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Generative AI and Agentic AI in Digital Marketing: A Conceptual Comparison of Capabilities and Roles

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Abstract

This paper develops a conceptual distinction between Generative AI (GenAI) and Agentic AI in digital marketing. While the literature treats GenAI primarily as a content-creation capability, the emergence of autonomous, goal-directed AI systems calls for a framework that separates creative production from strategic orchestration. We propose a Three-Layer AI Architecture in which Analytical, Generative, and Agentic AI act as complementary cognitive functions answering "Why," "What," and "Do." GenAI operates as a reactive creative tool with low autonomy; Agentic AI functions as an autonomous operative that orchestrates lower-layer capabilities for multi-step campaign management, shifting human roles from operator to supervisor. We illustrate the framework with two digital-marketing vignettes and specify the boundary conditions and governance requirements that constrain agentic deployment.

Keywords: *Artificial Intelligence; Digital Marketing; Generative AI; Agentic AI*

1. Introduction

Artificial intelligence (AI) is recognised as a key driver of transformation in digital marketing, allowing organisations to analyse large datasets, automate marketing processes, and deliver personalised customer experiences (Israfilzade & Sadili, 2024a; Israfilzade, 2025a). Early applications relied on rule-based automation and mechanical intelligence (Wang, 2025). The subsequent diffusion of Generative AI substantially expanded this role: foundation models trained on large datasets now produce advertising copy, images, video, and conversational responses, enabling scalable content creation and hyper-personalised engagement (Grewal et al., 2025; Kshetri et al., 2024; Pilelienė & Bogoyavlenska, 2025). Yet GenAI systems remain largely reactive and prompt-dependent; they produce outputs only in response to human input and cannot manage marketing strategies or workflows autonomously.

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At the same time, a new paradigm—Agentic AI—is emerging, characterised by higher levels of autonomy and goal-directed behaviour. Unlike generative systems that primarily produce content, agentic AI systems can plan, execute, and optimise multi-step marketing processes while coordinating multiple tools and data sources (Sapkota et al., 2025; Kim, 2025).

This paper addresses these gaps through three objectives: (1) conceptually distinguishing GenAI from Agentic AI along dimensions of intelligence, autonomy, and decision-making; and (2) proposing the Three-Layer AI Architecture, situating Analytical, Generative, and Agentic AI as distinct functional layers; and (3) to illustrate the framework with concrete digital-marketing use cases and to specify the boundary conditions and governance requirements that constrain agentic deployment.

Methodologically, the paper is a theory-synthesis conceptual contribution in the sense of MacInnis (2011) and Hulland and Houston (2020): it integrates three literature streams — marketing-AI typologies (Huang & Rust, 2021; Kumar et al., 2024), computer-science work on agentic systems (Sapkota et al., 2025), and research on the allocation of decision authority between humans and AI (Athey et al., 2020; Kaber, 2017) — into a unified capability framework, and a conceptual model rather than empirically tested hypotheses as the deliverable. The Three-Layer Architecture was derived by first identifying the cognitive function each AI class performs in a marketing workflow (inference, synthesis, action), then mapping each function to the marketing question it answers (Why, What, Do), and finally specifying the orchestration relations among the layers. The framework's scope is digital-marketing operations at the organisational level; it does not address consumer-facing AI literacy, regulatory regimes, or AI capabilities outside marketing-relevant tasks.

2. Artificial Intelligence in Digital Marketing

The application of AI in marketing has evolved through three stages corresponding to advancing levels of machine intelligence (Kumar et al., 2024). The **first stage** (approximately 2010–2019) emphasised *mechanical intelligence*: rule-based automation of structured tasks operating within predefined parameters, without learning or adaptation (Wang, 2025). The **second stage** (2020–present) introduced *thinking intelligence* through machine-learning models that process unstructured data, make predictions, and—through GenAI—produce new content (Prasanna & Kushwaha, 2025). A **third stage** is now emerging: the integration of autonomous agency with thinking intelligence, in which AI systems independently perceive market environments, reason through strategic alternatives, and execute multi-step workflows (Kumar et al., 2024).

