow-up communications that reflect customers' past interactions. As a result, CRM capabilities enhance firms' ability to create communications that are not only more relevant but also more consistent across the customer journey.

The literature recognises a strong theoretical linkage between CRM

and IMC. CRM supports IMC by providing the informational infrastructure necessary for message consistency, customer segmentation, and coordinated channel management (Peltier et al., 2003; Šerić et al., 2014; Zulfikar et al., 2022). When CRM systems synthesise customer data effectively, organisations are better positioned to align communication strategies with customer needs, maintain unified content across media, and reinforce long-term relationships through targeted messaging. Thus, CRM contributes directly to the core dimensions of IMC—message and channel consistency, data utilisation, and client relationship focus.

Given CRM's central role in integrating customer information and enabling personalised, coherent communication strategies, prior literature suggests that stronger CRM capabilities should enhance the effectiveness of IMC. Accordingly, we propose:

H1. CRM positively influences IMC.

2.3. AI in data-driven marketing

Artificial Intelligence (AI) encompasses computational systems capable of performing tasks traditionally requiring human intelligence, including analytical reasoning, pattern recognition, and adaptive decision-making (Huang and Rust, 2018, 2021). In marketing contexts, AI is increasingly deployed as an autonomous or semi-autonomous agent that processes customer, competitor, and firm data to support or execute marketing actions (Overgoor et al., 2019). AI applications enable firms to automate analytical workflows, personalise customer interactions, and optimise communication strategies, thus playing a central role in data-driven marketing environments (Kopalle et al., 2022).

AI capabilities in marketing commonly span three functional domains: (1) content creation, where generative AI tools produce text, images, and other creative assets (Chintalapati and Pandey, 2022); (2) customer experience enhancement, such as personalised recommendations, conversational agents, and virtual assistants; and (3) predictive analytics, enabling firms to forecast demand, identify behavioural patterns, or optimise advertising performance (Huang and Rust, 2022). Recent empirical studies show that AI-enabled services influence how customers perceive and interact with digital interfaces, shaping user experience quality and communication effectiveness (Kautish and Khare, 2022; Shah et al., 2023). These findings suggest that AI has the potential to influence multiple marketing processes, including customer relationship management and integrated communication.

From an organisational perspective, AI is increasingly recognised as a technology that strengthens CRM capabilities. AI enhances CRM by automating data analysis, enriching customer profiles, predicting behavioural patterns, and enabling personalised service interactions (Chatterjee et al., 2021). In this sense, AI functions as a technological complement that expands the analytical and operational scope of CRM. For example, AI-driven segmentation tools can identify micro-segments that CRM systems alone may not detect, while AI-powered chatbots personalise customer service interactions by leveraging CRM data in real time. Therefore, stronger AI capabilities are expected to positively influence CRM performance.

H2. AI positively influences CRM.

Beyond its impact on CRM, AI has the potential to contribute directly to IMC effectiveness. AI can support IMC by generating personalised content, improving targeting accuracy, coordinating real-time communication flows, and offering insights that inform cross-channel message optimisation (Huang and Rust, 2021; Bock et al., 2020). Studies demonstrate that AI-provided recommendations and automated communication interfaces enhance message relevance and customer engagement (Khoja, 2021; Mariani et al., 2022). However, the extent to which AI directly enhances IMC may depend on how effectively organisations integrate AI outputs into coordinated communication strategies. Although AI strengthens analytical and creative capacities, IMC

requires strategic coherence, unified brand messaging, and cross-functional alignment—organisational conditions that AI alone does not guarantee. Consistent with the dynamic capabilities view, this implies that any direct contribution of AI to IMC is contingent on complementary routines that embed AI outputs into organisational coordination.

H3. AI positively influences IMC.

The relationship between AI and IMC may, however, be more indirect than direct. Prior studies show that CRM systems consolidate and operationalise customer insights for communication purposes, serving as a central mechanism through which organisations coordinate message delivery across channels (Lamrhari et al., 2022; Peltier et al., 2003). AI technologies further enhance CRM functions by automating data analysis, improving customer profiling, and enabling predictive modelling of customer behaviour (Chatterjee et al., 2021). Since IMC performance depends on the quality and integration of customer data used to generate consistent and targeted communication (Zahay et al., 2009; Šerić et al., 2014), CRM provides the informational infrastructure through which AI-generated insights can be translated into coherent IMC actions. This sequential logic—AI strengthening CRM, and CRM enabling IMC—suggests that CRM may mediate the influence of AI on IMC. In DCV terms, this reflects capability sequencing: an upstream analytical capability (AI) enhances an integrative routine capability (CRM), which then enables the coordinated execution required for IMC (Teece et al., 1997; Teece, 2007). Thus, we propose as follows:

H4. CRM mediates the relationship between AI and IMC.

Fig. 1 presents a Theoretical Model of this study.

3. Methodology

3.1. Research design

This study employs a quantitative methodology (Creswell and Creswell, 2017) to investigate the impact of Artificial Intelligence (AI) and Customer Relationship Management (CRM) on Integrated Marketing Communications (IMC). A non-experimental, cross-sectional research design was used, and data were collected through an online survey. The measurement scales were adapted from prior validated

studies (Abdullateef et al., 2010; Butkouskaya et al., 2021; Chintalapati and Pandey, 2022; Huang and Rust, 2021; Huang and Rust, 2022) to reflect the context of AI-enabled marketing practices in an emerging market.

Because several items were adapted, an exploratory factor analysis (EFA) was first conducted to assess dimensionality and ensure the absence of cross-loadings or conceptual overlap among indicators (Hair et al., 2019). The EFA results confirmed a clear and theoretically consistent factor structure, allowing to proceed with the PLS-SEM measurement model assessment. After evaluating the measurement model, the structural model was estimated using Partial Least Squares Structural Equation Modelling (PLS-SEM) with 5000 bootstrap sub-samples to test the hypothesized relationships (Hair et al., 2019, 2022).

3.2. Measurement

The constructs used in this study were measured using established scales adapted to the context of AI-enabled marketing practices in emerging markets, reflecting AI as an upstream capability, CRM as an operationalisation routine, and IMC as a coordination outcome. Integrated Marketing Communications (IMC) was operationalised through three dimensions, including message and channel consistency, data utilisation, and client relationship focus, following Butkouskaya et al. (2021). Customer Relationship Management (CRM) was measured with items capturing technology-based CRM practices, customer-centric processes, and personalised customer interactions (Abdullateef et al., 2010). Artificial Intelligence (AI) in marketing was assessed using items reflecting key AI-enabled capabilities, including content creation, customer experience enhancement, and predictive analytics, based on recent studies of AI-enabled marketing technologies (Chintalapati and Pandey, 2022; Huang and Rust, 2021; Huang and Rust, 2022). All items were measured using a 5-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The complete list of items for each construct is provided in Appendix A.

