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Brand consistency in digital ecosystems: An AI-enabled knowledge management perspective

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Abstract

In increasingly fragmented digital ecosystems, organizations must maintain consistent brand identity across multiple customer touchpoints while responding to real-time changes in content, channels, and customer interactions. Traditional brand governance approaches rely on static guidelines and manual control, making them increasingly inadequate for managing multimodal content and distributed brand execution. This PRISMA-aligned systematic literature review examines how AI-enabled knowledge management systems (KMS) support cross-channel brand consistency within digital brand ecosystems. Following predefined search, screening, inclusion, exclusion, and quality appraisal procedures, 29 peer-reviewed sources were synthesized using thematic analysis. The review identifies four mechanisms through which AI-enabled KMS support brand consistency: (1) knowledge codification and centralization enabling unified brand understanding, (2) automated consistency verification at scale, (3) cross-functional coordination dissolving organizational silos, and (4) real-time contextual knowledge application balancing consistency with relevance. The review also highlights important limitations in the current evidence base. Existing studies remain methodologically heterogeneous, geographically concentrated, and largely conceptual, with limited evidence on implementation barriers such as data quality, algorithmic opacity, organizational resistance, and ethical governance. The study advances existing literature by proposing a socio-technical framework that explains how AI-enabled KMS support cross-channel brand consistency through the interaction of technological capabilities, organizational knowledge processes, governance, and human agency.

Keywords: Artificial Intelligence, Knowledge Management Systems, Brand Consistency, Digital Brand Ecosystems; Digital Marketing, Branding.

Introduction

Digital brand ecosystems have become structurally fragmented: brand meaning is increasingly co-created across websites, apps, social media, e-commerce platforms, email, chatbots, and emerging interfaces, often by distributed teams and partners. While AI is reshaping branding practices and customer interactions (Truong & Ta, 2025), it simultaneously increases the volume, speed, and variability of brand expression, making cross-channel consistency harder to sustain through traditional, document-based governance.

The Cross-Channel Brand Consistency imperative

Brand consistency matters because coherent communication builds brand image, satisfaction, trust, and loyalty (Poulouse et al., 2024). It extends beyond message repetition, reflecting an alignment between brand identity and expression across touchpoints that supports authenticity and long-term brand strength (Ligaraba et al., 2024; Aaker, 1996a). In omnichannel environments, sustaining this alignment is increasingly difficult as organizations manage greater coordination complexity and execution risk (Kencebay & Ertugan, 2025), making periodic guidelines and manual verification inadequate for decentralized, real-time content production (Zulfikar, 2022).

AI as Knowledge Management Enabler

This review adopts a knowledge management (KM) perspective: cross-channel brand consistency is fundamentally a question of how brand knowledge is created, codified, shared, and applied across the organization. AI extends these KM processes at organizational scale (Jarrahi et al., 2023). Classic enterprise KM emphasizes accessible, reusable knowledge through structured repositories and evolving ontologies (O’Leary, 1998), directly applicable to brand governance (guidelines, approved assets, precedents, decision rationales). Knowledge Management Systems (KMS) convert dispersed information into actionable insights, and AI extends these capabilities in increasingly complex organizational environments (Gelashvili-Luik et al., 2025), providing the infrastructure to translate dispersed brand knowledge into consistent, context-sensitive execution across channels (Gupta et al., 2025).

Research Gap and Significance

Despite rapid growth in AI branding and AI-enabled KM research, systematic synthesis of how AI-enabled knowledge systems support cross-channel brand consistency remains limited. The AI-branding field is expanding but conceptually fragmented, with few integrative frameworks (Truong & Ta, 2025), while the KM-AI intersection shows substantial growth but unclear, under-validated theoretical and practical connections (Nakash & Bolisani, 2024). This gap is practically relevant: many organizations use AI regularly yet struggle to embed it deeply into workflows and realize enterprise-level impact (McKinsey & Company, 2025), constrained by interdependent technological, organizational, and ethical barriers (Rezaei, 2025).