Contemporary digital marketing depends heavily on AI for real-time data processing. Earlier automation followed linear "if-then" logic; current AI-driven analytics use probabilistic reasoning to detect non-obvious patterns in consumer behaviour and continuously update strategies (Israfilzade, 2025b). The use of AI agents improves marketing processes, automates

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repetitive tasks, and supports hyper-personalised experiences, with reported gains in customer retention and ROI (Israfilzade, 2025a). A conceptual distinction underlies this evolution: **automation** is the execution of pre-specified rules, whereas **autonomy** is the independent formulation and execution of plans to achieve goals (Kaber, 2017). Computer-science scholarship now distinguishes GenAI from Agentic AI on exactly this dimension—agentic systems show higher autonomy, persistent memory, and coordinated multi-agent behaviour (Sapkota et al., 2025)—but this distinction has not yet been systematically applied to digital marketing.

3. Generative AI in Digital Marketing

In marketing, GenAI is widely treated as a breakthrough innovation in content creation, customer engagement, and innovation processes. Its most immediate contribution is the rapid, scalable production of high-quality content. Across reviews and empirical studies, GenAI exhibits four primary capabilities relevant to digital marketing: *scalable content generation* across copy, visuals, and video (Grewal et al., 2025; Kshetri et al., 2024); *idea generation and creative augmentation*—suggesting campaign concepts, taglines, personas, and visual styles, extending rather than replacing human creativity (Grewal et al., 2025; Kujore et al., 2025); *hyper-personalisation* via data-driven prompts and dynamic templates (Sundari et al., 2025); and *conversational content* through chatbots and virtual assistants that produce real-time, context-sensitive responses (Israfilzade & Sadili, 2024a).

The applied locus of GenAI in digital marketing is organised around four practical domains. *Content for digital campaigns* includes headlines, ad copy, landing pages, email sequences, and social posts; more advanced systems combine brand-voice guidelines, SEO parameters, and audience segmentation with generation prompts to produce contextually appropriate outputs (Kujore et al., 2025). *Conversational marketing* uses chatbots and virtual assistants for customer service, lead qualification, and pre- or post-purchase support (Israfilzade & Sadili, 2024a). *Product and experience design* covers concepts for new offerings and customer journeys (Grewal et al., 2025; Kshetri et al., 2024). *Analytics and insight generation* includes synthetic survey items, scenario simulations, sentiment analysis, and the summarisation of qualitative feedback.

However, these capabilities and the application are fundamentally reactive and session-bound. GenAI systems lack persistent memory across interactions, cannot perceive changes in market environments without human input, and only operate within the context of individual prompts.

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4. Agentic AI in Digital Marketing

AI agents in marketing are systems that use AI models to perform tasks such as content creation, customer interaction, data analysis, and lead generation (Joshi, 2025). Unlike GenAI, Agentic AI operates as a digital agent—pursuing objectives across extended timeframes, coordinating multiple tools and APIs, and adapting strategies based on environmental feedback. Building on this, agentic AI refers to AI systems with higher levels of autonomy, persistence, and coordination that can set and manage tasks while collaborating with other agents (Prasanna & Kushwaha, 2025). In marketing, agentic AI represents a change from "smart tools" to semi-autonomous marketing actors capable of managing campaigns, tests, and customer journeys with minimal human participation. The shift toward agentic AI involves systems capable of planning, executing, and optimising multi-step marketing processes.

The integration of autonomous decision-making marks a qualitative shift from decision-support to decision-execution in marketing intelligence. This autonomy operates across progressive complexity levels. At the *operational level* (Wang, 2025; Prasanna & Kushwaha, 2025), *tactical level* (Bhattacharya et al., 2025; Kumar et al., 2024), *strategic level* (Sapkota et al., 2025), *cross-functional level* (Sundari et al., 2025), *governance level* (Kshetri et al., 2024). Table 1 summarises the progression of autonomous capabilities across operational domains.

