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Scalable Digital Marketing Systems for Customer Journey Optimisation in Technology Services: An Integrative Review

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Abstract: Technology service companies increasingly use connected customer data, automation, analytics, and personalisation; however, evidence remain limited across individual capabilities, journey stages, and implementation contexts. The study aimed to integrate existing research and develop a comprehensive model of coordinated marketing capabilities in lifecycle management across technological, organisational, economic, and institutional contexts. The study followed the PRISMA 2020 guidelines, identifying 946 and selecting 74 studies published between 2020 and 25 June, 2026 for an integrative review. The evidence was examined through descriptive mapping, thematic coding, cross-study comparison, and framework synthesis. The Dynamic Capabilities View provided the theoretical lens for interpreting how digital marketing capabilities support sensing, coordinated customer-facing action and continuing reconfiguration across the customer journey. Six interdependent capability clusters were identified: customer data

integration, marketing automation, AI-powered personalisation and prediction, journey and channel orchestration, digital engagement management, and performance measurement and feedback optimisation. These capabilities enabled stage-specific mechanisms, including personalisation, prediction, friction reduction, timely interaction, continuity, automated engagement, and cross-channel consistency. Scalability was enabled by infrastructure, interoperability, data quality, organisational integration, analytical skills, and governance capacity, while hindered by fragmented systems, implementation costs, platform dependence, privacy concerns, and weak accountability. The resulting four-layer framework connects digital marketing capabilities, operating mechanisms, customer journey stages, and outcomes under cross-cutting contextual conditions. It provides practitioners with a structured foundation for matching customer challenges with the appropriate combination of capabilities and operating conditions.

Keywords: Artificial intelligence personalisation, customer data integration, lifecycle orchestration, marketing automation, organisational capability, predictive analytics, privacy governance.

Introduction

Customer information, CRM, automation, analytics, customisation and digital channels help technology service providers acquire, onboard, retain, renew, and expand customer relationships. These activities progress via utilisation, assistance, engagement, and account enhancement across various interfaces and organisational participants (Rangaswamy et al., 2020; Lundin & Kindström, 2023; Terpoorten et al., 2024). Organisations need to coordinate data, decision making, workflows and responsibilities, reduce manual effort and ensure service consistency. Poor coordination among marketing, sales, service, and information systems can increase acquisition and coordination costs, delay value realisation, duplicate communication, and weaken retention. The central issue is not therefore technology adoption itself, but the effectiveness of the coordinated marketing system across the customer lifecycle (Homburg & Tischer, 2023).

Digital marketing capabilities integrate technology, data, analytics, and organisational practices and are associated both with customer and firm performance (Herhausen et al., 2020; Homburg & Wielgos, 2022). AI has further extended these capabilities through prediction, recommendation, adaptive communication, automated decision-making, and integration with CRM and lifecycle processes (Huang & Rust, 2021; Manis & Madhavaram, 2023; Vlačić et al., 2021; Ledro et al., 2025; Gao & Liu, 2023; Schweidel et al., 2022). AI-enabled automation and personalisation can enhance customer outreach and decision-making; however, their effectiveness depends on data integrity, organisational alignment, customer context, and effective implementation. The scalability of these capabilities is further shaped by privacy, transparency, customer autonomy, data governance, and accountability. Although personalisation can increase relevance, intrusive data collection and limited customer control may undermine trust. Governance is therefore integral to the design of scalable digital service systems (Bleier et al., 2020; Saura et al., 2024; Wirtz et al., 2023).

These implementation conditions are particularly relevant in emerging and transitional economies, where rapid digital adoption may coexist with infrastructure, capability, market-maturity, and governance constraints. Existing frameworks therefore require context-sensitive application. This review links scalable digital marketing capabilities with customer journey mechanisms, customer and economic outcomes, and technological, organisational, economic, and institutional conditions. It organises existing evidence without inferring causal relationships. The present review adopts the Dynamic Capabilities View (DCV) as its theoretical lens. This perspective is appropriate because scalable digital marketing depends not only on possessing digital technologies, but also on recognising changes in customer needs and behaviour, mobilising coordinated responses, and reconfiguring marketing resources and routines as journey and market conditions evolve. Recent research has applied dynamic-capability reasoning to AI-enabled B2B marketing, customer journey management, and AI-supported relationship marketing, emphasising capability integration, coordinated deployment, and adaptation rather than isolated technology ownership (Mikalef et al., 2021; Homburg & Tischer, 2023; Roy et al., 2025). Accordingly, the review interprets customer data and analytics as supporting sensing, automation and personalised journey interventions as supporting seizing, and system integration, orchestration, and feedback-driven adaptation as supporting transformation. Technological, organisational, economic, and institutional factors are treated as conditions that enable or constrain these processes.

Research Problem

The challenge is that research on digital marketing in technology services remains fragmented, with individual capabilities, technologies, and customer journey stages rarely examined as components of scalable digital marketing, system integrated customer data, CRM, automation, analytics, AI-supported personalisation, journey orchestration, and performance measurement. The increasing adoption of AI and automation, together with growing reliance on data-driven customer management, rising implementation costs, evolving privacy regulations, governance requirements, and variations in digital infrastructure across markets, makes this an increasingly pressing research problem for technology service companies. Although individual components of these systems have been extensively studied, the existing literature does not yet provide an integrated account of how capabilities, operating mechanisms, journey stages, outcomes, and contextual conditions interact within a scalable digital marketing system. Addressing this gap can contribute to both practice and the scientific field, by clarifying the factors that enable or constrain scalable digital marketing across various technology-service contexts.

Research Focus

The research is limited to digital marketing and customer journey management in technology-service and transferable technology-enabled service contexts. It adopts a system-level approach focussing on the configuration of scalable marketing capabilities rather than on the performance of individual technologies or commercial platforms. The review examines how customer data integration, CRM, marketing automation, analytics, personalisation enabled by AI, journey and channel orchestration, and digital engagement management and performance measurement are interconnected through their operating mechanisms across the customer lifecycle. Economic, organisational, technological and institutional issues are considered only

insofar as they affect the viability, synchronisation or transferability of these marketing capabilities. Legal and regulatory factors are therefore not treated as discrete analytical dimensions but contextual conditions that shape the scalability.

Research Aim and Research Questions

This study aims to synthesise current evidence on scalable digital marketing systems in technology services and to develop an integrative framework explaining how digital marketing capabilities support customer journey optimisation across the customer lifecycle under varying technological, organisational, economic, and institutional conditions, guided by Dynamic Capability View framework. To achieve this aim, the study pursues six objectives: to define the analytical boundaries of scalable digital marketing systems in technology services; identify and classify the digital marketing capabilities represented in the eligible evidence base; map the identified capabilities and operating mechanisms to customer journey stages; synthesise the customer and economic outcomes associated with these relationships; compare the technological, organisational, economic and institutional conditions that enable or constrain scalability; and develop an integrative framework with evidence-based implications for digital marketing specialists and future research. The review addresses the following research questions:

RQ1. What digital marketing capabilities constitute scalable digital marketing systems in technology services?

RQ2. How do scalable digital marketing capabilities support customer journey optimisation across the stages of awareness, consideration, acquisition, onboarding, adoption, engagement, retention, expansion, and advocacy?

RQ3. What technological, organisational, economic and institutional conditions enable or constrain the scalability of digital marketing systems in technology services?

RQ4. How can the identified capabilities, operating mechanisms, customer journey stages, outcomes, and contextual conditions be integrated into a conceptual framework for scalable customer journey optimisation?

Literature Review

Customer Journey Management in Technology Services

The customer journey is the series of interactions that a customer experiences when moving towards a provider, establishing a relationship with a provider, and developing that relationship over time. The customer lifecycle refers to the overall timeline of customer awareness, acquisition, usage, retention, expansion and potential advocacy. Customer experience concerns the customer's cognitive, emotional and behavioural reactions of the customer during that journey. Treating these concepts as interchangeable does not make it possible to understand their differences, which is the structure of interaction, the duration of the relationship and the quality of the customer's response (Tueanrat et al., 2021; Purmonen et al., 2023; Reitsamer & Becker, 2024).

Digital touchpoints can be firm controlled, customer controlled or partner mediated, and data generated through the use of these touchpoints continuously influence subsequent interactions

(Rangaswamy et al., 2020; Lundin & Kindström, 2023; Terpoorten et al., 2024). B2B journeys are often longer, with buying centres and technical intermediaries, and follow the purchase with implementation and adoption. Journeys are typically more platform-dependent and platform-led, and more individualised in B2C environments, but platform dependence and platform switching still play a role (Andersson et al., 2024; Hansmeier & zur Heiden, 2026). This review adopts a normalised sequence of awareness, consideration, acquisition, onboarding, adoption, engagement, retention, expansion and advocacy. This scheme is suitable for both B2B and B2C services and differentiates between initial conversion and value realisation later in the process (Nam & Kannan, 2020; Hoyer et al., 2020; Homburg & Tischer, 2023).

Theoretical Framework: Dynamic Capabilities View

The Dynamic Capabilities View (DCV) provides the theoretical framework for interpreting scalable digital marketing systems in this review. Its relevance lies in explaining how organisations adapt their capability configurations in response to changes in technologies, customer requirements and competitive conditions change. In digital marketing, this distinction is important because access to CRM, AI, automation, or analytics does not in itself explain the scalable performance. What matters is the organisational capacity to combine, deploy and adapt these capabilities. Mikalef et al. (2021), applying a dynamic-capabilities microfoundations perspective to AI-enabled B2B marketing, show the importance of organisational processes through which AI resources are converted into marketing value. Similarly, Homburg and Tischer (2023) conceptualise B2B customer journey management capability as a dynamic capability whose effectiveness depends on complementary capabilities, resource integration, and adaptation to environmental dynamism.

For this review, the DCV is operationalised through the interconnected processes of sensing, seizing, and transforming. Sensing concerns the recognition of changing customer needs, behaviours, risks, and opportunities. Customer data integration, behavioural analytics, predictive models, and performance measurement are interpreted as capabilities that can support sensing by making customer and journey information available for organisational decision-making. Seizing concerns the mobilisation of an appropriate response to recognised opportunities or problems. Marketing automation, AI-supported personalisation, digital engagement management and journey orchestration can support this process by translating customer information into timely, relevant and coordinated interactions. Transforming concerns the continuing reconfiguration of resources, processes, and routines. In the present context, this includes CRM and system integration, interoperability, cross-functional coordination, workflow redesign, and feedback-based optimisation as firms adapt capability combinations across journey stages. These associations are interpretive rather than exclusive classifications because individual digital marketing capabilities may contribute to more than one dynamic-capability process.

This theoretical lens also connects directly to the study aim and research questions. RQ1 identifies the digital marketing capabilities available for coordinated deployment, while RQ2 examines how these capabilities are mobilised through operating mechanisms across customer journey stages. RQ3 identifies the technological, organisational, economic, and institutional conditions affecting firms' capacity to deploy and reconfigure these capabilities. RQ4 integrates

these relationships into the four-layer framework. Recent evidence reinforces this interpretation. Homburg and Wielgos (2022) demonstrate that the value of digital marketing capability combinations depends on organisational and environmental contingencies, while Roy et al. (2025) connect AI-enabled adaptation with relationship-marketing outcomes. Research on digital ecosystems similarly emphasises the need for dynamic capabilities that enable firms to adapt data, collaboration, and organisational arrangements across interconnected environments (Volz et al., 2025). Emerging-market evidence further indicates that the development and use of digital marketing capabilities remain contingent on organisational and market conditions (Agnihotri et al., 2025; Al Buraiki & Nofal, 2026). Thus, DCV provides the theoretical explanation for why scalable customer journey optimisation depends on coordinated and adaptive capability deployment rather than the accumulation of isolated digital tools.

Scalable Digital Marketing Systems

A scalable digital marketing system is not a single CRM, automation platform or analytics application, but an integrated capability architecture. It is designed to handle increasing volumes of customers, interactions, channels or markets without having to scale up the number of manual effort or coordination cost. Capability research reveals that the performance of digitalization is not just the result of possessing cutting-edge technology, but as well depends on how data, processes, and organizational routines are combined (Herhausen et al., 2020; Wielgos et al., 2021; Homburg & Wielgos, 2022). The architecture starts with data infrastructure, identity resolution and the integration of CRM, service, and channel systems. These foundations are crucial for ensuring that automation and personalisation can be maintained in a continuous way along the lifecycle, otherwise, they can be based on a fragmented profile (Libai et al., 2020; Saura et al., 2021b; Ledro et al., 2025). Information is then transformed to repeatable actions through automation, with analytics and AI helping to predict, segment and adapt decision making.