3.3. Data collection

This research surveyed marketing managers from various economic sectors (Winton and Sabol, 2021). Data were collected in March 2024 within the emerging Russian market, a setting characterised by rapid

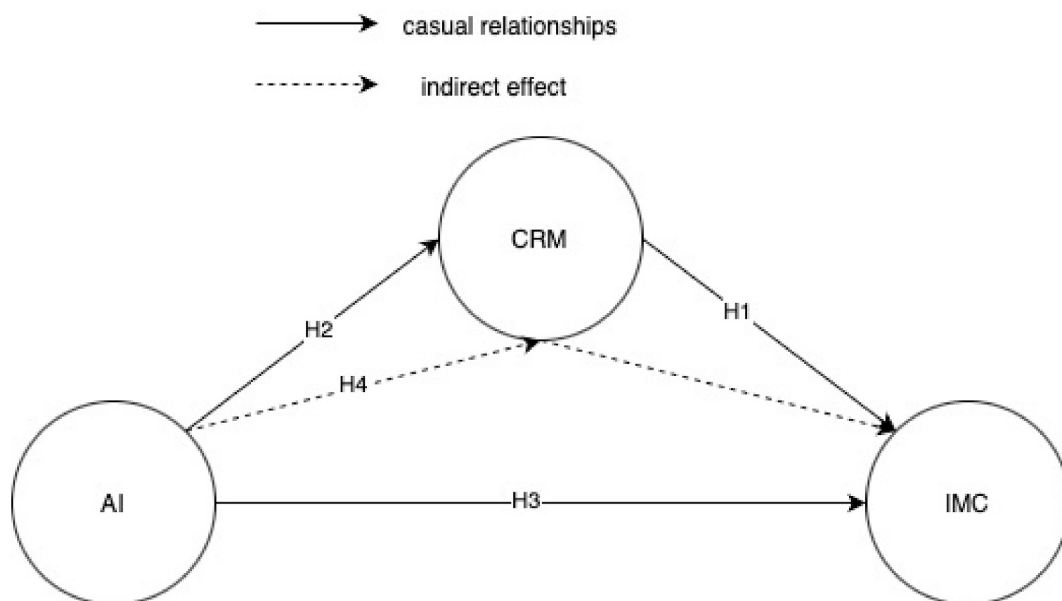


Fig. 1. Theoretical Model

Note. AI = Artificial Intelligence; CRM = Customer Relationship Management; IMC = Integrated Marketing Communications.

digital transformation, increasing adoption of CRM and AI technologies, and a highly competitive business environment that encourages innovation in marketing practices (Markova et al., 2021). Eligibility criteria ensured that all participants held managerial roles and were familiar with CRM and AI technologies. The questionnaire was developed in English and translated into Russian using a standard back-translation procedure to ensure linguistic and conceptual equivalence; no inconsistencies were identified during reconciliation.

The sampling design incorporated several control parameters collected at both the managerial and organisational levels, including gender, age, work experience, firm size, firm age, industry type, and firm type (B2B/B2C). These parameters were monitored to ensure balanced representation of different managerial profiles and company characteristics within the sample. In addition, a subset of these variables (firm size, firm age, industry type, and manager experience) was later included as statistical control variables in the structural model to reduce omitted-variable bias and isolate the effects of AI and CRM on IMC.

The sample was assembled through a professional marketing research agency specialising in B2B and managerial data collection. The agency maintains a rigorously validated online panel of approximately 500,000 verified individuals, recruited through multi-stage identity verification, regular quality audits, and continuous panel management procedures. From this panel, the agency provided a filtered subsample of marketing managers using targeted screening questions aligned with the study's inclusion criteria. The final sample predominantly comprised respondents from the Moscow region, reflecting a highly competitive metropolitan environment where technology-driven marketing practices are prevalent. The Moscow region is Russia's leading centre of digital transformation and early adoption of marketing technologies (Markova et al., 2021), making it a suitable context for examining AI-enabled communication practices.

The final dataset consisted of 384 respondents. Table 1 summarises the demographic and organisational characteristics of the sample. The gender distribution included 182 females (47%) and 202 males (53%). With regard to age, 3% were aged 18–24, 24% were 25–34, 41% were 35–44, 24% were 45–54, and 8% were 55 or older. Regarding work experience, 62.1% had 2–5 years of experience, while 37.9% had more than 5 years. The sample included companies of diverse sizes: 29.7% small businesses (16–100 employees), 37.5% medium-sized (101–250

employees), and 32.8% large firms (251+ employees). Most companies (74.5%) had been established for more than 10 years. In terms of firm type, 32.5% were B2C + B2B, 14% were B2C, 28.6% were B2B, and 24.7% were uncertain.

3.4. Analytical procedure

The analysis followed the standard two-stage approach for variance-based structural equation modelling (Hair et al., 2019, 2022). In the first stage, the measurement model was assessed. Indicator reliability was examined through outer loadings, construct reliability through Cronbach's alpha, and composite reliability (CR), and convergent validity through the average variance extracted (AVE). Discriminant validity was evaluated using the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT), following recent methodological guidelines on construct validity (Lim, 2024).

To reduce potential common method bias (CMB), procedural remedies were implemented during questionnaire construction (Podsakoff et al., 2003), and full collinearity was assessed using variance inflation factors (VIFs) as an additional diagnostic. All VIF values were well below conservative thresholds, indicating no substantial concerns regarding CMB. The final sample size ($N = 384$) exceeded the recommended minimum for PLS-SEM and provided adequate statistical power to estimate both measurement and structural models (Hair et al., 2019, 2022). Predictive relevance was assessed using the Stone–Geisser Q^2 statistic obtained through the blindfolding procedure.

In the second stage, the structural model was evaluated. Path coefficients, coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2) were examined to assess the strength and explanatory power of the hypothesized relationships. The significance of all structural paths was tested using nonparametric bootstrapping with 5000 subsamples. All analyses were conducted using SmartPLS v.4 (Shoib et al., 2021).