Table 1. Levels of Autonomous Decision-Making in Marketing Systems. Source: table created by author, synthesised from Joshi, 2025; Kumar et al., 2024; Bhattacharya et al., 2025; Athey et al., 2020; Kim, 2025; Sapkota et al., 2025; Israfilzade & Sadili, 2025b; Israfilzade, 2025b; Kshetri et al., 2024

Level	Capabilities
Operational	Real-time bid adjustments, budget allocation, creative rotation, A/B testing, audience targeting updates based on performance signals, automatic termination of underperforming assets and scaling of successful initiatives
Tactical	Multi-channel management, real-time personalised customer journey, selection of the next-best actions, and optimal personalised communication to each consumer's needs.
Strategic	Independent formulation of campaign hypotheses; autonomous design and execution of market experiments; strategy modification; continuous learning loops.
Cross-Functional	Workflow management across departments, self-triggering in integrated systems, and coordination of customer experiences across departments
Governance	Operating within ethical parameters, protocols for out-of-boundary scenarios, and alignment with organisational risk tolerance and values

This autonomy operates within predefined limits, ensuring organisational alignment (Athey et al., 2020). Despite potential efficiency gains, unclear automated decisions raise ethical concerns (Sapkota et al., 2025). Determining appropriate autonomy levels and oversight mechanisms remains a critical challenge for marketing.

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5. Conceptual Comparison of Generative AI and Agentic AI

Differences in Intelligence, Autonomy, and Decision-Making. The principal difference between GenAI and Agentic AI runs along three dimensions: intelligence type, autonomy level, and decision-making scope. GenAI exhibits *thinking intelligence*—generating content and synthetic findings by pattern-recognition over training data—and operates reactively in human-in-the-loop workflows (Huang & Rust, 2021). It functions as a creative-production assistant with limited memory between sessions.

Agentic AI combines thinking intelligence with self-directed goal pursuit, exhibiting what we term *process-level intelligence*—the closed-loop integration of sensing, reasoning, and action via persistent memory and multi-step planning (Pilelienė & Bogoyavlenska, 2025; Sapkota et al., 2025; Wang, 2025). It operates with medium-to-high autonomy in closed-loop workflows, shifting the human role from operator to supervisor and enabling continuous campaign management and proactive engagement with minimal intervention. Table 2 summarises these distinctions.

Table 2. Conceptual Comparison of Generative AI and Agentic AI. Source: Authors' own conceptual analysis, synthesised from Wang, 2025; Huang & Rust, 2021; Israfilzade & Sadili, 2025b; Israfilzade, 2025a, 2025b; Kim, 2025; Joshi, 2025; Sapkota et al., 2025; Kujore et al., 2025.

Dimension	Generative AI	Agentic AI
Core Function	Content creation and pattern synthesis	Autonomous goal-pursuit. Plan, decide, and act autonomously
Intelligence Type	Thinking intelligence	Thinking intelligence + Agency
Autonomy Level	Low–medium; prompt-dependent;	Medium–high; goal-driven closed loops
Decision-Making	Reactive (output selection)	Proactive (strategic planning)
Temporal Scope	Single content items or interactions	Ongoing multi-step campaigns/journeys
Memory/ Context	Stateless across sessions	Persistent perception and state tracking
Tool Use	Limited (text/image output)	Extensive (APIs, databases, integrations)
Human Role	Operator (prompts, reviews)	Supervisor (sets goals)
Primary Value	Efficiency in content creation	Effectiveness in goal achievement
Primary Risk	Hallucination, brand conflict	Loss of control, unintended actions

GenAI predominantly supports *content-level intelligence*, while Agentic AI embodies *process-level intelligence* that closes the loop between sensing, deciding, and acting. The two are interdependent rather than substitutable: GenAI functions as the creative foundation (a production layer whose outputs remain passive until deployed), while Agentic AI functions as the orchestration layer that decides which content to deploy, to whom, through which channels, and with what resource allocation (Joshi, 2025; Sundari et al., 2025).