While strategic AI frameworks differentiate mechanical automation from higher order analytical and relational functions, they also caution that there is a risk of technical sophistication outstripping an organisation's ability to use it responsibly (Davenport et al., 2020; Huang & Rust, 2021; De Bruyn et al., 2020). The ability to scale up marketing activities is enhanced by AI-assisted personalisation, predictive analytics and content adaptation, but these must be coupled with channel orchestration and lifecycle management (Chintalapati & Pandey, 2022; De Mauro et al., 2022; Mustak et al., 2021). These are complementary perspectives: to achieve scalable personalisation, it is necessary to have algorithmic adaptation and coordinated execution across touchpoints (Gao & Liu, 2023; Rustholkar et al., 2022; Kumar et al., 2024). Finally, performance measurement connects customer behaviour with outcomes and subsequent optimization, but can lead to analytics myopia and underestimate retention or lifetime value (Vollrath & Villegas, 2022; Campbell et al., 2020). Technical capacity issues are related to the volume of data, data processing speed, modularity and interoperability. Organisational capacity issues are related to co-ordination, skills, governance and reconfiguration of the workflow. The literature on agile marketing, digital transformation and the implementation of AI indicates that although systems might be able to do more, the organisation is not able to coordinate decisions or assign responsibilities (Moi & Cabiddu, 2021; Pascucci et al., 2023; Keegan et al., 2024).

Customer Journey Optimisation Mechanisms

Capability does not directly affect the journey's performance, but does so through mechanisms. A mechanism is the way a capability affects an interaction, while an outcome is the resulting effect. Personalisation, prediction, reduced friction, timely interaction, continuity, automated engagement and cross-channel consistency, are therefore, analytical connections between capability and outcome, but not outcomes. A capability can enable a variety of mechanisms at various stages of journey activity. Customer Data Integration can enhance relevance in the consideration phase, eliminate duplication in the onboarding process and allow for timely intervention in the retention phase. Predictive analytics can be used for lead prioritisation (at acquisition), churn detection (at retention) or opportunity identification (at expansion) (Schweidel et al., 2022; Saura et al., 2026). Marketing automation can help to remove friction with triggered responses, but it can also harm experience by sending out generic communications when they don't fit the context. The interaction quality and timing should be considered when assessing automation, not just the volume of executions (Manis & Madhavaram, 2023; Lundin, 2025).

Journey orchestration is particularly critical in situations where customers interact across digital self-service, employees and intermediaries. In these types of environments, continuity and cross-channel consistency rely on information transfer and role coordination, rather than simply on a channel availability (Terho et al., 2022; Terpoorten et al., 2024). While AI-driven engagement can enhance value co-creation and relationship adaptation, the interpretability and human judgment are essential when situations where engagement decisions have a tangible impact on customers (Chandra & Rahman, 2026; Puntoni et al., 2021; Roy et al., 2025). Feedback-based optimisation is a recursive measurement cycle whereby subsequent targeting, content and workflows are optimized based on observed behavior and outcomes (Okazaki & Inoue, 2022; Grewal et al., 2025).

Technological, Organisational, Economic, and Institutional Conditions of Scalability

Scalability is dependent on conditions that influence the feasibility, effectiveness and transferability. Connected customers profiles and automated workflows depend on digital infrastructure, data quality and interoperability; fragmented systems hinder coordination and increase costs for implementation costs. Firms can only transform technology into repeatable marketing practices if they have organisational integration, analytical skills and governance capacity (Agnihotri et al., 2025; Liu, 2022; Wunderlich et al., 2025). These factors are especially pertinent in emerging markets, where infrastructure and capability deficiencies can happen side by side with a high rate of platform adoption (Riaz et al., 2024; Wattoo et al., 2026). Economic considerations include integration costs, subscription fees, expert personnel and model maintenance. While automation can help to increase efficiency, coordination costs can outweigh the benefits if functions are still operated in silos or if significant manual effort is still required to execute customer journeys (Homburg & Tischer, 2023; Homburg & Wielgos, 2022). Platform dependency might speed up deployment but can also lead to limited and reduced data portability and strategic control.

The sense of legitimacy and trustworthiness of data-driven interactions is determined by privacy, data governance, AI governance and consumer protection (Blasco-Arcas et al., 2022; Saura

et al., 2021a). The study of disclosure, surveillance and personalised advertising reveals that there can be a tension between the perceived intrusion and the relevance of the disclosure (Aiello et al., 2020; Plangger & Montecchi, 2020; Lamprinakos et al., 2022). These tensions can be tempered by transparency and customer control over data collection, while opaque data collection could lead to a reduction in the quality of the relationship quality, even if the targeting increases (Portes et al., 2020; Zimmermann et al., 2024). More broadly, the work on accountable algorithms, ethical AI and corporate digital responsibility also suggests that governance is not something that can be added to scalability, but must be incorporated into the design of scalable systems (Breidbach & Maglio, 2020; Du & Xie, 2021; Wirtz et al., 2023). Stages and touchpoints are explained by journey research, resources and routines are explained by capability research, prediction and automation are explained by AI research and legitimacy and trust are explained by privacy research. Yet to be developed is a shared framework that links capabilities, mechanisms, phases, results and contextual factors for technology services. These five analytical dimensions became the basis of the coding framework and in the final conceptual model, the four dimensions of digital marketing capabilities, operating mechanisms, customer journey stages and outcomes are interrelated layers while contextual conditions operating across the layers. The five analytical dimensions were the basis for the first coding structure that was used in the integrative synthesis.

Materials and Methods

Research Design

This study adopted a structured integrative literature review design to synthesize the heterogeneous evidence on scalable digital marketing systems in technology services. The Dynamic Capabilities View was applied as a review-level interpretive framework. It was used to interpret how capability integration, coordinated deployment and reconfiguration contributed to scalable customer journey management. The unit of analysis was the scholarly publication that met the inclusion criteria, and no human participants were recruited. English-language peer-reviewed studies published between 2020 and 25 June 2026 were reviewed. The main databases were Scopus and Web of Science Core Collection, with ScienceDirect being used only as a discovery source. The search was structured into 5 concept blocks: customer journeys, digital marketing systems, scalability mechanisms, technology-service contexts and contextual conditions. These blocks were subsequently consolidated into four search sets. The search concepts, combination logic, database limits and full search strings are listed in Appendix A (Tables A1-A4). The searches dates, numbers of records retrieved, export formats and file names are detailed in Appendix A, Table A5. The study identification, deduplication, title and abstract screening, full-text evaluation and final inclusion were reported and conducted in accordance with PRISMA 2020 reporting items. The evidence was analysed by means of descriptive mapping, thematic coding, cross study comparison and conceptual framework synthesis. This design enabled the integration of capabilities, mechanisms, customer journey stages, outcomes and contextual conditions without making any causal claims. The review was not prospectively registered. It was guided by an internal protocol defining the research questions, concept blocks, databases, eligibility criteria, screening phases, extraction fields and synthesis procedures.

Sample

The analytical sample consisted of scholarly publications rather than human participants. Records were eligible if they were published in English from January 2020 to the final search date of 25 June 2026 and addressed at least one digital marketing capability together with a customer journey, customer experience, lifecycle mechanism or outcome. Technology services, digital services, SaaS, IT services, cloud services, digital platforms and transferable technology-enabled service settings were included. The database searches identified 946 records. After deduplication, title-and-abstract screening and full-text eligibility assessment, 74 studies met the inclusion criteria and formed the final analytical sample.

Instruments and Procedures

Two structured analytical instruments – an eligibility screening form and a data extraction matrix and study characteristics table (Appendix B, Tables B1 – B3) – were used in the review. The screening form was used to operationalise the publication date, topic, sector, evidence content, governance relevance and full-text accessibility criteria. The extraction matrix included the following information: Study ID, geographical and sectoral context, research design, participant group or data source, digital marketing capability, scalability feature, customer journey stage, operating mechanism, customer and economic outcomes, enabling conditions, constraints and source-grounded evidence note. Table B3 summarized the features of the 74 studies included and served as the foundation for descriptive mapping and cross-study comparison. The records found in Scopus and Web of Science Core Collection were merged and duplicate titles and DOIs were removed. The specific concept blocks, search combinations, database fields, limits and procedures are given in Appendix A, Tables A1-A5. One exclusion reason was recorder for every study excluded at the full-text stage. The studies that met the inclusion criteria were coded using the extraction matrix, and the findings from the studies were distinguished from the interpretation of the review author. These data were used for thematic classification, comparison between the different stages and contexts of the customer journey and to create the integrative framework. Formal inter-rater agreement statistics were not calculated.

Data Analysis

The 74 included studies were analysed in four steps. Descriptive mapping was then used to summarise the year of publication, geography, study design, participant group, and data source using Appendix B, Table B3. Second, deductive thematic coding categorised the evidence based on digital marketing capabilities, scalability features, customer journey stages, operating mechanisms, customer and economic outcomes, enabling conditions and constraints. Recurring findings that did not fit the initial categories were used to inductively refine. Thirdly, cross-study comparison explored convergence and divergence and contextual variation across sectors, countries, research designs and journey stages. Lastly, relationships were mapped between capabilities, mechanisms, stages, outcomes and contextual conditions, with attention to their recursive nature. Study counts and patterns were only reported where there was support from the completed coding matrix and conceptual, contextual and empirical evidence were differentiated when making claims.

Reproducibility

A search and screening process was documented and provided support for reproducibility. The search concept blocks, search-set logic, database limits, and complete database-specific strategies are reported in Appendix A (Tables A1-A5). The eligibility screening form, structured extraction matrix and characteristics of the included studies (Tables B1-B4) are included in Appendix B.