4. Results

4.1. Model validation

The results of the measurement model assessment indicate that all constructs exhibit satisfactory reliability and validity (Table 2). Outer loadings exceeded 0.70, Cronbach's alpha and composite reliability (CR) values were above 0.70, and the average variance extracted (AVE) values surpassed the 0.50 threshold for all constructs, confirming convergent validity. Discriminant validity was established using the Fornell–Larcker criterion and the HTMT ratio (Table 3), with HTMT values remaining below the recommended cut-off of 0.90 (Hair et al., 2022).

Model fit indices further supported the adequacy of the PLS-SEM estimation: the standardized root mean square residual (SRMR), the unweighted least squares discrepancy (dULS), and the geodesic discrepancy (dG) all fell within acceptable threshold values (Dijkstra and Henseler, 2015). No multicollinearity concerns were observed, as all VIF values remained well below conservative cut-offs.

4.2. Hypothesis testing

Fig. 2 and Table 4 present the outcomes of the PLS-SEM analysis.

The results show a strong and statistically significant positive effect of CRM on IMC ($\beta = 0.828$, $p < 0.001$), supporting H1. AI has a significant positive impact on CRM ($\beta = 0.557$, $p < 0.001$), supporting H2. However, AI's direct effect on IMC is not significant ($\beta = 0.044$, $p > 0.10$), leading to the rejection of H3. AI exerts a strong indirect effect on IMC through CRM ($\beta = 0.505$, $p < 0.001$), indicating a full mediation effect and supporting H4.

Table 1
Sample descriptive statistics.

Variable	Value Labels	Count	Share in the sample
Gender	<i>Manager's Profile</i>		
	Female	182	47%
	Male	202	53%
Age	18–24	10	3%
	25–34	94	24%
	35–44	156	41%
	45–54	94	24%
	55+	30	8%
Working experience	from 2 to 5 years	145	62.10%
	more than 5 years	239	37.90%
Company size (by number of workers)	<i>Company's Profile</i>		
	Small business (16–100)	114	29.70%
	Medium business (101–250)	144	37.50%
	Large business (251 and more)	126	32.80%
Company's age	Less than 1 year	1	0.30%
	1–5 years	30	7.80%
	5–10 years	61	15.90%
	More than 10 years	286	74.50%
Company's type	B2C + B2B	125	32.50%
	B2C	54	14%
	B2B	110	28.60%
	Unsure/Not specified	95	24.70%

Table 2
Measurement model reliability and convergent validity.

Construct	Indicator	Outer Loading	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
AI	AI1	0.902	0.970	0.971	0.827
	AI2	0.907			
	AI3	0.932			
	AI4	0.897			
	AI5	0.919			
	AI6	0.914			
	AI7	0.911			
	AI8	0.895			
CRM	CRM1	0.802	0.961	0.962	0.702
	CRM2	0.833			
	CRM3	0.786			
	CRM4	0.810			
	CRM5	0.832			
	CRM6	0.850			
	CRM7	0.835			
	CRM8	0.849			
	CRM9	0.885			
	CRM10	0.826			
	CRM11	0.874			
	CRM12	0.864			
IMC	IMC1	0.780	0.948	0.949	0.636
	IMC2	0.805			
	IMC3	0.784			
	IMC4	0.818			
	IMC5	0.785			
	IMC6	0.835			
	IMC7	0.788			
	IMC8	0.825			
	IMC9	0.732			
	IMC10	0.797			
	IMC11	0.786			
	IMC12	0.827			

Note. AI = Artificial Intelligence; CRM = Customer Relationship Management; IMC=Integrated Marketing Communications.

Table 3
Discriminant validity.

	AI	CRM	IMC
<i>Heterotrait-Monotrait ratio (HTMT)</i>			
AI			
CRM	0.675		
IMC	0.525	0.90	
<i>Fornell-Larcker criterion</i>			
AI	0.910		
CRM	0.657	0.838	
IMC	0.505	0.852	0.797

Note. AI = Artificial Intelligence; CRM = Customer Relationships Management; IMC=Integrated Marketing Communications.

5. Discussion

This study examined how Artificial Intelligence (AI) and Customer Relationship Management (CRM) jointly shape Integrated Marketing Communications (IMC) within an emerging-market context. The results reveal three central patterns: CRM exerts a strong positive influence on IMC, AI significantly enhances CRM capability, and AI's effect on IMC is fully mediated through CRM. Together, these findings highlight a sequential capability structure in which AI strengthens CRM processes, and CRM, in turn, enables more coherent and data-driven IMC practices. This pattern is consistent with the dynamic capabilities view, which emphasises how upstream analytical capabilities create value only when deployed through complementary organisational routines that enable coordinated action (Teece et al., 1997; Teece, 2007).

The strong CRM–IMC relationship aligns with prior literature positioning CRM as the informational and relational backbone of integrated

communications (Peltier et al., 2013; Šerić et al., 2014; Zulfikar et al., 2022). Our empirical results reinforce and extend this perspective by demonstrating the magnitude of CRM's effect on IMC ($\beta = 0.828$), even under conditions of rapid technological transformation. This suggests that, despite advances in AI adoption, communication integration continues to depend on stable organisational processes for data management, customer profiling, and cross-channel coordination. These findings confirm earlier assertions that IMC is fundamentally an organisational—not simply technological—capability and that CRM plays a pivotal role in operationalising IMC at scale. In other words, integration is a coordination outcome that depends on routinised cross-functional alignment.

The positive effect of AI on CRM ($\beta = 0.557$) corroborates research emphasising AI's ability to automate data processing, strengthen customer segmentation, and support personalised communication strategies (Ma & Sun, 2020; Chintalapati and Pandey, 2022; Huang and Rust, 2021). The results are also consistent with recent empirical studies demonstrating that AI-enabled services enhance customer experience quality and behavioural responses (Kautish and Khare, 2022; Shah et al., 2023). Moreover, our findings complement emerging research on AI-enabled communication on social media platforms, such as Shabankareh et al. (2025), who show that AI-mediated interactions can influence revisit behaviour in service industries. Collectively, these findings position AI not as an isolated marketing tool but as a capability that enhances organisational knowledge structures embedded within CRM. Viewed through DCV, these results position AI as an upstream analytical capability that strengthens the firm's sensing and interpretation of customer signals, with its effects realised through CRM-enabled deployment.