Conceptual Framework: AI Capability Layers in Digital Marketing. We propose the *Three-Layer AI Architecture* to situate AI capabilities within marketing operations, extending Huang and Rust's (2021) typology to distinguish analytical, generative, and agentic functions (Kaber, 2017; Sundari et al., 2025). This framework maps AI types to strategic roles (Figure 1).

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Layer 1. Analytical Intelligence (Analytical AI). This layer processes structured and unstructured data to generate actionable insights—pattern recognition, predictive modelling, sentiment analysis, customer segmentation. Operating with *low autonomy*, it answers *"Why"* consumers behave as they do and feeds insights upward to Layers 2 and 3.

Layer 2. Content Intelligence (Generative AI). GenAI operates here, producing marketing artefacts—text, imagery, video, synthetic data, and conversational responses. This layer answers *"What"* to communicate, enabling creative scalability and personalisation. With low-to-medium autonomy, it functions reactively, producing outputs when prompted by humans or commissioned by Layer 3.

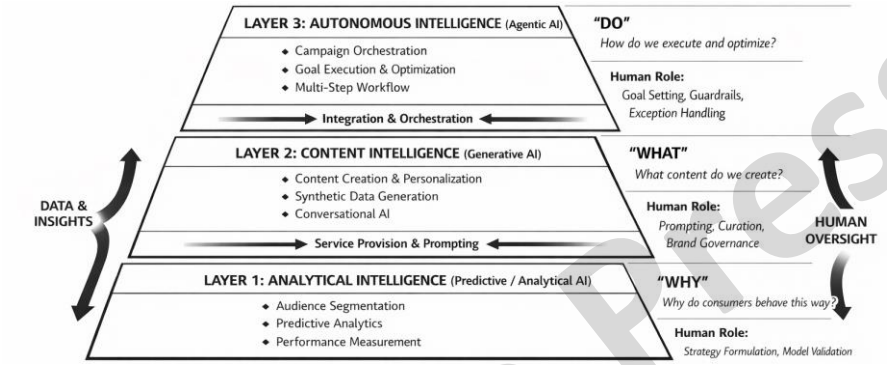


Figure 1. The Three-Layer AI Architecture in Digital Marketing. Source: created by the author.

Layer 3. Autonomous Intelligence (Agentic AI). Agentic AI functions as the *autonomous operative*, managing multi-step workflows, resource allocation, and continuous optimisation across marketing channels. Answering *"Do,"* this layer exhibits *high agency*—proactively pursuing goals, perceiving environmental changes, commissioning content from Layer 2 when needed, and adjusting strategies based on Layer 1 insights. Humans shift from operators to supervisors, establishing constitutional guardrails and handling exception cases.

Integration mechanism. The architecture operates as a cognitive processing pipeline: Layer 1 feeds consumer insights upward; Layer 2 serves as a creative service module for Layer 3; Layer 3 orchestrates the stack toward strategic goals. Agentic AI treats Generative AI as a subordinate capability, autonomously commissioning creative assets when execution requires them. The three technologies are therefore complementary cognitive functions, not successive replacements.

6. Illustrative Applications.

Two short vignettes show how the three layers interact in practice. Both are stylised composites rather than empirical case studies.

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Vignette 1: Performance-campaign optimisation. A consumer-electronics retailer launches a four-week paid-search and display campaign for a new product line. *Layer 1 (Analytical AI)* ingests historical conversion data, audience signals, and competitor-pricing feeds to produce daily segment-level demand forecasts and customer-value scores. *Layer 2 (Generative AI)* produces variants of ad copy and creative assets tuned to each segment's identified interests. *Layer 3 (Agentic AI)* orchestrates the campaign: it allocates budget across channels in response to live performance, requests new creative variants from Layer 2 when fatigue is detected, suspends underperforming segments, and reallocates spend toward emerging high-CTR cohorts. The human marketer sets the goal (ROAS target and brand-safety constraints), reviews exceptions flagged by the agent (e.g., a creative concept that violates a guardrail), and approves strategic pivots. Without Layer 3, the same Layer-1 and Layer-2 capabilities still require continuous human orchestration; with Layer 3, the human role is supervisory.