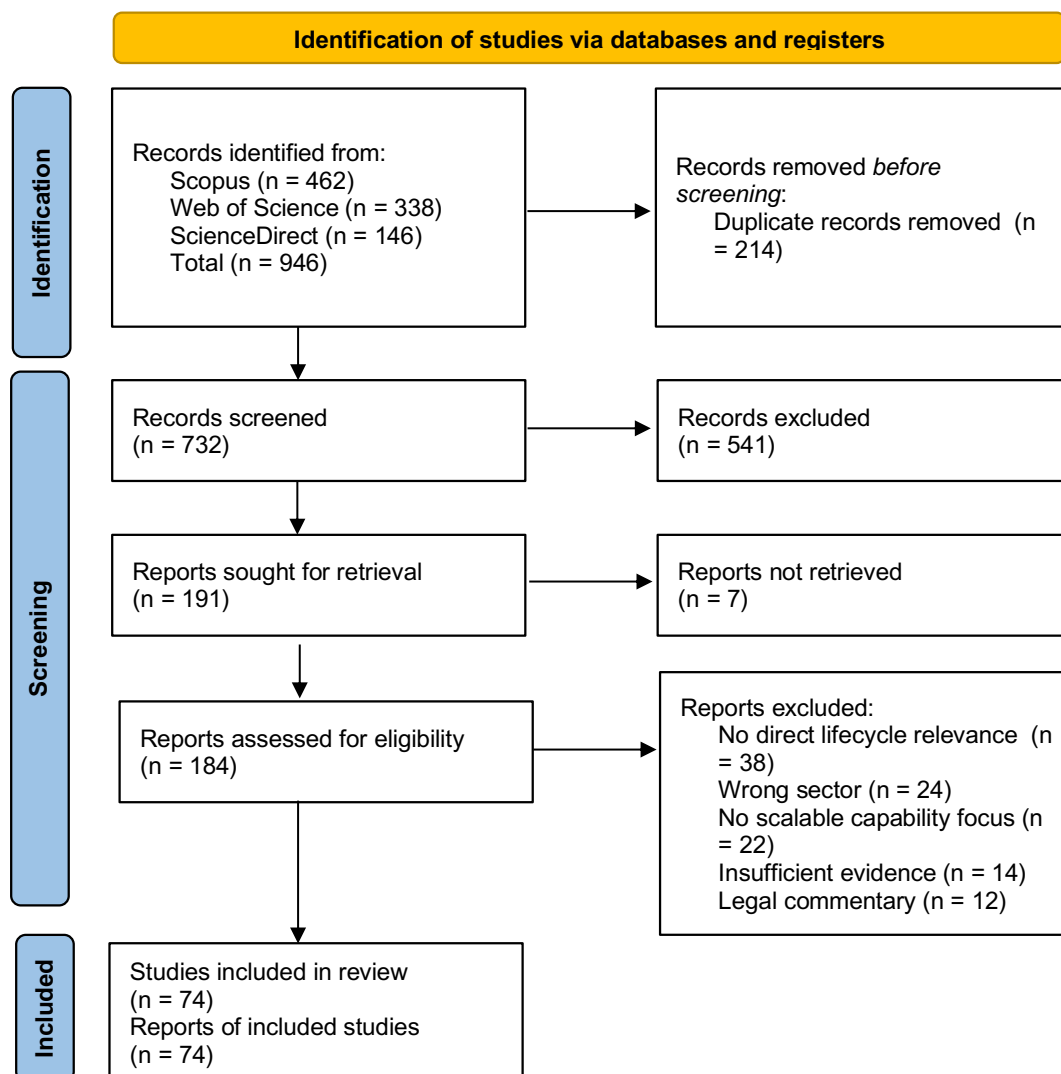
Results

Study Selection

There were 462 records retrieved from Scopus, 338 records found in Web of Science Core Collection and 146 records retrieved from ScienceDirect. After the removal of 214 duplicate records, 732 titles and abstracts were screened, of which 541 were excluded. Of the 191 reports, 184 were retrieved; seven did not have the full text available. After excluding 110 reports that did not meet the pre-defined criteria, 74 studies remained in the final analytical corpus. No supplementary backward or forward citation searching was undertaken beyond the predefined database-based search strategy. The selection process is shown in Figure 1.

Figure 1

PRISMA 2020-Based Flow Diagram of Study Identification, Screening and Inclusion



Source: Authors' development

Structure of the Evidence Base

The final analytical corpus included 74 studies published between 2020 and 2026. In 2020–2022, 44 studies were published, while 30 were published in 2023–2026. Although uneven, geographical coverage was broad. The US, Germany, Italy, India, and Finland had the highest concentration of country-coded studies, along with European, international, and cross-cultural studies. Studies from India, China, and Pakistan provided evidence from emerging markets, but mature digital-market contexts were more prevalent. Though methodologically diverse, the corpus emphasised conceptual development. 28 studies were conceptual frameworks and theoretical analyses; 12 were reviews. The empirical evidence included 12 quantitative, 12 qualitative, 8 mixed-method, and 2 computational modelling studies. Cross-sectional surveys, experiments, and structural modelling were used for quantitative research, while interviews, case studies, and organisational documents provided qualitative evidence. B2B digital marketing, cloud services, digital platforms, online retail, e-commerce, social media, financial services, and cross-industry technology-enabled services were reviewed. Tab B3 in Appendix B provides details of all included studies.

Table 1

Profile of the Included Studies

Dimension	Category	Studies, n	Percentage
Publication year	2020	14	18.9
	2021	15	20.3
	2022	15	20.3
	2023	7	9.5
	2024	9	12.2
	2025	8	10.8
	2026	6	8.1
Study design	Conceptual or theoretical	28	37.8
	Review or evidence synthesis	12	16.2
	Quantitative empirical	12	16.2
	Qualitative empirical	12	16.2
	Mixed methods	8	10.8
	Computational modelling	2	2.7

Note. Studies were classified according to their primary research design. Full study-level information on geography, design and participant group or data source is provided in Appendix B, Table B3. The 2026 category includes studies available up to the final search date of 25 June 2026.

Core Capabilities of Scalable Digital Marketing Systems

The synthesis found six interdependent capability clusters: customer data integration, marketing automation, AI supported personalisation and prediction, journey and channel orchestration, digital engagement management and performance measurement and feedback optimisation. While some studies considered these clusters as one system, recurring relationships

indicated that scalability was related to their coordination and not to technological adoption. The system was based on the integration of customer data. Studies on CRM, customer data, digital platforms, and customer signals studies all point to the need for consolidating customer data across channels, transactions, and service interactions to achieve stability. In addition to database ownership, the capability involved customer identification, data accessibility, interoperability and the ability to transform data from various sources into useful customer profiles. Studies of AI and CRM integration revealed that the lack of a unified data source hindered the ability to personalise, predict, and manage customer relationships (Ledro et al., 2022, 2025).

Repeatable workflows facilitated communication, lead management, onboarding, engagement and retention through marketing automation and lifecycle execution. Manual intervention was minimized and consistency was maintained with the increased volumes of customers through automation. Studies identified two types of automation: simple and advanced lifecycle coordination, where triggers, customer states, or behavioural data dictate when and how to interact (Campbell et al., 2020; Huang & Rust, 2021; Manis & Madhavaram, 2023). So, the Automation was demonstrated to be not a marketing system, but an execution ability. Personalisation and predictive analytics were implemented in the customer segment based on AI. The behavioural prediction and recommendation, next-best-action selection, personalised communication, and automated response were associated with this cluster (Gao & Liu, 2023; Kumar et al., 2024; Saura et al., 2026). Journey-focused research indicated that personalisation helps to make information relevant in the consideration stage, reduces friction in the acquisition stage and intervenes in a timely manner in the retention stage (Chandra & Rahman, 2026; Gouveia & Santos, 2025). However, prediction accuracy and customer acceptance were viewed in isolation, particularly in the case of personalisation which involves extensive tracking.

Journey and channel orchestration coordinated touchpoints, organisational actors, and interaction sequences across lifecycle stages. Customers frequently switched between self-service interfaces, human support, third-party intermediaries, and organisational units in B2B journeys, cloud services, and digital platforms (Lundin & Kindström, 2023; Purmonen et al., 2023; Terpoorten et al., 2024). Information continuity, consistent interaction logic, and automated-human coordination were needed for scalability. Because it synchronised data, timing, and service responsibilities, omnichannel capability was broader than channel presence. Digital engagement management created, delivered, and adapted customer-facing content and interactions (Lundin, 2025; Terho et al., 2022; Wattoo et al., 2026). Combining reusable content, automated delivery, and customer-state information enabled engagement to scale. Aligning communication with journey stage and customer relevance was necessary for capability, not content volume. By linking customer responses to decisions, performance measurement and feedback optimisation closed the system. Marketing analytics studies recommended measuring acquisition, experience, engagement, retention, and firm performance rather than just conversion metrics. The cluster included behavioural monitoring, attribution, experimentation, performance dashboards, and feedback loops. Scalability was defined by its ability to refine workflows and resource allocation without manual evaluation.

Table 2*Taxonomy of Scalable Digital Marketing Capabilities*

Capability cluster	Operational definition	Representative functions	Principal scalability feature
Customer data integration	Ability to consolidate and make customer information usable across systems and interactions	Customer identification, CRM integration, unified profiles, interoperability and data access	Data reuse across channels, stages and customer volumes
Marketing automation	Ability to execute repeatable marketing and relationship workflows with limited manual intervention	Triggered communication, lead handling, onboarding sequences and retention workflows	Standardised and repeatable execution
AI-supported personalisation and prediction	Ability to use behavioural and contextual data to anticipate needs and adapt interactions	Recommendation, next-best action, predictive scoring and personalised communication	Automated decision adaptation across large customer bases
Journey and channel orchestration	Ability to coordinate touchpoints, actors and interaction sequences across the lifecycle	Omnichannel coordination, handovers, journey monitoring and service continuity	Consistent coordination across channels and organisational units
Digital engagement management	Ability to create and deliver stage-relevant content and interactions	Content marketing, nurturing, social interaction and customer engagement	Reusable and adaptable engagement processes
Performance measurement and feedback optimisation	Ability to assess outcomes and use feedback to improve decisions and workflows	Attribution, behavioural analytics, experimentation, dashboards and lifecycle measurement	Continuous optimisation without proportional analytical effort

Note. Capability clusters were derived from recurring patterns across the included studies. Individual studies frequently addressed more than one cluster.

Capabilities Across Customer Journey Stages

Relevance, information quality, and progressive engagement in awareness and consideration were all enhanced by customer data, digital content, and AI-powered personalisation. Digital content marketing assisted customers in progressing from recognition to evaluation, and behavioural signals and personalised advertising enabled companies to customise content to customers' interests and previous interactions (Tangari, 2026). These features were particularly valuable when customer data could be synced between platforms, but this also meant that there were concerns about privacy and transparency (Aiolfi et al., 2021; Hayes et al., 2021; Moliner-Tena & Tortosa-Edo, 2025). Marketing automation, predictive analytics, and interactions via platforms were cited as reducing transactional friction, qualifying leads and helping with conversions during the acquisition. Predictive models provided firms with the ability to prioritize and personalize offers, and automated workflows reacted to behavioral triggers and handled more prospects (Campbell et al., 2020; Manis & Madhavaram, 2023). Conversion frameworks that were privacy compliant revealed that customer identification and lawful use of data were key factors in achieving

acquisition efficiency (Paulich et al., 2026). Acquisition outcomes were influenced by data quality, consent practices and digital-human coordination.

Evidence emphasized continuity, guidance, and support during service use to support onboarding and adoption. Users of cloud and digital services often alternated between using self-service interfaces, specialist support or organisational actors when using these services for the first time (Lundin & Kindström, 2023; Terpoorten et al., 2024). Journey orchestration and CRM integration helped ensure information continuity and minimized effort, and automated communication helped facilitate activation and early engagement. Less attention was given to these stages, and there is limited evidence as to how scalable marketing systems contribute to initial value realisation. AI-powered personalisation, CRM, lifecycle automation, and predictive analytics helped to maintain engagement, predict churn risk, and drive value opportunities throughout the lifecycle. AI-powered CRM research likened unified customer data with more agile CRM practices and customer engagement studies correlated timely and relevant customer interactions with improved relationships. Trust was important for retention, as perceived surveillance or lack of privacy expectations could negatively impact it (Babayev et al., 2024; Plangger & Montecchi, 2020; Swani & Milne, 2022). There was limited evidence that advocacy was a downstream outcome of engagement, satisfaction and loyalty and was not a journey stage in itself (Wattoo et al., 2026).

Table 3

Digital Marketing Capability and Customer Journey Matrix

Operational capability	Normalised journey stage	Operating mechanism	Reported customer outcome	Reported economic outcome	Contextual qualification
Customer data integration	Awareness-retention	Unified customer identification and information continuity	More relevant and consistent interactions	Improved targeting and reduced duplication	Dependent on data quality, interoperability and governance
Digital content and engagement management	Awareness and consideration	Information provision, nurturing and progressive engagement	Greater relevance and customer engagement	More efficient prospect development	Content must be aligned with customer needs and journey stage
AI-supported personalisation	Consideration-retention	Adaptive recommendations, tailored communication and next-best action	Improved relevance, experience, engagement, and retention Conversion	Acquisition efficiency	Constrained by tracking awareness, privacy concerns and trust
Marketing automation	Acquisition-retention	Triggered communication and repeatable lifecycle workflows	Faster response and reduced interaction friction	Lower manual coordination and scalable execution	Requires accurate customer states and organisational oversight

Predictive analytics	Acquisition, retention and expansion	Lead scoring, churn prediction and opportunity identification	Timely intervention and continuity	Resource prioritisation and revenue expansion potential	Effectiveness depends on usable data and model transparency
Journey and channel orchestration	Onboarding-retention	Coordination of digital, human and intermediary touchpoints	Service continuity and smoother transitions	Reduced coordination failure and service inefficiency	Particularly important in complex B2B and cloud-service journeys
CRM and lifecycle management	Engagement, retention and expansion	Relationship history, automated follow-up and account development	Satisfaction, retention, loyalty and relationship continuity	Customer lifetime value and revenue expansion	Requires integration across marketing, sales and service functions
Performance measurement and feedback	All stages	Behavioural monitoring and iterative workflow refinement	More responsive journey management	Improved allocation and marketing efficiency	Limited when firms rely on isolated conversion metrics

Note. Journey stages were normalised to the review framework. Individual studies sometimes used alternative labels or addressed multiple stages simultaneously. The evidence was more developed for acquisition, engagement and retention than for onboarding, adoption and advocacy.