The absence of a significant direct AI → IMC relationship provides a critical theoretical clarification. Although prior studies have suggested that AI can support content personalisation, automated messaging, and real-time optimisation (Huang and Rust, 2021; Mariani et al., 2022), our results show that these capabilities do not automatically translate into higher IMC integration. IMC requires strategic coherence, stakeholder alignment, and coordinated decision-making across functions (Kitchen & Schultz, 1998; Duncan & Moriarty, 1998). AI alone does not provide the organisational routines or relational structures necessary for message consistency. This directly reflects the paper's central tension: while AI can improve analytical and creative outputs, IMC is an organisational coordination capability that remains fragmented unless embedded in routines that align channels, decisions, and execution. Instead, our statistical results demonstrate that AI contributes to IMC only when its outputs are channelled through CRM, which integrates insights into customer profiles, orchestrates channel decisions, and maintains message uniformity across touchpoints.

The identified full mediation effect (indirect $\beta = 0.505$) makes an important contribution to theory by revealing the mechanism by which AI affects communication integration. CRM acts as the bridge that translates AI-enabled analytics into actionable communication practices. In DCV terms, CRM represents the integrative routine that orchestrates and deploys AI-enabled insights into coordinated communication actions, thereby explaining why the AI–IMC link is fully mediated (Teece et al., 1997; Teece, 2007). This sequencing emphasises the complementarity between technological and relational capabilities, suggesting that investments in AI are most effective when paired with robust CRM systems. This perspective extends the conversation around AI-enabled marketing by proposing that AI should be conceptualised as an upstream capability whose impact is contingent on downstream organisational processes. Furthermore, examining these relationships in an emerging market provides empirical insight into how technological and organisational capabilities interact under conditions of rapid digital transformation, where resource constraints and institutional variability may amplify the importance of CRM readiness.

To further contextualise the findings, it is important to consider their potential relevance beyond the Russian market. Many emerging

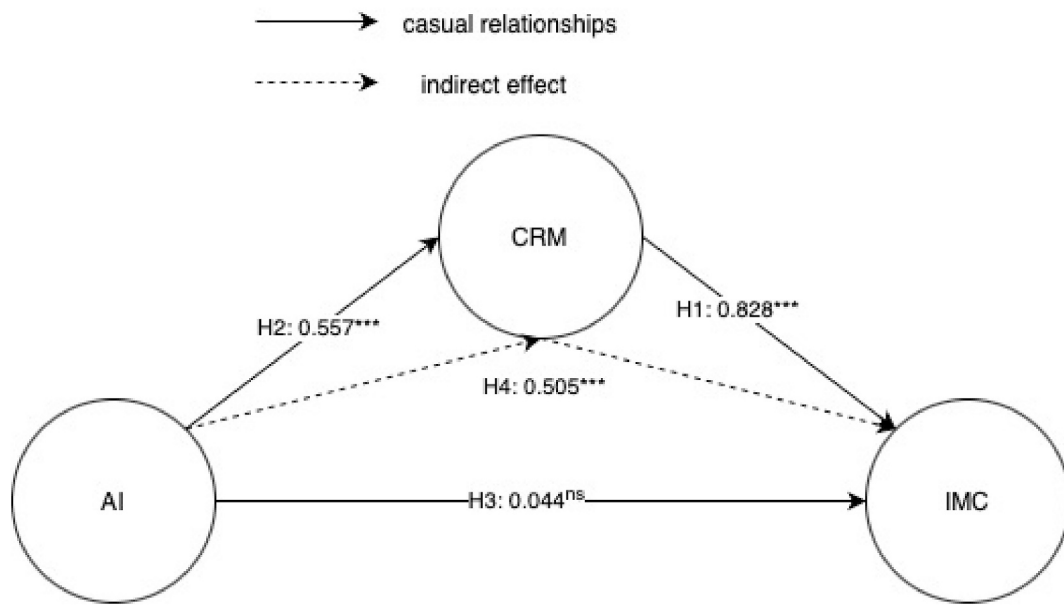


Fig. 2. Results of Theoretical Model testing

Note. AI = Artificial Intelligence; CRM = Customer Relationship Management; IMC = Integrated Marketing Communications. *** = $p < 0.01$, ns = not significant.

Table 4
Hypothesis testing.

H	β	p	
H1: CRM → IMC	0.828***	0.000	Accepted
H2: AI → CRM	0.557***	0.000	Accepted
H3: AI → IMC	0.044	0.184	Rejected
H4: AI → CRM → IMC	0.505***	0.000	Accepted

Note. AI = Artificial Intelligence; CRM = Customer Relationship Management; IMC = Integrated Marketing Communications.

economies—particularly in Eastern Europe, Central Asia, and the broader BRICS context—are undergoing similar processes of digitalisation, data-driven transformation, and increasing adoption of AI-enabled marketing technologies (Matthess and Kunkel, 2020). These structural similarities suggest that the capability sequencing observed in this study—where AI strengthens CRM and CRM enables IMC—may also hold in comparable environments facing analogous technological and organisational challenges. Although institutional conditions vary across emerging markets, the patterns of technology adoption and competitive pressures documented in prior research (Suhra et al., 2024) indicate that the present findings may offer broader insights for firms navigating AI-driven communication integration in digitally evolving contexts.

5.1. Theoretical contributions

This study offers several theoretical contributions to the literature on AI-enabled marketing and integrated communication. First, it advances understanding of the AI–IMC relationship by showing that this relationship should not be understood as a simple technology-to-communication effectiveness pathway. The results demonstrate that AI does not enhance communication integration directly but operates through CRM as an organising mechanism. This finding clarifies an underdeveloped theoretical assumption in prior research, which often implies a direct link between AI capabilities and communication performance. Instead, the full mediation through CRM indicates that AI provides analytical and generative potential, but this potential remains analytically powerful but communication weak unless CRM routines convert AI-generated insights into coordinated customer knowledge, channel decisions, and message execution. By establishing CRM as the

full mediator in the AI–IMC relationship, the study provides a mechanism-based explanation of a coordination-based boundary condition: AI outputs do not translate into communication integration unless embedded in CRM routines that enable cross-channel alignment.

Second, the results contribute to CRM and IMC theory by empirically confirming CRM's central role in achieving message and channel consistency in digitally intensive environments. While earlier studies have conceptualised CRM as a supportive infrastructure for integrated communications, this study quantifies the magnitude of CRM's effect and demonstrates its continued relevance in the context of rapid AI adoption. This reinforces the view that IMC effectiveness is grounded in organisational processes of data integration and customer knowledge management rather than in technological tools alone, thereby positioning IMC as an organisational coordination capability enabled by routinised cross-functional alignment and consistent deployment across channels.