To address this gap, this review consolidates the conceptual foundations of brand consistency, knowledge management, and AI into a unified socio-technical perspective, clarifying the identity–expression distinction, the KM processes underpinning brand governance, and the AI capabilities most directly supporting them. By integrating these previously fragmented research streams, the review provides a conceptual foundation for understanding how AI-enabled KMS support consistent brand execution across digital ecosystems.

The remainder of this review is organized as follows. The Research design section outlines the review’s purpose, objectives, research questions, methodology, search strategy, coding procedure, and quality appraisal. The Literature review section then presents the theoretical foundations linking knowledge management and brand consistency, followed by the AI capabilities relevant to brand governance. The Results and discussion section synthesizes the four mechanisms through which AI-enabled KMS support cross-channel brand consistency, the socio-technical conditions for their effectiveness, and the evidence gaps in the current literature. The paper closes with implications, recommendations, and concluding remarks.

Research design

Purpose

The purpose of this research is to examine how AI-enabled KMS support brand consistency across digital ecosystems. The study addresses a growing managerial and theoretical challenge: organizations must maintain coherent brand identity across increasingly fragmented digital touchpoints, while AI and KM technologies are reshaping how brand knowledge is created, stored, shared, and applied.

Research Objectives

- Objective 1 (Theoretical integration): Synthesize concepts from brand management, knowledge management, and AI research to explain why brand consistency in digital ecosystems can be understood as a KM problem.
- Objective 2 (Mechanism identification): Identify the key technological, organizational, and human mechanisms through which AI-enabled KMS enable consistent brand expression across channels.
- Objective 3 (Critical evaluation): Evaluate the evidence base by synthesizing implementation barriers, governance and ethical considerations, and research gaps relevant to effective adoption

Research Questions

Accordingly, the review is guided by the following research questions:

- RQ1: How do AI-enabled KMS support cross-channel brand consistency in digital brand ecosystems, and through which mechanisms is brand knowledge codified, verified, coordinated, and applied?
- RQ2: Which conceptual foundations and theoretical perspectives connect KM capabilities with cross-channel brand consistency outcomes?
- RQ3: What implementation barriers, governance, ethical considerations, and research gaps constrain the effective use of AI enabled KMS in brand management?

Methodological approach

This review employs a PRISMA-aligned systematic literature review with thematic synthesis to examine how AI-enabled KMS support cross-channel brand consistency. The review synthesizes evidence from published peer-reviewed literature and selected authoritative reports and does not include primary empirical data collection. The synthesis is operationalized through a predefined coding framework linking AI capabilities (e.g., NLP, machine learning, multimodal analysis, knowledge graphs, and generative AI) with KM processes (knowledge creation, storage/retrieval, sharing, and application) and brand consistency dimensions (identity–expression alignment, cross-channel coherence, and governance/compliance)

Table 1. Coding Framework Applied in the Systematic Literature Review

Characteristics	Distribution
Study type	13 Conceptual, 11 Empirical, 3 Review, 1 Industry report, 1 Conference proceedings
Primary domains	Branding, Knowledge Management, Artificial Intelligence, Information Systems
AI capabilities represented	NLP, Machine Learning, Generative AI, Knowledge Graphs, Intelligent Systems
KM processes represented	Knowledge creation, storage/retrieval, sharing, application, governance
Brand consistency dimensions	Brand identity, brand equity, identity–expression alignment, omnichannel consistency, governance
Research contexts	Consumer branding, B2B branding, internal branding, enterprise KM, AI strategy, omnichannel marketing

Table 1 summarizes the coding framework used to classify the reviewed literature according to study type, AI capabilities, KM processes, brand consistency dimensions, and research context.

Coding combined predefined deductive categories derived from the research questions with inductive codes that emerged during the analysis. Themes were developed through iterative clustering and consolidation. The coding framework, emerging themes, and final interpretation were subsequently reviewed, challenged, and refined through discussion among the research team before being integrated into the final socio-technical framework. Quality appraisal informed the synthesis by differentiating stronger from more speculative claims and by identifying implementation constraints, governance issues, and research gaps.