Drivers and Constraints of Scalability

The review identified technological, organisational, economic and institutional factors as those that influenced the feasibility of expanding the digital marketing capabilities without increasing the manual effort or coordination costs. Integrated customer data, interoperable systems, and reliable analytics paved the way for automation, personalisation and cross-channel continuity. Customer data was siloed, customer identifiers were inconsistent, and data quality was lacking, making it hard for customer data to flow between CRM, marketing, sales and service systems (Ledro et al., 2025; Schweidel et al., 2022; Wieringa et al., 2021). Marketing capabilities and scalability of the organisation were supported by skills, cross functional coordination and clear responsibilities. Digital transformation and B2B journey management research revealed that in the absence of integration between marketing, sales, service and IT, technology alone could not orchestrate customer experiences. Repeatability was achieved with standardised journeys; however, this could lead to a loss of responsiveness in more complex and relationship-rich journeys. Implementation and continuity were impacted by the economic situation. Although automation and reusable workflows could help to reduce repetitive labor and optimize resource allocation, the costs of integration, the need for specialized skills, platform subscriptions, and maintaining the models hindered the adoption process, particularly in organizations with limited resources (Agnihotri et al., 2025; Herhausen et al., 2020). The evidence from emerging markets indicated that digital market systems, which are already well established, might not be easily transferable because of infrastructure and capability deficits. The most noticeable institutional conditions were related to privacy, transparency, algorithmic responsibility and consumer protection. Data governance can be used to achieve scalability, by establishing legitimate and

consistent data rules for customer data usage, but opaque tracking, intrusive personalisation and unmet privacy expectations can lead to a loss of trust and engagement. Scalable marketing systems were design requirements, not imposed by the customer journey management.

Table 4

Drivers and Constraints of Digital Marketing Scalability

Contextual condition	Enabling role	Constraining role	Practical implication	Evidence-strength note
Data quality and integration	Supports unified profiles, automation and journey continuity	Fragmented or inaccurate data weakens targeting and coordination	Establish shared data standards before scaling automated workflows	Recurrent across empirical and conceptual studies
Interoperability and infrastructure	Connects CRM, analytics, channel and service systems	Legacy systems and incompatible platforms create duplicated effort	Prioritise integration capacity rather than isolated platform adoption	Strongly recurring technological condition
Organisational integration	Coordinates marketing, sales, service and technology functions	Functional separation produces inconsistent customer interactions	Assign cross-functional responsibility for journey performance	Recurrent in B2B and digital-transformation evidence
Skills and governance capacity	Enables interpretation, supervision and improvement of automated decisions	Skills shortages increase dependence on vendors and reduce control	Develop analytical, operational and governance competencies together	Consistent but context-dependent evidence
Implementation and maintenance cost	Investment can create reusable processes and efficiency gains	Integration, subscriptions and specialist labour can limit scalability	Evaluate lifecycle cost rather than initial acquisition cost alone	Moderately developed economic evidence
Privacy and data governance	Supports legitimate data use, trust and consistent decision rules	Opaque collection and excessive tracking reduce customer acceptance	Embed consent, transparency and data control in journey design	Strongly recurring institutional condition
AI governance and accountability	Clarifies responsibility for automated decisions	Bias, opacity and weak oversight increase reputational and regulatory risk	Maintain human oversight for consequential customer decisions	Predominantly conceptual and contextual evidence
Platform dependence and market maturity	Established ecosystems can accelerate deployment	Vendor lock-in and weak local infrastructure reduce flexibility	Assess transferability across organisational and national contexts	Limited and uneven comparative evidence

Note. Evidence-strength classifications were based on recurrence across studies, methodological breadth, directness of support and contextual consistency. They represent qualitative synthesis judgements rather

than numerical quality or risk-of-bias scores. Conceptual evidence was distinguished from empirically supported findings.

Because the corpus included heterogeneous empirical, conceptual, and review designs, a single risk-of-bias instrument was not applied uniformly across all studies. Instead, evidence used in the synthesis was appraised qualitatively according to four dimensions: direct relevance to the research questions, methodological transparency, clarity of support for the coded relationship, and transferability to technology-service or comparable digitally enabled service contexts. Evidence-strength judgements additionally considered the recurrence of a finding across studies and the methodological breadth of the supporting evidence. These criteria were used to distinguish strongly recurring, moderately developed, context-dependent, predominantly conceptual, and limited or uneven evidence. No numerical quality score was calculated, and conceptual propositions were not treated as equivalent to empirical findings.

Integrative Framework for Customer Journey Optimisation

Based on the synthesis, a four-layer framework was developed: digital marketing capabilities, operating mechanisms, customer journey stages and outcomes. The first layer involves customer data integration, marketing automation, AI-driven personalisation and prediction, journey and channel orchestration, digital engagement management and performance measurement and feedback optimisation. These capabilities are not stand-alone technologies, but work together. Data integration enables actionable customer data, automation and analytics enable repeatable decisions and actions to be made from that data, orchestration enables interactions between channels and organisational actors to be coordinated, and performance measurement enables continuous tuning.

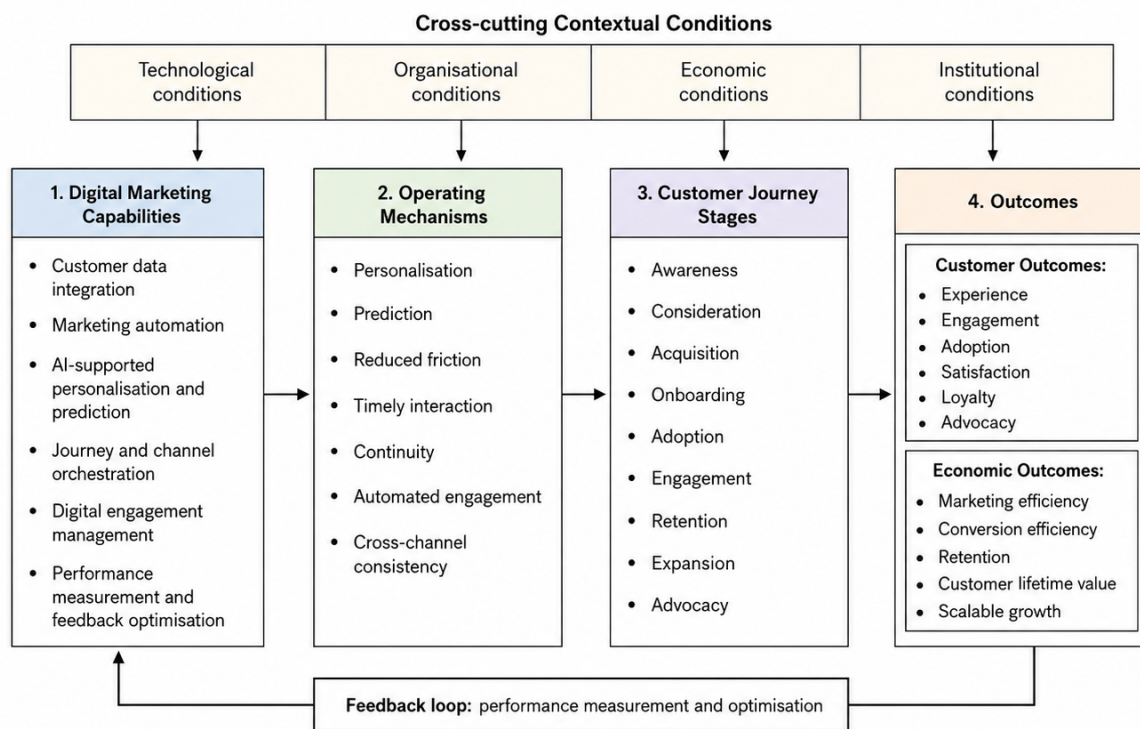
The second layer consists of mechanisms by which these capabilities impact customer journeys: personalisation, prediction, reduced friction, timely interaction, continuity and automated engagement and cross-channel consistency. The third layer consists of the standardized stages of the customer journey that are normalised; awareness, consideration, acquisition, onboarding, adoption, engagement, retention, expansion and advocacy. These stages involve different mechanisms, which are of varying importance. Personalisation and content relevance are more relevant in the awareness and consideration stages, automation and friction reduction are more relevant in the acquisition and onboarding stages and prediction, continuity and relationship adaptation are more relevant in the engagement, retention and expansion stages. The fourth layer consists of two outcome domains related to each other. Customer outcomes are experience, engagement, adoption, satisfaction, loyalty and advocacy and economic outcomes are marketing efficiency, conversion efficiency, retention, customer lifetime value and scalable growth. These reviewed sources did not indicate a single linear relationship between technology adoption and performance. The combinations of capabilities and mechanisms were more consistently associated with outcomes than single tools (Homburg & Tischer, 2023; Homburg & Wielgos, 2022; Wielgos et al., 2021; Mazur et al., 2023).

Technological, organisational, economic and institutional conditions are in operation in all four layers. Scalability is facilitated by data quality, interoperability, skills, organisational integration

and governance capacity, but is limited by implementation costs, fragmented systems, privacy concerns, platform dependence and weak accountability. Performance measurement offers a feedback mechanism that can be used to guide the next steps in capability development, and journey optimisation, based on customer and economic outcomes. There are different degrees of relative importance across these relationships, sectors and markets, and evidence for adoption, advocacy and cross-country transferability is still rather limited. In the Dynamic Capabilities View the framework is an adaptive sequence: customer data and analytics and measurement support sensing; automation, personalisation and journey orchestration support seizing identified opportunities; and integration, coordination and feedback-driven adjustment support ongoing transformation of marketing routines. These correspondences are not additional causal pathways or layers of the framework, but rather are a theoretical interpretation of the synthesised relationships.

Figure 2

Integrative Framework of Scalable Digital Marketing Systems for Customer Journey Optimisation



Note. The four-layer framework is interpreted through the Dynamic Capabilities View. Customer data and analytical capabilities support sensing, coordinated marketing mechanisms support seizing, and integration and feedback-driven adaptation support transformation. Technological, organisational, economic and institutional conditions operate as cross-cutting boundary conditions rather than additional framework layers.

Source: Authors' development

Discussion

From Individual Tools to Integrated Scalable Systems

The findings support a dynamic-capabilities interpretation of scalable digital marketing. The value of CRM, automation, analytics, AI and digital platforms lies not simply in their availability, but

in the organisational capacity to integrate, coordinate and reconfigure these resources as customer and market requirements change. This interpretation is consistent with evidence that AI-enabled marketing and customer journey management depend on complementary organisational processes rather than isolated technical resources (Mikalef et al., 2021; Homburg & Tischer, 2023). It also extends capability-based research showing that organisational integration and complementary routines shape digital marketing performance beyond technology ownership alone (Herhausen et al., 2020; Homburg & Wielgos, 2022).

The reviewed evidence was not uniformly positive, however. Studies of AI-supported personalisation and analytics associated these capabilities with improved relevance, prediction and more adaptive customer interaction (Gao & Liu, 2023; Kumar et al., 2024), whereas privacy-focused studies showed that extensive tracking, surveillance and opaque data practices could reduce trust and customer acceptance even when targeting became more precise (Plangger & Montecchi, 2020; Moliner-Tena & Tortosa-Edo, 2025). A similar tension appeared in automation. Automation can improve consistency, reduce repetitive effort and support interaction at scale, but standardised or poorly contextualised communication may weaken customer experience when customer states or relationship requirements are not adequately recognised (Manis & Madhavaram, 2023; Lundin, 2025). These findings are not necessarily contradictory. They indicate that the same capability can produce different outcomes depending on data quality, customer context, organisational coordination and governance.

Customer journey management itself also shows both benefits and costs. Homburg and Tischer (2023) demonstrate that customer journey management capability can improve firm performance while also creating coordination demands when multiple functions and touchpoints must be aligned. This helps explain why greater technological sophistication does not automatically produce greater scalability. AI can support prediction, personalisation and interaction at scale, but fragmented customer data, unclear organisational responsibilities and poorly aligned automated decisions can restrict those benefits (De Bruyn et al., 2020; Keegan et al., 2024; Ledro et al., 2025). The evidence therefore suggests that scalability depends on how complementary capabilities are combined and governed rather than on the isolated adoption of individual technologies.