Third, the study advances the conceptualisation of AI as an independent organisational capability rather than a subsidiary component of CRM. By capturing AI's broader functions—content creation, predictive analytics, and customer-experience enhancement—the findings support emerging perspectives that position AI as an upstream analytical capability whose value is realised only when embedded into structured CRM routines (Teece et al., 1997; Teece, 2007).

Finally, by testing the proposed model within a rapidly digitalising emerging market, the study expands the geographical scope of AI–CRM–IMC research. This context provides insight into how capability formation may differ from that observed in more mature markets, thereby enriching theoretical discussions on capability sequencing and technology adoption under heterogeneous institutional conditions.

5.2. Practical implications

The findings of this study offer several important implications for managers responsible for designing and implementing communication strategies in AI-enabled environments. First, the strong mediating role of CRM indicates that organisations cannot expect AI adoption to yield immediate improvements in communication integration unless CRM capabilities are sufficiently developed. This highlights the importance of capability orchestration rather than standalone technology adoption. Managers should therefore prioritise investments in CRM systems that

support comprehensive customer-data integration, real-time analytics, and cross-channel decision-making. Strengthening CRM processes is essential to transforming AI-generated insights into consistent, strategically aligned communication actions.

Second, the results underscore the need for managers to view AI and CRM as complementary rather than standalone tools. While AI provides advanced analytical and content-generation capabilities, CRM structures how these outputs are operationalised across the customer journey. Organisations should ensure that AI applications—such as personalised recommendation engines, conversational agents, or predictive analytics—are fully embedded into CRM workflows to support message coherence and customer engagement. For example, AI-generated content or segmentations should be linked with CRM-driven communication triggers, ensuring that insights are translated into timely and relevant touchpoints across channels.

Third, managers should evaluate and develop their organisation's AI readiness, including data quality, staff skills, workflow integration, and change management practices. AI investments generate value only when integrated into established processes; thus, capability-building initiatives such as employee training, cross-functional coordination mechanisms, and internal guidelines for responsible AI use are necessary to ensure effective adoption. Firms operating in emerging markets, where digital maturity varies widely across industries, may need to invest more intensively in capability development to fully realise the benefits of AI-enabled CRM and IMC.

Finally, the results suggest that organisations should systematically assess the alignment between technological tools, communication strategies, and customer expectations. As AI and CRM increasingly shape personalised communication flows, managers must monitor the relevance, transparency, and perceived fairness of AI-enabled interactions. Establishing internal auditing routines or feedback mechanisms can help firms calibrate their communication strategies and maintain trust in environments where automated content and data-driven targeting are becoming standard.

5.3. Policy implications

Although the present study focuses on organisational practices, the findings have several broader implications for policymakers, regulators, and institutions guiding the digital transformation of emerging markets. The central role of CRM as the mechanism through which AI enhances communication integration suggests that public policy should not only promote AI adoption but also support the organisational capabilities required to use AI responsibly and effectively. Regulatory frameworks may encourage firms to adopt transparent and ethical AI practices, particularly in data-driven communication contexts where CRM systems process substantial volumes of personal information. Clear guidelines on customer-data governance, informed consent, and algorithmic transparency would help ensure that AI-enabled communication strategies align with societal expectations of fairness and privacy.

Furthermore, policymakers in emerging markets could introduce targeted initiatives to reduce capability gaps between large firms and small and medium-sized enterprises (SMEs). SMEs often lack the resources to develop robust CRM systems or to integrate AI meaningfully into their communication processes. Public programs offering financial incentives, subsidised access to CRM and AI tools, or national training schemes in digital marketing could help address these disparities. For example, government-supported digital adoption vouchers or tax incentives for investing in data management systems could accelerate the diffusion of AI-enabled CRM practices across different sectors.

In addition, institutions responsible for consumer protection may consider developing monitoring mechanisms or certification schemes for the responsible deployment of AI in marketing communications. As AI increasingly shapes message personalisation, targeting accuracy, and automated interactions, such mechanisms could help prevent manipulative, overly intrusive, or discriminatory communication practices.

Finally, the results of this study reinforce the need for broader national strategies that strengthen organisational digital readiness—through investments in digital infrastructure, data literacy, and cross-sector collaboration—so that firms can translate technological advancements into meaningful improvements in communication quality, customer engagement, and market competitiveness.

5.4. Limitations and future research lines

Despite its contributions, this study has several limitations that open avenues for further research. First, the data were collected from marketing managers in a single emerging-market context, predominantly the Moscow region. While this environment is characterised by rapid digital transformation and therefore suitable for examining AI- and CRM-enabled practices, the findings may not be fully generalisable to other institutional or cultural settings. Future studies should extend the proposed AI-CRM-IMC framework to different regions or undertake cross-country comparative research to capture broader contextual variation. In addition, the study relies on self-reported, cross-sectional data, which may introduce perceptual bias and restrict causal inference. Although procedural and statistical remedies were applied to mitigate common method bias (Podsakoff et al., 2003), it cannot be entirely eliminated. Longitudinal or experimental designs would strengthen causal interpretation and provide insight into how AI and CRM capabilities influence IMC over time.

A further limitation concerns the boundary conditions of the relationships examined. While several organisational and managerial characteristics were included as controls, this study did not assess whether factors such as industry type, firm size, digital maturity, or organisational readiness moderate the links between AI, CRM, and IMC. Future research should examine these moderating effects to better understand the conditions under which AI-enabled CRM practices most strongly contribute to communication integration. Moreover, AI was measured as a broad marketing capability comprising content creation, customer experience enhancement, and predictive analytics. As AI technologies differ significantly in functionality, future studies could distinguish between specific types of AI tools to examine their distinct contributions to CRM processes and IMC effectiveness.

Finally, the constructs were measured exclusively from the managerial perspective. While this approach is appropriate for assessing internal organisational practices, it does not capture customer-side perceptions or behavioural outcomes. Future research could incorporate objective communication performance indicators or customer data to evaluate how AI- and CRM-enabled IMC strategies translate into satisfaction, engagement, or long-term relationship outcomes. Although PLS-SEM was suitable for the exploratory and predictive aims of this study (Hair et al., 2019, 2022), complementary analytical approaches—such as covariance-based SEM or multigroup comparisons—may further validate the robustness of the proposed model and deepen insight into capability interactions within AI-enabled communication systems.