Search strategy and screening

Systematic searches were conducted in Scopus and Web of Science Core Collection in March 2026 using predefined search strings combining terms for brand consistency/brand governance, knowledge management/KMS, and AI/generative AI. Representative search strings combined terms such as "brand consistency" OR "brand governance"; "knowledge management" OR "knowledge management systems" OR "KMS"; and "artificial intelligence" OR "AI" OR "generative AI". A limited number of seminal works published before 2016 were additionally identified through backward reference searching to establish the review's theoretical foundations. Records were screened in two stages-title/abstract, then full text using predefined inclusion and exclusion criteria, with duplicates removed prior to screening. Inclusion required sources to address at least two of three core domains: brand consistency/governance, KM/KMS, and AI-enabled systems; non-peer-reviewed and out-of-scope records were excluded. The final review included 29 sources. This review follows PRISMA 2020 reporting guidelines (Page et al., 2021); the full flow diagram and detailed screening counts at each stage are available from the corresponding author upon request given space constraints.

Data extraction and coding

For each included source, bibliographic information, study type, research context, AI capabilities, KM processes, and brand consistency constructs were extracted and coded (Table 1). Coding combined (1) predefined deductive codes aligned with the research questions and the capability–process–outcome framework, and (2) inductive codes that captured recurring patterns (e.g., human–AI collaboration, tacit versus explicit brand knowledge, real-time guidance requirements, and governance/ethical risks). The coding framework, emerging themes, and final interpretation were subsequently reviewed, challenged, and refined through discussion among the research team before being integrated into the final socio-technical framework.

Quality Appraisal

Each source was appraised using a concise rubric focusing on conceptual clarity, methodological transparency (where applicable), evidence strength, and relevance to the research questions. Appraisal informed the synthesis but did not exclude conceptually valuable papers solely because they were non-empirical.

Limitations

The present review has several limitations. Due to the conference paper format and page constraints, the full PRISMA flow diagram and detailed screening counts at each stage could not be reported in full and are available from the corresponding author upon request. First, the final corpus reflects database coverage, applied search strings, and inclusion criteria; relevant studies may exist outside these boundaries. Second, the review is limited to English-language publications, introducing possible language and geographic bias.

Third, rapid AI development and publication lags can reduce coverage of the newest practices. Fourth, the evidence base remains heterogeneous and often conceptual rather than implementation-validated, constraining causal claims and generalizability. Finally, thematic synthesis involves interpretive judgement; an explicit coding framework was applied, and themes were iteratively reviewed among the research team. As Nakash and Bolisani (2024) note, "the literature is still poor in studies that deal with the theoretical and practical validity of the connection points between the two fields" (p. 2).

Literature Review

Theoretical Foundations: KM and Brand Consistency

Enterprise KM: Core Concepts

Knowledge management provides the conceptual foundation for understanding brand consistency as an organizational capability rather than solely a marketing function. O’Leary (1998) argues that knowledge resources encompass diverse forms of explicit knowledge, including manuals, customer information, and organizational documentation—in brand contexts, these translate to brand guidelines, approved messaging frameworks, visual identity specifications, and precedents for brand applications. O’Leary (1998) also highlights the shift from manager-centered KMS toward more distributed access, particularly relevant where dispersed teams must apply brand knowledge consistently across functions and geographies. Gelashvili-Luik et al. (2025) reinforce this, noting that “effective knowledge management combines technology with attention to people’s experience and insights” and that “human involvement is essential to capture the knowledge that cannot be easily documented” (p. 3). Nakash and Bolisani (2024) similarly argue that KM and AI are interdependent, noting that AI has been deemed to “desperately need KM” (p. 2). Together, these studies suggest that brand consistency depends not only on codified brand assets but also on organizational processes for creating, sharing, and applying knowledge—justifying a KM lens for this review.