Customer Journey Optimisation as a System-Level Capability

The synthesis indicates that no single technology or touchpoint intervention consistently optimises the customer journey. Customer data, automation, analytics, personalisation, channel coordination and performance measurement create value through different mechanisms at different stages. Earlier customer journey research emphasised stages, touchpoints and customer responses, while giving less attention to the organisational architecture required to coordinate them at scale (Tueanrat et al., 2021; Purmonen et al., 2023). Homburg and Tischer (2023) further show that journey management can generate performance benefits while simultaneously increasing coordination requirements, demonstrating that more intensive journey management is not universally beneficial.

The evidence also varies by journey stage. Automation and friction reduction are particularly relevant to acquisition and onboarding, whereas personalisation and information relevance become more important during consideration. Continuity, prediction and timely intervention become more prominent during engagement and retention (Gao & Liu, 2023; Rusthollikarhu et al., 2022; Terho et al., 2022). Yet these effects are conditional. Personalised communication may strengthen relevance and engagement, while the same data-intensive personalisation may generate privacy concerns when customers perceive tracking as excessive or insufficiently transparent (Hayes et al., 2021; Lamprinakos et al., 2022). Likewise, predictive models may identify churn risk, but retention benefits depend on whether organisations can convert those predictions into timely and appropriate responses.

Through the Dynamic Capabilities View, these divergent findings can be interpreted as differences in how effectively firms sense, seize and transform. Customer data and analytics may enable firms to sense changing needs and risks, but weak data quality or fragmented systems can limit this process. Automation, personalisation and orchestration may enable firms to seize identified opportunities, but poorly contextualised or intrusive responses can weaken customer outcomes. Integration, feedback and cross-functional coordination support transformation by allowing firms to adjust routines and capability combinations as customer requirements evolve. Technological, organisational, economic and institutional conditions therefore operate as boundary conditions that influence whether comparable digital capabilities generate positive, neutral or adverse outcomes across organisations and markets.

Economic and Institutional Conditions of Scalability

Scalability is a balance between efficiency, personalisation, implementation cost and governance. While automation, integrated data and predictive analytics can decrease repetitive tasks and optimize resource allocation, infrastructure, interoperability, specialist skills and system maintenance need to be maintained. Digital marketing value is not about the acquisition of technologies, but about coordinated organisational investment, as capability studies show (Herhausen et al., 2020; Homburg & Wielgos, 2022). For smaller or less-resourceful companies, the marketing process could be constrained by integration expenses and the need for outside platforms. Data-driven journey management feasibility and legitimacy are impacted by institutional conditions. Martin and Palmatier (2020), Scarpi et al. (2022), and Walker and Milne (2024) all found that design requirements such as privacy, transparency and customer control have an impact on trust, engagement and personalisation, but these requirements are not limited to legal considerations. In the short term, opaque data collection could lead to better targeting, but in the long term, it could harm customer relationships, as indicated by privacy-aware analytics and digital responsibility research (Maseeh et al., 2021; Zayukov et al., 2024). AI governance is significant when AI systems classify, recommend or deliver services as accountability and human oversight impact reputational and regulatory risk (Behera et al., 2022; Breidbach & Maglio, 2020; Saura et al., 2024). Research in India, China and Pakistan shows that digitally enabled reach and relationship management can be a positive for emerging-market companies, but infrastructure, skills, organisational capability and institutional maturity are required. These studies do not substantiate that mature markets are more scalable. They propose that the transferability is contingent on local

data systems, governance and customer expectations. Evaluate marketing systems that are scalable in terms of socio-technical systems, and where the economic value is reliant on organisational readiness and institutional legitimacy.

Theoretical and Practical Contribution

The principal theoretical contribution of this review is to extend the Dynamic Capabilities View to the system-level optimisation of digital customer journeys. Rather than treating CRM, automation, analytics, AI and digital platforms as independent resources, the synthesis shows how complementary digital marketing capabilities can be interpreted through the dynamic-capability processes of sensing, seizing and transforming. Customer data integration, analytics, prediction and performance measurement provide the informational basis for sensing changes in customer needs, behaviours and journey conditions. Marketing automation, AI-supported personalisation, digital engagement and journey orchestration support seizing by translating recognised needs and opportunities into timely and coordinated customer interactions. System integration, cross-functional coordination, workflow adaptation and feedback-based optimisation support transforming by enabling firms to reconfigure marketing routines and capability combinations as customer and operating conditions change. This interpretation is consistent with recent applications of dynamic-capability reasoning to AI-enabled marketing and customer journey management (Mikalef et al., 2021; Homburg & Tischer, 2023; Roy et al., 2025).

The framework further develops this theoretical interpretation by distinguishing capabilities from the mechanisms through which they operate, the customer journey stages at which they are applied, and the customer and economic outcomes associated with their deployment. It therefore specifies what is coordinated, how coordinated capabilities influence customer interactions, where these mechanisms operate across the lifecycle, and which outcomes are associated with them. Technological, organisational, economic and institutional conditions qualify these relationships by influencing whether firms can effectively sense changes, mobilise responses and reconfigure marketing routines. This contextual qualification helps explain why similar digital technologies may produce different results across organisations and markets (Artemchuk et al., 2024). The framework does not propose new dynamic-capability constructs or establish causal relationships; rather, it uses the Dynamic Capabilities View to interpret why coordinated and adaptive capability configurations are more relevant to scalable customer journey optimisation than isolated technology adoption.

Practically, the framework provides digital marketing specialists and technology-service managers with a structured approach to capability development and customer journey optimisation. Instead of beginning with the selection of a technology, practitioners can first identify the journey stage requiring improvement, determine the relevant operating mechanism, and then select the combination of capabilities required to support it. For example, limited customer insight may require stronger data integration and analytics, friction during acquisition may require automation and journey orchestration, while retention problems may require predictive analytics, timely interaction and coordinated lifecycle management. Before scaling these interventions, organisations should assess whether data quality, interoperability, analytical skills, cross-functional coordination, implementation resources and governance arrangements are sufficient to support

continued adaptation. This approach can reduce disconnected technology investment and encourage more coordinated, context-sensitive and accountable digital marketing decisions.

Limitations

There are a number of factors interpretation of the review findings. Only English language publications from three sources of discovery were available for the evidence base. This helped to ensure source consistency and traceability but may have excluded studies published in other languages or indexed in other sources. This breadth precluded direct comparisons of findings and quantitative synthesis, which is appropriate for an integrative review. The search was limited to Scopus, Web of Science Core Collection and supplementary discovery through ScienceDirect. Backward reference-list screening and forward citation tracking were not conducted, so relevant studies not retrieved through the predefined database searches may have been missed. The 2026 evidence base represents only publications available up to the final search date of 25 June 2026. The review did not apply a single design-specific risk-of-bias instrument across all included studies because the evidence base combined empirical, conceptual, review and computational designs; consequently, evidence-strength classifications should be interpreted as structured qualitative synthesis judgements rather than formal risk-of-bias ratings. Evidence was also not consistently found in contexts and at different stages of the customer journey. Conceptual studies from the mature digital markets were more prevalent than comparative research from emerging and transition economies. Focusing more on acquisition, engagement and retention than onboarding, adoption, expansion and advocacy. The terminology used for scalability; the different stages of the customer journey and the digital marketing capabilities varied across the included studies and involved analytical normalisation that may have diminished some context-specific differences. The review was not based on the empirical testing, but rather on published studies. Thus, the relationships in Figure 2 are considered to be an evidence-based synthesis, not causal pathways. The findings are also influenced by the transparency and consistency of outcome reporting, organisation and governance issues in included studies. The limitations indicate that the framework can be subject to structured empirical testing and context-specific application. Because the Dynamic Capabilities View was applied as an interpretive lens during synthesis rather than as a source-level eligibility or coding criterion, the framework should not be interpreted as an empirical test of sensing, seizing or transforming processes.

Conclusions and Implications

This was an integrative review to investigate the support of scalable digital marketing systems in optimising the customer journey in technology services. In relation to RQ1, evidence revealed that there are six interdependent capabilities clusters - Customer Data Integration, Marketing Automation, AI-powered Personalisation and Prediction, Journey and Channel Orchestration, Digital Engagement Management, and Performance Measurement and Feedback Optimisation. These capabilities were related to various mechanisms throughout the customer life cycle addressing RQ2. Digital content and personalisation proved to be particularly relevant for awareness and consideration, and marketing automation and predictive analytics were particularly relevant particularly relevant to acquisition, supporting triggered communication and lead prioritisation and reduced friction. Journey orchestration and CRM integration and guided

automated communication were especially relevant to onboarding and adoption. Lifecycle management, prediction, continuity, timely interaction and coordinated digital-human touchpoints were more prominent in engagement, retention and expansion. Evidence was rather sparse and tended to view advocacy as a downstream outcome of engagement, satisfaction and loyalty, as opposed to being a distinct journey stage.

Scalability was facilitated by reliable infrastructure, data quality, interoperability, organisational integration, analytical skills and governance capacity in relation to RQ3. It was restricted by fragmented systems, implementation and maintenance costs, lack of expertise, platform dependency, privacy concerns, and lack of automated decision accountability. These conditions affected the feasibility and legitimacy of the scalable marketing system. The transferability of models from mature digital markets when applied to emerging or transition economies with different infrastructure, institutional capacity and customer expectations is particularly important. The synthesis resulted in a four-layer framework of digital marketing capabilities, operating mechanisms, customer journey stages and outcomes, and technological, organisational, economic and institutional conditions, which span across all four layers, addressing RQ4. Personalisation, prediction, reduced friction, continuity, timely interaction and cross channel consistency were associated to engagement, satisfaction, loyalty, marketing efficiency, retention and scalable growth. Technology, organization, economy and institutions impact every aspect of this process. The framework does not take the form of a causal model, but rather represents an evidence-based synthesis of existing relationships.

The results indicate that digital marketing specialists and technology service managers should begin their scaling journey with customer journey rather than with the acquisition of technology. Organisations need to identify the stage of the journey that needs to be improved, select the operating mechanism, select the supporting capability combination and assess the data, skills, integration and governance. Priorities are interoperable customer data, cross-functional coordination, lifecycle measurement and transparent use of data. This can lead to better customer journey management through decreased disjointed technology investment, and increased responsibility and context. The synthesis supports a dynamic-capabilities interpretation of scalable digital marketing: technology-service firms require not only digital marketing capabilities, but also the continuing capacity to sense changing customer requirements, mobilise coordinated responses and reconfigure capability combinations as journey and contextual conditions evolve.

Suggestions for Future Research

Future research should empirically test the proposed framework across SaaS, cloud services, IT services and digital platforms using longitudinal and cross-country designs. Particular attention should be given to emerging and transition economies, the costs and returns of scaling, AI-enabled journey orchestration, privacy and data-governance effects, and the organisational capabilities needed to integrate data, automation, personalisation, measurement and customer journey management.

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Conflict of Interest

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Data and Materials Availability

The complete search strategies are provided in Appendix A, while the screening and extraction instruments and included-study characteristics are reported in Appendix B.

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Appendix A. Complete Search Strategy

Table A1

Search concept blocks

Block	Construct	Exact terms
A	Customer journey	"customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention"
B	Digital marketing system	"digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing"
C	Scalability and mechanisms	scalab* OR automation OR integration OR personalisation OR personalization OR "predictive analytics" OR orchestration OR interoperability OR standardisation OR standardization
D	Technology service context	"technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services"
E	Contextual conditions	"data governance" OR privacy OR "AI governance" OR "consumer protection" OR regulation OR "institutional environment" OR "implementation cost" OR "digital infrastructure" OR "organisational capability" OR "organizational capability"

Table A2

Search-set logic and analytical purpose

Search set	Combination	Purpose	Screening emphasis
S1	A AND B AND D	Core retrieval of customer journey and digital marketing evidence in technology-service contexts.	At least one digital marketing capability and one customer journey, experience, lifecycle mechanism or outcome in a relevant technology-service or transferable digital-service setting.
S2	A AND C AND D	Retrieval of scalability, automation, personalisation, integration and orchestration evidence connected to customer journeys.	A journey-related mechanism such as automation, personalisation, integration, prediction, orchestration, interoperability or standardisation in a technology-service setting.
S3	B AND C AND D	Retrieval of digital marketing system architecture and capability studies that may not use customer-journey terminology.	A codable digital marketing capability or system-level scalability feature with customer, marketing or economic relevance and transferability to technology services.
S4	A AND B AND E	Retrieval of governance, privacy, institutional and regulatory evidence connected to data-driven customer journey management.	A governance, privacy, regulatory, infrastructure, cost or organisational condition that directly affects scalable marketing systems or customer journey management.