6. Conclusions

This study examined how Artificial Intelligence (AI), Customer Relationship Management (CRM), and Integrated Marketing Communications (IMC) interact within a rapidly digitalising emerging-market context. The empirical results demonstrate that AI strengthens CRM capabilities, and CRM in turn significantly enhances IMC, while AI does not directly influence IMC. These findings clarify the sequencing of organisational capabilities in AI-enabled communication systems: AI acts as an upstream analytical capability, yet communication integration remains an organisational coordination challenge and may remain fragmented unless AI-enabled insights are embedded within robust CRM routines that support message consistency, data utilisation, and cross-channel coordination. The full mediation effect identified in the structural model therefore provides a more precise explanation of how

technological and relational capabilities interact to shape IMC effectiveness and communication integration.

By offering empirical evidence from an emerging market experiencing accelerated digital transformation, the study broadens the geographical scope of research on AI-enabled marketing and contributes to understanding how capability development unfolds under heterogeneous institutional conditions. The study's measurement approach and PLS-SEM analysis further strengthen the reliability of the findings and provide a replicable basis for examining capability interactions in similar organisational settings.

Overall, the study advances theoretical, managerial, and policy-relevant knowledge on how organisations can leverage AI to improve communication effectiveness. The findings highlight that investments in AI must be complemented by CRM capability development to realise meaningful improvements in IMC outcomes, consistent with a capability-based logic that emphasises orchestration of complementary resources and routines. Future research building on these insights may further explore contextual moderators, incorporate behavioural or customer-side data, and examine capability evolution over time to deepen understanding of AI-enabled communication integration.

CRediT authorship contribution statement

Vera Butkouskaya: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding

Appendix A. Measurement scales

Item	Question
AI — Artificial Intelligence (based on Huang and Rust, 2021 , Huang and Rust, 2022 , Chintalapati and Pandey, 2022)	
Rate your level of agreement with statements related to the use of artificial intelligence (AI) technologies in your company from 1 (strongly disagree) to 5 (strongly agree)	
Content Creation	
AI1	Use AI to develop textual content (texts, slogans, etc.) for marketing communications (e.g., ChatGPT / Yandex GPT / Bard).
AI2	Use AI for developing visual content (images, videos, etc.) for marketing communications (e.g., Midjourney / Kandinsky / Leonardo / DALL-E).
Customer Experience	
AI4	Use AI technologies to improve customer interactions (e.g., chatbots, real-time responses).
AI6	Use AI to enhance user experience on websites or applications (e.g., personalised product recommendations, simplifying the checkout process).
AI8	Integrating AI-based virtual and voice assistants into products (e.g., Alice in Yandex, Oleg in Tinkoff, Marusya in VK).
Predictive Analytics	
AI3	AI-based recommendations for optimizing advertising campaigns (e.g., recommendations in advertising cabinets, ML-based recommendations, event-based optimization such as installations/purchases)
AI5	AI-based predictive analytics for forecasting market trends and consumer behaviour (e.g., Google Trends, Google Analytics, Yandex Metrica).
AI7	AI for automating the creation of marketing reports (e.g., AI tools in Tableau, Google Data Studio).
IMC - Integrated Marketing Communications (Butkouskaya et al., 2021)	
Please rate your agreement with the statements related to the implementation of integrated marketing communications in your company from 1 (strongly disagree) to 5 (strongly agree)	
Message and channel consistency	
IMC1	Our company ensures that the brand communication message is consistently conveyed across all communication channels (e.g., outdoor advertising, packaging, banners, or website).
IMC2	Our company maintains consistency in the brand communication message across all its visual components (e.g., trademarks, logos, and brand colors).
IMC3	Our company maintains consistency in the brand communication message across all its linguistic components (e.g., slogans, style, and tone of the message).
IMC4	Our company maintains a consistent brand image across all communication channels (e.g., outdoor advertising, packaging, banners, or website).
Data Utilisation and Strategy	
IMC5	Our company uses data from previous interactions with consumers to develop subsequent marketing communications (e.g., sending promotions to those who have previously participated in company events).
IMC6	Our company ensures that information about interactions with consumers, which emerges during marketing communications, is collected.
IMC7	Our company consolidates information obtained from interactions with consumers across different communication channels into a unified database.
IMC8	In our company, the marketing communications strategy is based on a thorough analysis of the stages of the purchase process: brand awareness, information search, visiting the website or offline point, purchase.
Client Relationship Focus	
IMC9	Our company conducts marketing communications that strengthen relationships with existing clients (e.g., sending greeting cards).
IMC10	Our company believes that maintaining and strengthening relationships with existing clients is as important as expanding market share by attracting new clients.
IMC11	Our marketing communications strategy places special emphasis on retaining existing clients.
IMC12	Our company strives to achieve stable long-term revenue from each client by strengthening relationships with them.
CRM — Customer Relationships Management (Abdullateef et al., 2010).	
Please rate your agreement with the statements related to customer relationship management (CRM) in your company from 1 (strongly disagree) to 5 (strongly agree)	
Technology-based CRM	
CRM1	Our company has qualified technical specialists ready to provide the necessary technical assistance in working with the customer database.
CRM2	Our company ensures the availability of customer information at every stage of interaction with them, thanks to CRM technology/maintaining a customer database.
CRM3	Our company maintains a comprehensive database of our customers.

(continued on next page)

acquisition, Formal analysis, Data curation, Conceptualization.

Ethical compliance

This study involved a survey of marketing managers. No personal or sensitive data were collected. Participation was voluntary and fully anonymous. The research complies with ethical standards for survey-based studies.

Funding statement

The research was supported by the Graduate School of Business, HSE University, under the Research and Educational Development Programme for Faculty and Students (Project Code: 026.003AR. ZHMUSATOVA).

Declaration of competing interest

The author declares **no conflict of interest** related to the research, authorship, or publication of this manuscript.

Acknowledgements

The author would like to thank the editor and reviewers for their constructive feedback, which helped to substantially improve the manuscript.