Brand Consistency: Empirical Evidence and Theoretical Pathways

Collectively, reviewed literature conceptualizes brand consistency as more than uniform communication—it reflects continuous alignment between brand identity and expression across touchpoints while allowing contextually appropriate adaptation. Poulouse et al. (2024) report that “brand communication is the strongest variable influencing the creation of brand image and brand satisfaction where this can influence the creation of brand trust and ultimately creates brand loyalty” (p. 3). Ligaraba et al. (2024) link consistency to authenticity, arguing that “continuity is an integral part of creating authentic brands” (p. 3). In omnichannel contexts, Kencebay and Ertugan (2025) conceptualize omnichannel operations as integrating physical and digital channels to deliver a unified experience, implying higher coordination complexity. Bravo et al. (2025) show that identity and internal communication models require periodic review, positioning consistency as dynamic rather than static. Castillo-Villar and Murillo (2025) similarly position consistency as a key driver of brand strength, highlighting gaps in explaining how it translates into equity, especially in B2B contexts. For this review, brand consistency is operationalized along two dimensions: (1) identity-level consistency—the stable alignment of brand values, promise, and positioning across touchpoints, measurable through image congruence, perceived authenticity, and stakeholder recognition; and (2) expression-level adaptation—contextually appropriate variation in format, tone, and channel-specific execution within identity boundaries. These dimensions formed the coding basis for the review, classifying each study as addressing identity-level, expression-level, or both.

The Intersection: Brand Consistency as KM Challenge

Cross-channel brand consistency can be understood as a knowledge management challenge because consistent execution depends on the creation, storage, sharing, and application of organizational knowledge across distributed teams. Jarrahi et al. (2023) identify overcoming organizational silos as a key knowledge-sharing challenge (p. 7), which applies directly to brand management, where fragmentation across marketing, sales, customer service, and regional operations often produces inconsistent execution. O’Leary (1998) identifies a complementary challenge: capturing expert judgement and making it accessible to less experienced employees—brand practitioners hold tacit knowledge about when expression should remain stable versus adapt, knowledge that is difficult to codify yet essential for consistency. Gupta et al. (2025) argue that AI is transforming brand identity from a static guideline into a dynamic organizational capability, increasingly supporting how identity is interpreted, shared, and governed across the organization.

AI Capabilities Transforming KM

AI Technologies and KM Functions

AI supports knowledge management through four core organizational functions: knowledge creation, storage and retrieval, sharing, and application. Jarrahi et al. (2023) provide the most comprehensive conceptual framework linking these AI capabilities to KM processes and therefore serve as the primary theoretical foundation for this review:

- Knowledge creation. Deep learning AI can generate new knowledge by detecting patterns in existing data. Jarrahi et al. (2023) argue that “the potential of deep learning AI for knowledge creation lies in its predictive power in situations such as forecasting sales probabilities.” Building on this prediction-based view, Agrawal et al. (2018) describe AI as a “prediction technology” that converts existing information into new information, enabling organizations to generate insights they did not previously have. Consequently, AI enables organizations to discover previously unrecognized relationships within existing datasets, supporting evidence-based knowledge creation.
- Jarrahi et al. (2023) argue that “the utility of AI in KM is most evident in enhancing the storage and retrieval of explicit knowledge” (p. 6). They further explain that AI expands organizational capabilities for classifying, organizing, storing, and retrieving large volumes of previously difficult-to-manage data.
- Knowledge sharing. AI can reduce silos by connecting people and enabling more connected coordination. Jarrahi et al. (2023) note that “AI can contribute to breaking down these organizational silos in two ways: (1) by bringing together people who are working on the same issues but are separated by different boundaries or geographies, and (2) by creating more connected systems of coordination” (p. 7), citing Campaign 360 (People.ai) as a practical example enabling “real-time insight into selling opportunities... between marketing channels and sales pipelines” (p. 7).
- Knowledge application. AI-enabled assistants can support real-time delivery of relevant knowledge to frontline workers. Jarrahi et al. (2023) frame this as ““getting the right knowledge to front line workers in real-time”” (p. 8). Examples such as “Talla” illustrate how systems can classify documentation and surface question–answer pairs to support service knowledge (Jarrahi et al., 2023, p. 8).