Vignette 2: Conversational commerce. A fashion retailer deploys a conversational shopping assistant. *Layer 1* maintains a real-time profile of the customer's preferences, browsing history, and contextual signals. *Layer 2* generates the natural-language responses, product descriptions, and personalised recommendations that the customer sees. *Layer 3* operates the assistant as a goal-directed agent: it pursues the conversational objective (assist the customer toward a satisfying purchase or saved cart), invokes Layer 2 to produce each reply, queries inventory and pricing APIs, schedules follow-up messages, and escalates to a human agent when the customer's intent or sentiment exceeds defined thresholds. Layer 2 alone would produce fluent replies; Layer 3 turns a fluent chatbot into a persistent shopping concierge.

In both vignettes, the marketing value created by Layer 3 is not the replacement of Layer 2 but the *orchestration* of it across time, channels, and contingencies. The framework's contribution is to make this orchestration explicit.

7. Boundary Conditions, Governance, and Implications

The framework does not imply that higher autonomy is always preferable. Four conditions argue against expanding Layer-3 authority: high-stakes or irreversible decisions (pricing actions with legal exposure, crisis communications, decisions affecting protected categories), where the cost of an autonomous error exceeds the efficiency gain; fairness-sensitive contexts (credit-relevant targeting, health, employment), where explainability and contestability take priority over speed and current agentic systems struggle to provide either at scale (Kshetri et al., 2024); novel or out-of-distribution contexts where sparse Layer-1 data cause agentic execution to amplify inference errors at high velocity; and immature organisational governance capacity, where Layer-3 deployment imports operational risk faster than the organisation can detect it. Effective Layer-3 deployment therefore requires three governance mechanisms that scale with autonomy: *goal specification and guardrails* expressing objectives and constraints in an enforceable form;

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monitoring and explanation making decisions observable with reason-codes available for audit; and *escalation protocols* specifying when the agent must hand control back to a human (drift in Layer-1 inputs, low-confidence decisions, customer complaints). Accountability cannot be delegated to the agent; the deploying organisation remains responsible for its actions.

The framework's implications differ by actor. *For marketing managers*, it reframes AI adoption from a buy-or-build decision about specific tools to a capability-architecture decision about which layers exist, how they integrate, and where the locus of human authority sits. *For platform vendors and integrators*, it specifies the inter-layer interfaces that determine whether deployments compose well or remain siloed. *For academic researchers*, it opens the empirical agenda to discuss. *For regulators and policy actors*, it clarifies that Layer-2 outputs raise content and provenance questions, whereas Layer-3 actions raise authority and contestability questions. Two boundaries qualify these implications: the framework is *digital-marketing-bounded* (claims about layer composition may not transfer to medicine, finance, or public administration), *current-technology-bounded* (the empirical content of "high autonomy" depends on the evolving state of foundation-model agents).

8. Conclusion

This paper has advanced a conceptual distinction between Generative AI and Agentic AI in digital marketing and proposed a Three-Layer AI Architecture in which Analytical, Content, and Autonomous intelligence answer the marketing questions of "Why," "What," and "Do." The framework extends — rather than relabels — existing intelligence typologies by introducing the orchestration relation among layers and specifying when agentic authority should not be expanded. The primary contribution is to clarify that competitive advantage in AI-augmented marketing will come not from access to generative tools alone but from the quality of agentic orchestration constrained by governance that scales with autonomy. Future research should empirically test the framework and examine consumer responses to agentic marketing systems, including trust, perceived fairness, and the right to a human counterpart.

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