Table A3*Database configuration and common limits*

Database	Role	Search field	Years	Language	Document type
Scopus	Core database	TITLE-ABS-KEY	2020-2026	English	Article; Review
Web of Science Core Collection	Core database	TS (Topic)	2020-2026	English	Article; Review
ScienceDirect	Supplementary discovery source	Title, abstract, or author-specified keywords	2020-2026	English	Research article; Review article

Table A4.*Full database-specific search strategies*

Database	Search set	Exact search strategy	Limits and refinements	Purpose
Scopus	S1	TITLE-ABS-KEY(("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND ("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing")) AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")) AND PUBYEAR > 2019 AND PUBYEAR < 2027 AND (LIMIT-TO(DOCTYPE, "ar") OR LIMIT-TO(DOCTYPE, "re")) AND LIMIT-TO(LANGUAGE, "English")	The year, document-type and language limits are embedded in the query.	Core retrieval of customer journey and digital marketing evidence in technology-service contexts.
Scopus	S2	TITLE-ABS-KEY(("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND (scalab* OR automation OR integration OR personalisation OR personalization OR "predictive analytics" OR orchestration OR interoperability OR standardisation OR standardization) AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")) AND PUBYEAR > 2019 AND PUBYEAR < 2027	The year, document-type and language limits are embedded in the query.	Retrieval of scalability, automation, personalisation, integration and orchestration evidence connected to customer journeys.

Database	Search set	Exact search strategy	Limits and refinements	Purpose
		AND (LIMIT-TO(DOCTYPE, "ar") OR LIMIT-TO(DOCTYPE, "re")) AND LIMIT-TO(LANGUAGE, "English")		
Scopus	S3	TITLE-ABS-KEY(("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND (scalab* OR automation OR integration OR personalisation OR personalization OR "predictive analytics" OR orchestration OR interoperability OR standardisation OR standardization) AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")) AND PUBYEAR > 2019 AND PUBYEAR < 2027 AND (LIMIT-TO(DOCTYPE, "ar") OR LIMIT-TO(DOCTYPE, "re")) AND LIMIT-TO(LANGUAGE, "English")	The year, document-type and language limits are embedded in the query.	Retrieval of digital marketing system architecture and capability studies that may not use customer-journey terminology.
Scopus	S4	TITLE-ABS-KEY(("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND ("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND ("data governance" OR privacy OR "AI governance" OR "consumer protection" OR regulation OR "institutional environment" OR "implementation cost" OR "digital infrastructure" OR "organisational capability" OR "organizational capability")) AND PUBYEAR > 2019 AND PUBYEAR < 2027 AND (LIMIT-TO(DOCTYPE, "ar") OR LIMIT-TO(DOCTYPE, "re")) AND LIMIT-TO(LANGUAGE, "English")	The year, document-type and language limits are embedded in the query.	Retrieval of governance, privacy, institutional and regulatory evidence connected to data-driven customer journey management.
Web of Science Core Collection	S1	TS=(("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND ("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND	The year, document-type and language limits are embedded in the query.	Core retrieval of customer journey and digital marketing evidence in technology-service contexts.

Database	Search set	Exact search strategy	Limits and refinements	Purpose
		("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")) AND PY=(2020-2026) AND DT=(Article OR Review) AND LA=(English)		
Web of Science Core Collection	S2	TS=((("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND (scalab* OR automation OR integration OR personalisation OR personalization OR "predictive analytics" OR orchestration OR interoperability OR standardisation OR standardization) AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")) AND PY=(2020-2026) AND DT=(Article OR Review) AND LA=(English)	The year, document-type and language limits are embedded in the query.	Retrieval of scalability, automation, personalisation, integration and orchestration evidence connected to customer journeys.
Web of Science Core Collection	S3	TS=((("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND (scalab* OR automation OR integration OR personalisation OR personalization OR "predictive analytics" OR orchestration OR interoperability OR standardisation OR standardization) AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")) AND PY=(2020-2026) AND DT=(Article OR Review) AND LA=(English)	The year, document-type and language limits are embedded in the query.	Retrieval of digital marketing system architecture and capability studies that may not use customer-journey terminology.
Web of Science Core Collection	S4	TS=((("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND ("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND ("data governance" OR privacy OR "AI governance" OR "consumer protection" OR regulation OR "institutional environment" OR "implementation cost"	The year, document-type and language limits are embedded in the query.	Retrieval of governance, privacy, institutional and regulatory evidence connected to data-driven customer journey management.

Database	Search set	Exact search strategy	Limits and refinements	Purpose
		OR "digital infrastructure" OR "organisational capability" OR "organizational capability")) AND PY=(2020-2026) AND DT=(Article OR Review) AND LA=(English)		
ScienceDirect	S1	("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND ("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")	Enter in the Title, abstract, or author-specified keywords field; set Years to 2020-2026; retain Research articles and Review articles. Use only for supplementary discovery.	Core retrieval of customer journey and digital marketing evidence in technology-service contexts.
ScienceDirect	S2	("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention") AND (scalab* OR automation OR integration OR personalisation OR personalization OR "predictive analytics" OR orchestration OR interoperability OR standardisation OR standardization) AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")	Enter in the Title, abstract, or author-specified keywords field; set Years to 2020-2026; retain Research articles and Review articles. Use only for supplementary discovery.	Retrieval of scalability, automation, personalisation, integration and orchestration evidence connected to customer journeys.
ScienceDirect	S3	("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND (scalab* OR automation OR integration OR personalisation OR personalization OR "predictive analytics" OR orchestration OR interoperability OR standardisation OR standardization) AND ("technology services" OR "digital services" OR SaaS OR "software as a service" OR "IT services" OR "cloud services" OR "digital platforms" OR "technology-enabled services")	Enter in the Title, abstract, or author-specified keywords field; set Years to 2020-2026; retain Research articles and Review articles. Use only for supplementary discovery.	Retrieval of digital marketing system architecture and capability studies that may not use customer-journey terminology.
ScienceDirect	S4	("customer journey" OR "customer lifecycle" OR "customer experience" OR "service journey" OR "customer engagement" OR "customer retention")	Enter in the Title, abstract, or author-specified keywords field; set Years to	Retrieval of governance, privacy, institutional and regulatory evidence connected to data-

Database	Search set	Exact search strategy	Limits and refinements	Purpose
		AND ("digital marketing" OR "marketing automation" OR CRM OR "customer relationship management" OR "customer data platform" OR CDP OR "marketing analytics" OR "lifecycle marketing" OR "omnichannel marketing") AND ("data governance" OR privacy OR "AI governance" OR "consumer protection" OR regulation OR "institutional environment" OR "implementation cost" OR "digital infrastructure" OR "organisational capability" OR "organizational capability")	2020-2026; retain Research articles and Review articles. Use only for supplementary discovery.	driven customer journey management.

Table A5

Search Execution Log

Database	Search set	Date searched	Records retrieved	Records exported	Export format and filename	Notes
Scopus	S1: A AND B AND D	11 June 2026	158	158	CSV: 130H_Scopus_S1_2026-06-11.csv	Searched in TITLE-ABS-KEY. Year, language and document-type limits were embedded in the query.
Scopus	S2: A AND C AND D	11 June 2026	121	121	CSV: 130H_Scopus_S2_2026-06-11.csv	Publication eligibility was assessed during screening rather than treated as a substitute for topical eligibility.
Scopus	S3: B AND C AND D	11 June 2026	104	104	CSV: 130H_Scopus_S3_2026-06-11.csv	Records were retained when they addressed system architecture or scalability without explicitly using customer-journey terminology.
Scopus	S4: A AND B AND E	11 June 2026	79	79	CSV: 130H_Scopus_S4_2026-06-11.csv	Governance and privacy records were retained only when directly connected to marketing scalability or journey management.

Scopus total			462	462		Core database.
Web of Science Core Collection	S1: A AND B AND D	18 June 2026	115	115	RIS: 130H_WoS_S1_2026-06-18.ris	Searched using the Topic field. Year, language and document-type limits were applied.
Web of Science Core Collection	S2: A AND C AND D	18 June 2026	91	91	RIS: 130H_WoS_S2_2026-06-18.ris	Search terms and combination logic matched Appendix A, Tables A1-A4.
Web of Science Core Collection	S3: B AND C AND D	18 June 2026	74	74	RIS: 130H_WoS_S3_2026-06-18.ris	Records were exported before cross-database deduplication.
Web of Science Core Collection	S4: A AND B AND E	18 June 2026	58	58	RIS: 130H_WoS_S4_2026-06-18.ris	Journal ownership were checked manually where database metadata were inconsistent.
Web of Science total			338	338		Core database.
ScienceDirect	S1: A AND B AND D	25 June 2026	50	50	RIS: 130H_ScienceDirect_S1_2026-06-25.ris	Used as a supplementary discovery source. Searches were restricted to title, abstract or author-specified keywords.
ScienceDirect	S2: A AND C AND D	25 June 2026	37	37	RIS: 130H_ScienceDirect_S2_2026-06-25.ris	Research articles and review articles published from 2020 to 2026 were retained.
ScienceDirect	S3: B AND C AND D	25 June 2026	34	34	RIS: 130H_ScienceDirect_S3_2026-06-25.ris	Records were subsequently checked against Scopus and Web of Science exports.
ScienceDirect	S4: A AND B AND E	25 June 2026	25	25	RIS: 130H_ScienceDirect_S4_2026-06-25.ris	Only sources meeting the predefined topic, evidence and accessibility criteria proceeded to screening.
ScienceDirect total			146	146		Supplementary discovery source.

Overall total			946	946		Records were combined before removal of 214 duplicates.
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Note. S1 = A AND B AND D; S2 = A AND C AND D; S3 = B AND C AND D; S4 = A AND B AND E. The searches were conducted at one-week intervals. All exported records were consolidated into the master screening file before cross-database deduplication. Removal of 214 duplicate records produced 732 records for title-and-abstract screening. The exact Boolean strings are reproduced in Appendix A, Table A4.

Appendix B. Analytical Instruments

Table B1

Eligibility Screening Form

Screening field	Inclusion rule	Exclusion rule	Recorded decision
Publication type	Peer-reviewed journal articles, scholarly reviews and directly relevant conceptual papers	Blogs, vendor pages, promotional white papers, unsupported opinion pieces and duplicate records	Include; exclude; retain for clarification
Publication year	2020-2026	Before 2020, except separately cited foundational sources not included in the analytical corpus	Year recorded
Language	English	Publications that could not be assessed reliably in English	Language recorded
Topic relevance	At least one digital marketing capability and one customer journey, customer experience or lifecycle mechanism or outcome	Digital marketing incidental or no journey/lifecycle relevance	Topic decision recorded
Sector relevance	Technology services, digital services, SaaS, IT services, cloud services, digital platforms or transferable technology-enabled service settings	Purely offline settings without a transferable digital mechanism; technical AI without marketing relevance	Sector decision recorded
Evidence content	Clear findings, constructs, relationships, mechanisms, contextual conditions or implementation evidence suitable for coding	Insufficient methodological or conceptual detail	Evidence decision recorded
Governance relevance	Governance, privacy, regulation or institutional evidence connected to marketing scalability or customer journey management	Standalone legal commentary detached from the marketing question	Governance decision recorded
Accessibility	Full text available for reliable assessment	Title or abstract only after reasonable retrieval attempts	Access decision recorded
Full-text exclusion reason	One principal reason recorded for every excluded report	No multiple or ambiguous exclusion labels	Reason recorded

Note. The form was used during title-and-abstract screening and full-text eligibility assessment. One principal exclusion reason was assigned to each excluded full-text report.