Collectively, these AI capabilities extend traditional knowledge management into an intelligent brand governance system. NLP detects tone, sentiment, and guideline alignment across channels (Jarrahi et al., 2023; Truong & Ta, 2025). Machine learning identifies brand drift and recommends corrective action before publication (Rezaei, 2025; Xie et al., 2025). Knowledge graphs organize brand identity elements into explicit, queryable relationships that improve retrieval and decision transparency (Jarrahi et al., 2023).

Generative AI supports context-aware content creation and real-time guidance for distributed teams (Kudryavtsev et al., 2024; Rezaei, 2025). Multimodal AI enables holistic brand monitoring across text, image, and video in complex omnichannel settings (Stone et al., 2016; McKinsey & Company, 2025).

Data validity and automated validation in AI-enabled KMS

A practical risk in AI-enabled KMS is that they can scale flawed knowledge as readily as useful knowledge. If brand knowledge derives from fragmented repositories, outdated guidelines, weak metadata, or unreliable external inputs, automated classification and retrieval can amplify errors and create “false consistency” across channels (O’Leary, 1998; Rezaei, 2025). Digital ecosystems add further exposure through user-generated content and platform-driven information flows where low-quality signals can enter the knowledge base. AI-enabled brand governance should therefore incorporate an explicit validation layer—provenance and source tracking, de-duplication, rule-based quality checks, and escalation to human review for high-risk items (Stone et al., 2016; Jarrahi et al., 2023)—since an unreliable underlying “single source of truth” increases the risk of brand drift and erodes trust in the system.

Bias and subjectivity in AI and knowledge management

A second risk is bias. AI systems inherit biases from training, platform, and organizational data, which can produce uneven judgments about what is “on-brand” across cultures, languages, and markets (Rezaei, 2025; Stone et al., 2016). Knowledge management is not neutral: codifying brand knowledge reflects human choices about which interpretations and precedents become “approved,” which can embed bias into organizational brand rules and unintentionally privilege dominant interpretations over context-appropriate local adaptations. AI can help objectify brand governance by applying rules consistently and detecting deviations at scale, but only if bias is actively monitored through audit routines, transparent decision criteria, and clear decision rights for exceptions (Jarrahi et al., 2023; Stone et al., 2016).

Generative AI and Knowledge Work Transformation

Generative AI represents the latest stage in AI-enabled knowledge management. Rezaei (2025) argues that generative AI and large language models such as ChatGPT mark a new phase, broadening participation in knowledge work through drafting, summarization, and conversational access to organizational knowledge beyond traditional specialists. Kudryavtsev et al. (2024) confirm this transformative potential while noting that organizations continue to struggle with data privacy, confidentiality, operational transparency, and output reliability. Successful GenAI integration into knowledge management therefore depends not only on technological capability but also on governance, trust, and organizational readiness.

Knowledge Graphs and Explainable Intelligence

Knowledge graphs are relevant for brand KM because they structure concepts and relationships in organizational knowledge. Jarrahi et al. (2023) describe knowledge graphs as a way for organizations to manage key concepts, terms, entities, and relationships, enabling more complex integration, discovery, and analysis of knowledge. They also argue that knowledge graphs can improve explainability by articulating rules and explanations associated with AI-supported decisions (Jarrahi et al., 2023, p. 15). This is important in brand governance, where users need to understand and justify system recommendations.

The Human-AI Partnership Imperative

AI-enabled knowledge management is most productively framed as augmentation rather than replacement. Jarrahi et al. (2023) emphasize that knowledge production remains human-centered and that AI is most valuable when it augments rather than replaces human capabilities: AI handles knowledge content at scale, while humans remain responsible for contextual judgement—interpreting meaning, weighing trade-offs, and deciding when adaptation is appropriate (p. 11). Brynjolfsson and Mitchell (2017) similarly argue that general intelligence remains human-centered and that machines still cannot perform the full range of tasks humans can. For brand management, practitioners must decide what remains stable—values, promise,

positioning—and what may vary—format, wording, visuals across channels and cultures. AI can support verification and guidance at scale, but human oversight remains necessary when trade-offs are context-dependent.