(continued)

Item	Question
CRM4	In our company, information technology can help create personalised offers for our customers.
CRM5	In our company, information technology facilitates customer relationship management. People (current and potential customers)
CRM6	Our company actively seeks to understand the unique needs and preferences of each customer.
CRM7	Our company values long-term customer relationships and invests in strategies to strengthen them.
CRM8	Our company has mechanisms to engage with potential customers who have shown interest in our offerings.
CRM9	Our company actively uses customer information to tailor our offers and communications to meet the growing needs of both current and potential customers. Processes
CRM10	In decision-making processes, our company takes customer feedback data into account.
CRM11	In decision-making processes, our company prioritizes customer preferences and expectations, ensuring a customer-centric approach.
CRM12	In decision-making processes, our company considers the results of past decisions based on customer data and their impact on our products/services.

Data availability

The data that has been used is confidential.

References

- Abdulleatef, A.O., Mokhtar, S.S., Yusoff, R.Z., 2010. The impact of CRM dimensions on call center performance. *Int. J. Comput. Sci. Netw. Secur.* 10 (12), 184–195.
- Bock, D.E., Wolter, J.S., Ferrell, O.C., 2020. Artificial intelligence: disrupting what we know about services. *J. Serv. Mark.* 34 (3), 317–334. <https://doi.org/10.1108/JSM-01-2019-0047>.
- Borges, A.F., Laurindo, F.J., Spínola, M.M., Gonçalves, R.F., Mattos, C.A., 2021. The strategic use of artificial intelligence in the digital era: systematic literature review and future research directions. *Int. J. Inf. Manag.* 57, 102225. <https://doi.org/10.1016/j.jinfomgt.2020.102225>.
- Butkouskaya, V., Llonch-Andreu, J., Alarcón-del-Amo, M.D.C., 2020. *Entrepreneurial Orientation (EO), Integrated Marketing Communications (IMC), and Performance in Small and Medium-Sized Enterprises (SMEs): Gender Gap and Inter-Country Context*. Sustainability 12 (17), 7159. <https://doi.org/10.3390/su12177159>.
- Butkouskaya, V., Llonch-Andreu, J., Alarcón-Del-Amo, M.D.C., 2021. Strategic antecedents and organisational consequences of IMC in different economy types. *J. Mark. Commun.* 27 (2), 115–136. <https://doi.org/10.1080/13527266.2019.1633551>.
- Chatterjee, S., Chaudhuri, R., Vrontis, D., Thrassou, A., Ghosh, S.K., 2021. Adoption of artificial intelligence-integrated CRM systems in agile organizations in India. *Technol. Forecast. Soc. Change* 168, 120783. <https://doi.org/10.1016/j.techfore.2021.120783>.
- Chintalapati, S., Pandey, S.K., 2022. Artificial intelligence in marketing: a systematic literature review. *Int. J. Mark. Res.* 64 (1), 38–68. <https://doi.org/10.1177/14707853211018428>.
- Creswell, J.W., Creswell, J.D., 2017. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed. Sage Publications, Thousand Oaks.
- Dijkstra, T.K., Henseler, J., 2015. Consistent partial least squares path modelling. *MIS Q.* 39 (2), 297–316.
- Dwivedi, Y.K., Kshetri, N., Hughes, L., Slade, E.L., Jeyaraj, A., Kar, A.K., Wright, R., 2023. So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges, and implications of generative conversational AI for research, practice, and policy. *Int. J. Inf. Manag.* 71, 102642. <https://doi.org/10.1016/j.jinfomgt.2023.102642>.
- Guerola-Navarro, V., Gil-Gomez, H., Oltra-Badenes, R., Soto-Acosta, P., 2022. Customer relationship management and its impact on entrepreneurial marketing: a literature review. *Int. Entrep. Manag. J.* 1–41. <https://doi.org/10.1007/s11365-022-00800-x>.
- Gupta, S., Justy, T., Kamboj, S., Kumar, A., Kristoffersen, E., 2021. Big data and firm marketing performance: findings from knowledge-based view. *Technol. Forecast. Soc. Change* 171, 120986. <https://doi.org/10.1016/j.techfore.2021.120986>.
- Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., 2022. *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 3rd ed. Sage Publications, Thousand Oaks.
- Hair, J.F., Risher, J.J., Sarstedt, M., Ringle, C.M., 2019. When to use and how to report the results of PLS-SEM. *Eur. Bus. Rev.* 31 (1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>.
- Hollebeck, L.D., Kumar, V., Srivastava, R.K., Lim, W.M., Urbonavicius, S., 2025. Guidelines for theory selection: the IMPACT framework. *Psychol. Mark.* 42 (11), 2789–2806. <https://doi.org/10.1002/mar.70009>.
- Huang, M.H., Rust, R.T., 2018. Artificial intelligence in service. *J. Serv. Res.* 21 (2), 155–172. <https://doi.org/10.1177/1094670517752459>.
- Huang, M.H., Rust, R.T., 2021. A strategic framework for artificial intelligence in marketing. *J. Acad. Mark. Sci.* 49, 30–50. <https://doi.org/10.1007/s11747-020-00749-9>.
- Huang, M.H., Rust, R.T., 2022. A framework for collaborative artificial intelligence in marketing. *J. Retail.* 98 (2), 209–223. <https://doi.org/10.1016/j.jretai.2021.03.001>.
- Kautish, P., Khare, A., 2022. Investigating the moderating role of AI-enabled services on flow and awe experience. *Int. J. Inf. Manag.* 66, 102519. <https://doi.org/10.1016/j.jinfomgt.2022.102519>.
- Khoa, B.T., 2021. The impact of chatbots on the relationship between integrated marketing communication and online purchasing behavior in the frontier market. *Journal The Messenger* 13 (1), 19–32.
- Kitchen, P.J., Schultz, D.E., Kim, I., Han, D., Li, T., 2004. Will agencies ever “get” (or understand) IMC? *Eur. J. Mark.* 38 (11/12), 1417–1436. <https://doi.org/10.1108/03090560410560173>.
- Kliatchko, J., 2005. Towards a new definition of integrated marketing communications (IMC). *Int. J. Advert.* 24 (1), 7–34. <https://doi.org/10.1080/02650487.2005.11072902>.
- Kopalle, P.K., Gangwar, M., Kaplan, A., Ramachandran, D., Reinartz, W., Rindfleisch, A., 2022. Examining artificial intelligence (AI) technologies in marketing via a global lens: current trends and future research opportunities. *Int. J. Res. Mark.* 39 (2), 522–540. <https://doi.org/10.1016/j.ijresmar.2021.11.002>.
- Kshetri, N., Dwivedi, Y.K., Davenport, T.H., Panteli, N., 2023. Generative artificial intelligence in marketing: applications, opportunities, challenges, and research agenda. *Int. J. Inf. Manag.*, 102716. <https://doi.org/10.1016/j.jinfomgt.2023.102716>.
- Kumar, V., Reinartz, W., 2016. Creating enduring customer value. *J. Mark.* 80 (6), 36–68. <https://doi.org/10.1509/jm.15.0414>.
- Lamrhari, S., El Ghazi, H., Oubrich, M., El Faker, A., 2022. A social CRM analytic framework for improving customer retention, acquisition, and conversion. *Technol. Forecast. Soc. Change* 174, 121275. <https://doi.org/10.1016/j.techfore.2021.121275>.
- Lim, W.M., 2024. A typology of validity: content, face, convergent, discriminant, nomological and predictive validity. *Journal of Trade Science* 12 (3), 155–179. <https://doi.org/10.1108/JTS-03-2024-0016>.
- Lim, W.M., 2026. Theory and theory development: guidelines for establishing theoretical gaps, foundations, contributions, and implications. *J. Bus. Res.* 202, 115745. <https://doi.org/10.1016/j.jbusres.2025.115745>.
- Mariani, M.M., Perez-Vega, R., Wirtz, J., 2022. AI in marketing, consumer research and psychology: a systematic literature review and research agenda. *Psychol. Mark.* 39 (4), 755–776. <https://doi.org/10.1002/mar.21619>.
- Markova, E.S., Zyuzina, N.N., Krovopuskov, P.A., 2021. Digital economy and industry 4.0: Russia's development trends. *International Transaction Journal of Engineering, Management, and Applied Sciences and Technologies* 12 (3), 12A30.
- Matthess, M., Kunkel, S., 2020. Structural change and digitalization in developing countries: conceptually linking the two transformations. *Technol. Soc.* 63, 101428. <https://doi.org/10.1016/j.techsoc.2020.101428>.
- Overgoor, G., Chica, M., Rand, W., Weishampel, A., 2019. Letting the computers take over: using AI to solve marketing problems. *Calif. Manag. Rev.* 61 (4), 156–185. <https://doi.org/10.1177/0008125619859318>.
- Peltier, J.W., Schibrowsky, J.A., Schultz, D.E., 2003. Interactive integrated marketing communication: combining the power of IMC, the new media, and database marketing. *Int. J. Advert.* 22 (1), 93–115. <https://doi.org/10.1080/02650487.2003.11072841>.
- Pisicchio, A.C., Toaldo, A.M.M., 2021. Integrated marketing communication in hospitality SMEs: analyzing the antecedent role of innovation orientation and the effect on market performance. *J. Mark. Commun.* 27 (7), 742–761. <https://doi.org/10.1080/13527266.2020.1759121>.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., Podsakoff, N.P., 2003. Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88 (5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>.
- Šerić, M., Gil-Saura, I., Ruiz-Molina, M.E., 2014. How can integrated marketing communications and advanced technology influence the creation of customer-based brand equity? Evidence from the hospitality industry. *Int. J. Hosp. Manag.* 39, 144–156. <https://doi.org/10.1016/j.ijhm.2014.02.008>.
- Shabankareh, M., Ranjbaran, A., Marc Lim, W., Kalantari Daronkola, H., Nazarian, A., 2025. Artificial intelligence on social media and revisit behavior: evidence from the hotel industry. *Int. J. Advert.* 1–40. <https://doi.org/10.1080/02650487.2025.2536361>.
- Shah, T.R., Kautish, P., Mehmood, K., 2023. Influence of robots service quality on customers' acceptance in restaurants. *Asia Pac. J. Mark. Logist.* 35 (12), 3117–3137. <https://doi.org/10.1108/APJML-09-2022-0780>.
- Shoaib, M., Abbas, Z., Yousaf, M., Zámečník, R., Ahmed, J., Saqib, S., 2021. The role of GHRM practices towards organizational commitment: a mediation analysis of green