Table B2

Structured Data Extraction Matrix

Extraction field	Required information	Coding rule
Study identification	Author, year, title, journal and DOI or stable URL	Record exactly as published
Study characteristics	Country or region, service context, study design and participant group or data source	Use the study setting; for conceptual and review articles, record the literature base
Digital marketing capability	CRM, CDP, automation, analytics, AI-supported personalisation, omnichannel	Code the capability supported by the study

Extraction field	Required information	Coding rule
	orchestration, lifecycle marketing, performance measurement or another capability	
Scalability feature	Automation, integration, standardisation, modularity, interoperability, reusable workflows, data unification or channel coordination	Code only features linked to scale or repeatability
Customer journey stage	Awareness, consideration, acquisition, onboarding, adoption, engagement, retention, expansion or advocacy	Map study terminology to the normalised stage while retaining study-specific distinctions in the evidence note
Operating mechanism	Personalisation, prediction, reduced friction, timely interaction, continuity, automated engagement, cross-channel consistency or another supported mechanism	Distinguish mechanisms from outcomes
Customer outcome	Experience, engagement, adoption, satisfaction, retention, loyalty, advocacy or another directly reported customer outcome	Record only source-supported outcomes
Economic outcome	Marketing efficiency, acquisition or conversion efficiency, acquisition cost, customer lifetime value, revenue expansion, productivity, scalable growth or another directly reported economic outcome	Record the stated outcome and measure
Enabling condition	Infrastructure, skills, data quality, interoperability, organisational integration, governance capacity, market maturity or another enabler	Code technological, organisational, economic or institutional domain
Constraint	Implementation cost, fragmentation, privacy, regulatory limits, platform dependence, skills gaps, organisational resistance or another constraint	Code technological, organisational, economic or institutional domain
Effect information	Main outcome, effect measure and explicit numerical value	Record numerical values only when stated; otherwise use Not applicable or Not reported
Evidence note	Concise source-grounded statement of what the study supports	Separate reported evidence from review-level interpretation
Evidence relevance	Directness of the study to the review question and technology-service context	Classify as direct, transferable or contextual
Methodological transparency	Clarity of design, sample/data source and analytical procedure	Record sufficient, partial or limited transparency based on reported information
Evidence support	Degree to which the reported findings directly support the coded capability, mechanism, outcome or contextual condition	Distinguish empirical findings from conceptual propositions
Transferability	Applicability to technology-service or comparable digitally enabled service settings	Record direct or qualified transferability

Note. One row was completed for each included study. The matrix provided the source data for Tables B3 and B4 and for the descriptive, thematic and comparative syntheses.

Table B3

Characteristics of the Included Studies

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
1	Agnihotri et al. (2025)	Drivers of digital marketing capabilities in emerging-market multinational enterprises	2025	India	Cross-sectional firm survey; PLS-SEM with moderated mediation	Managers/key informants from publicly listed Indian emerging-market multinational enterprises
2	Aiello et al. (2020)	Customers' willingness to disclose personal information throughout the customer purchase journey in retailing: The role of perceived warmth	2020	Italy	Four-study mixed-method programme: focus group, online experiment, field study and laboratory experiment	Retail consumers across pre-purchase, purchase and post-purchase disclosure settings
3	Aiolfi et al. (2021)	Data-driven digital advertising: Benefits and risks of online behavioral advertising	2021	Italy	Cross-sectional online survey; PLS-SEM	Italian online shoppers exposed to an online behavioural advertising stimulus
4	Andersson et al. (2024)	Challenges and opportunities in the digitalization of the B2B customer journey	2024	Sweden	Qualitative single-case study using semi-structured interviews and company documents	Employees and managers of one B2B supplier organisation
5	Bawack et al. (2021)	Exploring the role of personality, trust, and privacy in customer experience performance during voice shopping: Evidence from SEM and fuzzy set qualitative comparative analysis	2021	France	Cross-sectional survey analysed with SEM and fsQCA	Consumers with voice-shopping experience
6	Babayev et al. (2024)	Exploring the role of Investment flows and country development in emerging markets:	2021	Ukraine	Cross-sectional analysis	Published consumer-data and marketing studies
7	Behera et al. (2022)	Cognitive computing based ethical principles for improving organisational reputation: A B2B digital marketing perspective	2022	India	Conceptual framework and integrative theoretical analysis	Published B2B marketing, cognitive-computing and business-ethics literature
8	Blasco-Arcas et al. (2022)	The role of consumer data in marketing: A research agenda	2022	Spain	Integrative review using corpus-linguistic and thematic content analysis	Published consumer-data and marketing studies
9	Bleier et al. (2020)	Consumer privacy and the future of data-based innovation and marketing	2020	Germany	Conceptual review and research agenda	Published privacy, innovation and marketing literature

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
10	Breidbach & Maglio (2020)	Accountable algorithms? The ethical implications of data-driven business models	2020	Australia	Conceptual mid-range theorising	Data-driven business-model and algorithmic-accountability literature
11	Campbell et al. (2020)	From data to action: How marketers can leverage AI	2020	Australia	Conceptual managerial synthesis	Marketing and artificial-intelligence literature and practice examples
12	Chandra & Rahman (2026)	A framework for AI-driven value co-creation across customer journey stages	2026	India	Conceptual framework development	Published AI, service and value-co-creation literature
13	Chintalapati & Pandey (2022)	Artificial intelligence in marketing: A systematic literature review	2022	India	Systematic literature review	57 qualifying publications on artificial intelligence in marketing
14	Davenport et al. (2020)	How artificial intelligence will change the future of marketing	2020	USA	Conceptual multidimensional framework	Published AI and marketing literature
15	De Bruyn et al. (2020)	Artificial intelligence and marketing: Pitfalls and opportunities	2020	France	Conceptual critical analysis	Published AI, knowledge-management and marketing literature
16	De Mauro et al. (2022)	Machine learning and artificial intelligence use in marketing: A general taxonomy	2022	Italy	Structured content analysis and taxonomy development	Published and practice-based examples of machine-learning and AI marketing applications
17	Du & Xie (2021)	Paradoxes of artificial intelligence in consumer markets: Ethical challenges and opportunities	2021	USA	Conceptual socio-technical and ethical analysis	Consumer-market and AI-ethics literature
18	Gao & Liu (2023)	Artificial intelligence-enabled personalization in interactive marketing: A customer journey perspective	2023	China	Conceptual synthesis informed by literature and industry observations	Interactive-marketing and AI-personalisation literature
19	Gouveia & Santos (2025)	Rethinking the customer journey: Impact of AI for consumers and businesses—A systematic literature review and research agenda	2025	International; empirical studies concentrated in Asia and the United States	Systematic literature review	101 articles published during 2020-2024
20	Grewal et al. (2025)	How generative AI is shaping the future of marketing	2025	USA	Conceptual framework and research agenda	Generative-AI and marketing literature and examples
21	Hansmeier & zur Heiden (2026)	Towards a service ecosystem perspective on customer experience: Insights from hybrid	2026	Germany	Conceptual service-ecosystem framework with exploratory	Consumers undertaking hybrid online-offline journeys; small heterogeneous sample

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
		(online-offline) customer journeys			quantitative analysis	
22	Hayes et al. (2021)	The influence of consumer-brand relationship on the personalized advertising privacy calculus in social media	2021	United States	National online 2 x 2 x 2 experiment	Approximately 248 social-media users exposed to personalised advertising scenarios
23	Herhausen et al. (2020)	The digital marketing capabilities gap	2020	International	Mixed-method study: systematic review plus managerial survey	129 reviewed articles and 169 industrial marketing managers
24	Homburg & Tischer (2023)	Customer journey management capability in business-to-business markets: Its bright and dark sides and overall impact on firm performance	2023	Europe	Multi-study mixed methods: 38 interviews, B2B survey and archival performance data	European B2B managers and key informants from B2B firms
25	Homburg & Wielgos (2022)	The value relevance of digital marketing capabilities to firm performance	2022	Germany	Mixed methods: interviews and multisource firm survey/archival analysis	Key informants from 378 firms; objective accounting data available for 273 firms
26	Hoyer et al. (2020)	Transforming the customer experience through new technologies	2020	USA	Conceptual interdisciplinary framework	Technology, service and customer-experience literature
27	Huang & Rust (2021)	A strategic framework for artificial intelligence in marketing	2021	Taiwan	Conceptual strategic framework	AI and marketing literature
28	Keegan et al. (2024)	Implementing artificial intelligence in traditional B2B marketing practices: An activity theory perspective	2024	Europe	Qualitative interview study using activity theory	B2B marketing practitioners and actors involved in AI implementation
29	Kumar et al. (2024)	AI-powered marketing: What, where, and how?	2024	China	Conceptual/opinion synthesis	AI-powered marketing literature and industry cases
30	Lamprinakos et al. (2022)	Overt and covert customer data collection in online personalized advertising: The role of user emotions	2022	United States and the Netherlands	Two-study design: cross-national survey and online experiment	334 consumers in the survey and 536 consumers in the experiment
31	Ledro et al. (2022)	Artificial intelligence in customer relationship management: Literature review and future research directions	2022	Italy	Bibliometric literature review with coupling and keyword analysis	212 Scopus-indexed articles on AI and CRM
32	Ledro et al. (2025)	Artificial intelligence in customer relationship management: A	2025	International	Exploratory qualitative study and framework development	Managers, consultants and specialists in AI, CRM, data science and business management

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
		systematic framework for a successful integration				
33	Libai et al. (2020)	Brave new world? On AI and the management of customer relationships	2020	Israel	Conceptual critical synthesis	AI and customer-relationship-management literature
34	Liu (2022)	Effect of digital marketing capabilities and blockchain technology on organizational performance and psychology	2022	China	Cross-sectional survey; PLS-SEM with mediation analysis	311 valid employees from 10 service-sector firms operating in omnichannel industries
35	Lundin (2025)	Customer engagement strategies for digital offerings: An empirical study of B2B suppliers	2025	Sweden	Qualitative field study of B2B suppliers providing digital offerings	Managers and employees involved in supplier-initiated customer engagement
36	Lundin & Kindström (2023)	Digitalizing customer journeys in B2B markets	2023	Sweden	In-depth single-case study including supplier and customer perspectives	One B2B supplier firm and four customer organisations
37	Manis & Madhavam (2023)	AI-enabled marketing capabilities and the hierarchy of capabilities: Conceptualization, proposition development, and research avenues	2023	USA	Conceptual capability-hierarchy framework	Published AI and marketing-capability literature plus 30 exemplar capabilities
38	Martin & Palmatier (2020)	Data privacy in retail: Navigating tensions and directing future research	2020	USA	Conceptual review and research agenda	Retail privacy and marketing literature
39	Maseeh et al. (2021)	Privacy concerns in e-commerce: A multilevel meta-analysis	2021	International	Multilevel meta-analysis	184 empirical articles on e-commerce privacy concern
40	Moi & Cabiddu (2021)	Leading digital transformation through an agile marketing capability: The case of Spotahome	2021	Spain and international digital-platform operations	Exploratory qualitative single-case study	Managers and organisational records from Spotahome
41	Moliner-Tena & Tortosa-Edo (2025)	Customer privacy concerns in the omnichannel consumer journey	2025	Spain	Cross-sectional consumer survey analysed with SEM	1,123 consumers: 918 online-search purchasers and 205 omnichannel/multirooming consumers
42	Mudrak et al. (2019)	Topic modeling, scientometric analysis, and research agenda	2019	Ukraine	Topic modelling and scientometric review	Managers from firms across several industries