- human capital. *Cogent Bus. Manag.* 8 (1), 1870798. <https://doi.org/10.1080/23311975.2020.1870798>.
- Sin, L.Y., Tse, A.C., Yim, F.H., 2005. CRM: conceptualization and scale development. *Eur. J. Mark.* 39 (11/12), 1264–1290. <https://doi.org/10.1108/03090560510623253>.
- Suhrab, M., Chen, P., Ullah, A., 2024. Digital financial inclusion and income inequality nexus: can technology innovation and infrastructure development help in achieving sustainable development goals? *Technol. Soc.* 76, 102411. <https://doi.org/10.1016/j.techsoc.2023.102411>.
- Tafesse, W., Kitchen, P.J., 2017. IMC: an integrative review. *Int. J. Advert.* 36 (2), 210–226. <https://doi.org/10.1080/02650487.2015.1114168>.
- Teece, D.J., 2007. Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strateg. Manag. J.* 28 (13), 1319–1350. <https://doi.org/10.1002/smj.640>.
- Teece, D.J., Pisano, G., Shuen, A., 1997. Dynamic capabilities and strategic management. *Strateg. Manag. J.* 18 (7), 509–533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z).
- Winton, B.G., Sabol, M.A., 2021. A multi-group analysis of convenience samples: free, cheap, friendly, and fancy sources. *Int. J. Soc. Res. Methodol.* 25 (6), 1–16. <https://doi.org/10.1080/13645579.2021.1961187>.
- Wirtz, J., Hofmeister, J., Chew, P.Y.P., Ding, X.D., 2023. Digital service technologies, service robots, AI, and the strategic pathways to cost-effective service excellence. *Serv. Ind. J.* 43 (15–16), 1173–1196. <https://doi.org/10.1080/02642069.2023.2226596>.
- Zahay, D., Mson, C.H., Schibrowsky, J.A., 2009. The present and future of IMC and database marketing. *International Journal of Integrated Marketing Communications* 1 (2).
- Zulfikar, T., Persada, A.S., Saepudin, D., 2022. Customer relationship management and integrated marketing communication increase customer loyalty in savings banks in Bandung. *J. Ekon.* 11 (03), 738–744.

Vera Butkouskaya is a professor of marketing whose research focuses on integrated marketing communications, marketing strategy, customer behaviour and emerging technologies in marketing in an inter-country context. She has published in international academic journals, presented her research at major international conferences, and participated in competitive research projects. She also serves as a peer reviewer and is a member of academic and professional marketing associations.