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
43	Nam & Kannan (2020)	Digital environment in global markets: Cross-cultural implications for evolving customer journeys	2020	Cross-cultural /global	Conceptual cross-cultural framework	International customer-journey and culture literature
44	Okazaki & Inoue (2022)	Explainable model fusion for customer journey mapping	2022	Japan	Computational modelling and explainable model-fusion study	Assimilated customer-journey/OTT media-service behavioural data and predictive models
45	Pascucci et al. (2023)	How digital technologies reshape marketing: Evidence from a qualitative investigation	2023	Italy	Qualitative investigation using in-depth managerial interviews	Managers from firms across several industries
46	Paulich et al. (2026)	Managing conversions of anonymous online users: A privacy-compliant framework	2026	United States	Machine-learning framework development with organisational field test	Anonymous web users of a large financial-services firm
47	Plangger & Montecchi (2020)	Thinking beyond privacy calculus: Investigating reactions to customer surveillance	2020	UK	Qualitative exploratory study and conceptual model development	Consumers discussing reactions to customer surveillance
48	Portes et al. (2020)	Digital transparency: Dimensions, antecedents and consequences on the quality of customer relationships	2020	France	Scale-development survey with factor analysis and SEM	445 e-commerce consumers
49	Puntoni et al. (2021)	Consumers and artificial intelligence: An experiential perspective	2021	Netherl and	Conceptual experiential framework	Consumer-AI and service literature
50	Purmonen et al. (2023)	B2B customer journeys: Conceptualization and an integrative framework	2023	Finland	Integrative conceptual synthesis	Customer-journey, B2B buying-centre and relationship literature
51	Rangaswamy et al. (2020)	The role of marketing in digital business platforms	2020	USA	Conceptual transaction-cost and platform framework	Digital-platform and marketing literature
52	Reitsamer & Becker (2024)	Customer journey partitioning: A customer-centric conceptualization beyond stages and touchpoints	2024	Internat ional	Conceptual development based on event-segmentation and experienced-utility theory	Customer-journey and consumer-experience literature
53	Riaz et al. (2024)	Reassessing customer trust and privacy concerns in omnichannel customer experience	2024	Pakista n	Cross-sectional purposive survey; PLS-SEM moderated mediation	300 omnichannel shoppers

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
54	Roy et al. (2025)	AI-capable relationship marketing: Shaping the future of customer relationships	2025	India	Qualitative interview study using dynamic-capability analysis	67 managers involved in AI-capable relationship marketing
55	Rustholikar et al. (2022)	Managing B2B customer journeys in digital era: Four management activities with artificial intelligence-empowered tools	2022	Finland /B2B digital-marketing context	Qualitative and classificatory study of AI-enabled journey-management tools	More than 150 digital tools mapped into 16 categories, supported by B2B practitioner evidence
56	Saura et al. (2026)	Digital cognition in predictive marketing personalization: A conceptual framework	2026	USA	Conceptual framework and research agenda	Predictive-marketing, personalisation and digital-cognition literature
57	Saura et al. (2021a)	From user-generated data to data-driven innovation: A research agenda to understand user privacy in digital markets	2021	Global digital-market context	Mixed-method review: systematic synthesis, interviews and LDA topic modelling	Published studies, user-generated data and expert informants
58	Saura et al. (2021b)	Setting B2B digital marketing in artificial intelligence-based CRMs: A review and directions for future research	2021	USA	Literature review followed by Multiple Correspondence Analysis	Published studies on AI-based CRM in B2B digital marketing
59	Saura et al. (2024)	Is AI-based digital marketing ethical? Assessing a new data privacy paradox	2024	USA	Systematic literature review plus Multiple Correspondence Analysis	28 studies yielding 21 coded variables
60	Scarpi et al. (2022)	Digital technologies and privacy: State of the art and research directions	2022	Italy	Narrative/state-of-the-art review	Published research on privacy and digital technologies in marketing
61	Schweidel et al. (2022)	How consumer digital signals are reshaping the customer journey	2022	USA	Conceptual multidisciplinary framework	Consumer digital-signal, analytics and customer-journey literature
62	Swani & Milne (2022)	Impact of unmet privacy expectations across information, time, and space: Evidence from four countries	2022	USA	Six-study scale-development and validation programme	Consumer samples from four countries
63	Tangari (2026)	AI-driven personalization in social media advertising: How tracking awareness and eWOM homophily shape trust and consumer responses	2026	USA	Quantitative social-media advertising study	Social-media users exposed to AI-personalised advertising
64	Terho et al. (2022)	Digital content marketing in business markets: Activities, consequences, and	2022	Finland	Qualitative multi-firm interview study	56 managers from 36 B2B companies

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
		contingencies along the customer journey				
65	Terpoorten et al. (2024)	Understanding B2B customer journeys for complex digital services: The case of cloud computing	2024	Europe an cloud-computing market	Qualitative case-based customer-journey study	B2B cloud-service customers, providers and intermediary specialists
66	Tueanrat et al. (2021)	Going on a journey: A review of the customer journey literature	2021	Germany	Stream-based systematic literature review	147 customer-journey publications from Scopus, Web of Science and EBSCO
67	Vlačić et al. (2021)	The evolving role of artificial intelligence in marketing: A review and research agenda	2021	Portugal	Systematic review with Multiple Correspondence Analysis	164 Scopus- and Web of Science-indexed AI-in-marketing articles
68	Vollrath & Villegas (2022)	Avoiding digital marketing analytics myopia: Revisiting the customer decision journey as a strategic marketing framework	2022	USA	Conceptual review and strategic framework development	Digital-marketing analytics and customer-decision-journey literature
69	Walker & Milne (2024)	AI-driven technology and privacy: The value of social media responsibility	2024	USA	Conceptual literature review and framework development	Academic and practitioner literature on privacy, AI and social media
70	Wattoo et al. (2026)	Exploring the impact of AI-driven marketing strategies on customer engagement and loyalty in Pakistan's online shopping sector	2026	Pakistan	Cross-sectional survey; PLS-SEM	426 online shoppers
71	Wielgos et al. (2021)	Digital business capability: Its impact on firm and customer performance	2021	Germany; multi-industry firm context	Mixed-method capability development and survey validation	B2B and B2C firms represented by managerial key informants
72	Wieringa et al. (2021)	Data analytics in a privacy-concerned world	2021	Netherlands	Conceptual review and methodological agenda	Data-analytics, privacy and marketing literature
73	Wirtz et al. (2023)	Corporate digital responsibility in service firms and their ecosystems	2023	USA	Conceptual framework and research agenda	Service, ecosystem, responsibility and digital-governance literature
74	Wunderlich et al. (2025)	How to use emerging service technologies to enhance customer centricity in business-to-business contexts: A conceptual framework and research agenda	2025	Germany	Conceptual framework and research agenda	Emerging-service-technology and B2B customer-centricity literature

Sr. No .	Sources	Study title	Year	Geography	Study design	Participant group / data source
75	Zimmermann et al. (2024)	Consumers' multistage data control in technology-mediated environments	2024	Germany	Two-study mixed-method scale-development programme	Consumers in a quantitative measure-validation study and depth-interview participants

Table B4

Analytical Coding Framework for the Integrative Synthesis

Analytical domain	Code or category	Operational meaning	Coding rule
Digital marketing capability	Customer data integration	Ability to consolidate customer information across systems, channels and interactions	Code when a study addresses unified customer profiles, identity resolution, CRM integration, data unification or shared customer information
	Marketing automation	Ability to execute repeatable marketing and relationship activities with limited manual intervention	Code triggered communication, automated workflows, lead handling, onboarding sequences or retention processes
	AI-supported personalisation and prediction	Ability to use behavioural or contextual information to anticipate customer needs and adapt decisions	Code recommendation, predictive scoring, next-best action, personalised communication or churn prediction
	Journey and channel orchestration	Ability to coordinate interactions, touchpoints and organisational actors across the lifecycle	Code omnichannel coordination, handovers, journey monitoring, service continuity or channel synchronisation
	Digital engagement management	Ability to create, adapt and deliver stage-relevant content and interactions	Code content marketing, nurturing, social interaction, customer engagement or service communication
	Performance measurement and feedback optimisation	Ability to assess marketing and journey outcomes and use feedback to improve workflows	Code attribution, behavioural analytics, experimentation, dashboards, lifecycle measurement or feedback loops
Scalability feature	Automation	Execution of recurring activities without proportional manual effort	Code only when automation is linked to repeatability, volume or efficiency
	Integration	Connection of systems, functions, channels or data sources	Code technical or organisational integration supporting coordinated execution
	Standardisation	Use of common processes, rules or workflows	Code when standardisation supports repeatable delivery across customers or markets
	Interoperability	Ability of systems or platforms to exchange and use information	Code when interoperability affects data continuity, coordination or expansion
	Modularity	Ability to add, remove or adapt system components	Code when modular design supports growth, flexibility or transferability

	Reusable workflows	Processes that can be repeated across customer segments, stages or markets	Code when the same workflow is applied without proportional redesign
Customer journey stage	Awareness	Initial discovery, reach, exposure or recognition	Map study terms concerning first contact or initial attention
	Consideration	Evaluation, information search or lead nurturing	Map study terms concerning comparison, information assessment or progressive engagement
	Acquisition	Conversion, sign-up, purchase or lead conversion	Code when the study addresses transaction completion or customer acquisition
	Onboarding	Initial setup, activation or implementation	Code when the study addresses entry into effective service use
	Adoption	Early use, feature uptake or value realisation	Code when the study concerns successful initial use or utilisation
	Engagement	Ongoing interaction, usage or relationship activity	Code recurring communication or continued customer participation
	Retention	Renewal, loyalty or churn prevention	Code when the study addresses continuity of the customer relationship
	Expansion	Upselling, cross-selling or account development	Code when the study addresses additional customer or account value
	Advocacy	Referral, recommendation or community contribution	Code post-retention behaviours supporting promotion or recommendation
Operating mechanism	Personalisation	Adaptation of interaction or content to customer characteristics or behaviour	Distinguish the adaptive process from its resulting outcome
	Prediction	Anticipation of customer behaviour, need, risk or opportunity	Code predictive scoring, churn detection or opportunity identification
	Reduced friction	Removal of delay, repetition or unnecessary effort	Code simplified interaction, faster response or smoother transition
	Continuity	Preservation of information and relationship coherence across interactions	Code when prior information supports later touchpoints or stages
	Timely interaction	Delivery of communication or support at an appropriate moment	Code triggered or context-sensitive responses
	Automated engagement	Technology-supported recurring interaction with limited manual effort	Code automated nurturing, follow-up or lifecycle communication
	Cross-channel consistency	Alignment of information and interaction across channels	Code coordinated digital, human or intermediary touchpoints
	Feedback-based optimisation	Use of observed outcomes to refine subsequent decisions or workflows	Code iterative adjustment, experimentation or learning loops
Customer outcome	Experience	Cognitive, emotional or behavioural response to interactions	Record only when directly supported by the study
	Engagement	Customer participation, interaction or relationship activity	Distinguish from engagement as an organisational capability
	Adoption	Initial or continuing use of the service	Record reported uptake, activation or usage outcomes
	Satisfaction	Evaluation of service or interaction quality	Record only source-supported satisfaction outcomes

	Retention and loyalty	Continuation, renewal or commitment to the provider	Record stated retention, loyalty or churn-related outcomes
	Advocacy	Recommendation, referral or supportive customer behaviour	Record only directly reported advocacy outcomes
Economic outcome	Marketing efficiency	Improved use of marketing time, effort or resources	Record stated efficiency, productivity or coordination gains
	Acquisition efficiency	Improved conversion or reduced acquisition effort or cost	Code only when acquisition or conversion efficiency is reported
	Customer lifetime value	Economic value generated across the customer relationship	Record directly reported or explicitly discussed lifetime-value outcomes
	Revenue expansion	Additional revenue through account growth, upselling or cross-selling	Code when economic expansion is directly supported
	Scalable growth	Growth without a proportional increase in manual marketing effort or coordination cost	Code only when scale or repeatability is explicitly linked to growth
Contextual condition	Technological	Infrastructure, data quality, interoperability or system integration	Classify as an enabler or constraint according to the study
	Organisational	Skills, cross-functional coordination, routines, leadership or governance capacity	Code conditions affecting implementation and continued use
	Economic	Implementation cost, maintenance cost, specialist labour or resource availability	Record whether the condition enables or constrains scaling
	Institutional	Privacy, data governance, AI governance, regulation or consumer protection	Code only when tied to marketing scalability or customer journey management
Evidence classification	Empirical evidence	Findings derived from quantitative, qualitative, mixed-method or computational analysis	Record the study design and the directly supported relationship
	Conceptual evidence	Propositions, frameworks, taxonomies or theoretical relationships	Do not present conceptual propositions as empirically established
	Contextual evidence	Evidence explaining implementation, transferability or governance conditions	Use to qualify capability, mechanism or outcome relationships

Note: The Dynamic Capabilities View was applied at the interpretive synthesis stage and was not used as a predetermined source-level coding category.