Current State of AI Adoption

Current evidence suggests AI adoption is widespread but unevenly embedded in organizational practice. McKinsey & Company (2025) report that nearly nine in ten organizations regularly use AI, yet most have not embedded it deeply enough to generate material enterprise-level benefits—64% report AI supports innovation, but only 39% report EBIT impact. In branding research, Truong and Ta (2025) show AI-related branding studies have grown rapidly since 2019, particularly in real-time data analysis, customer insight generation, loyalty, and experience improvement. Xie et al. (2025) document practical applications, including Nike’s use of AI in its Training Club app for personalized recommendations, illustrating how AI is already embedded in brand-facing consumer experiences. Taken together, this evidence shows AI adoption is increasingly relevant for brand-facing work but that its translation into organizational value remains incomplete, reinforcing the need to examine AI-enabled KMS as organizational systems embedded in workflows, governance, and human decision-making, and not only as technical tools (Nakash & Bolisani, 2024). The following section synthesizes the reviewed literature into the core mechanisms through which AI-enabled KMS support cross-channel brand consistency.

Results and Discussion

Synthesis overview

Across the final corpus ($n = 29$), the reviewed literature reveals a clear and consistent pattern: cross-channel brand consistency in digital ecosystems can be framed as a knowledge management problem, and AI-enabled KMS can enable “real-time brand intelligence” through four recurring mechanisms. However, the literature also shows that these mechanisms do not operate through technology alone; they require socio-technical alignment across technology, organizational processes, people, and governance. Accordingly, this section first synthesizes the four recurring mechanisms, then explains the socio-technical conditions required for their effectiveness and finally discusses the main evidence gaps and implementation constraints identified in literature.

The reviewed literature consistently indicates that AI-enabled KMS improve cross-channel brand consistency through four interrelated mechanisms rather than through isolated technological capabilities. These mechanisms operate as an integrated organizational process in which brand knowledge is progressively codified, verified, coordinated, and applied. Their effectiveness depends on governance structures, knowledge quality, human oversight, and organizational routines, supporting the view that brand consistency is fundamentally a socio-technical rather than a purely technological phenomenon.

Four mechanisms enable AI-enabled cross-channel consistency

Table 2. Four mechanisms through which AI-enabled KM support cross-channel brand consistency

Mechanism	Knowledge management function	Typical AI support	Brand consistency outcome	Representative sources
Knowledge codification & centralization	Turns dispersed brand knowledge into shared, retrievable assets (codify → store/retrieve → reuse)	Automated classification/tagging; knowledge structuring; retrieval support	Shared interpretation of brand identity; fewer “local versions of the truth”	O’Leary (1998); Alavi & Leidner (2001); Jarrahi et al. (2023)

Automated consistency verification at scale	Checks whether content aligns with brand rules/identity before or after publishing (apply → verify → learn)	Text and content analysis; pattern detection; rule/benchmark checking	Higher cross-channel coherence; earlier detection of drift	Rezaei (2025); Jarrahi et al. (2023); Truong & Ta (2025)
Cross-functional coordination & silo dissolution	Improves knowledge sharing across teams/regions (share → coordinate → reduce contradiction)	Recommender-like routing; shared dashboards; connected workflows	Fewer inconsistencies caused by organizational silos	Jarrahi et al. (2023); Vallaster & de Chernatony (2006); Bolisani & Bratianu (2018)
Real-time contextual knowledge application (consistency + relevance)	Helps teams apply brand knowledge “in the moment” while adapting to channel/context (apply → adapt within boundaries)	Context-aware retrieval; assistant-like guidance; predictive support	Better balance of identity-level consistency and channel-level adaptation	Jarrahi et al. (2023); Rezaei (2025); Batra & Keller (2016)

Note: The four mechanisms represent an integrated socio-technical process rather than independent capabilities. Together they form a continuous pipeline (codify → verify → coordinate → guide) that enables real-time brand intelligence—the organizational capability to keep brand knowledge current, accessible, and actionable across customer touchpoints.

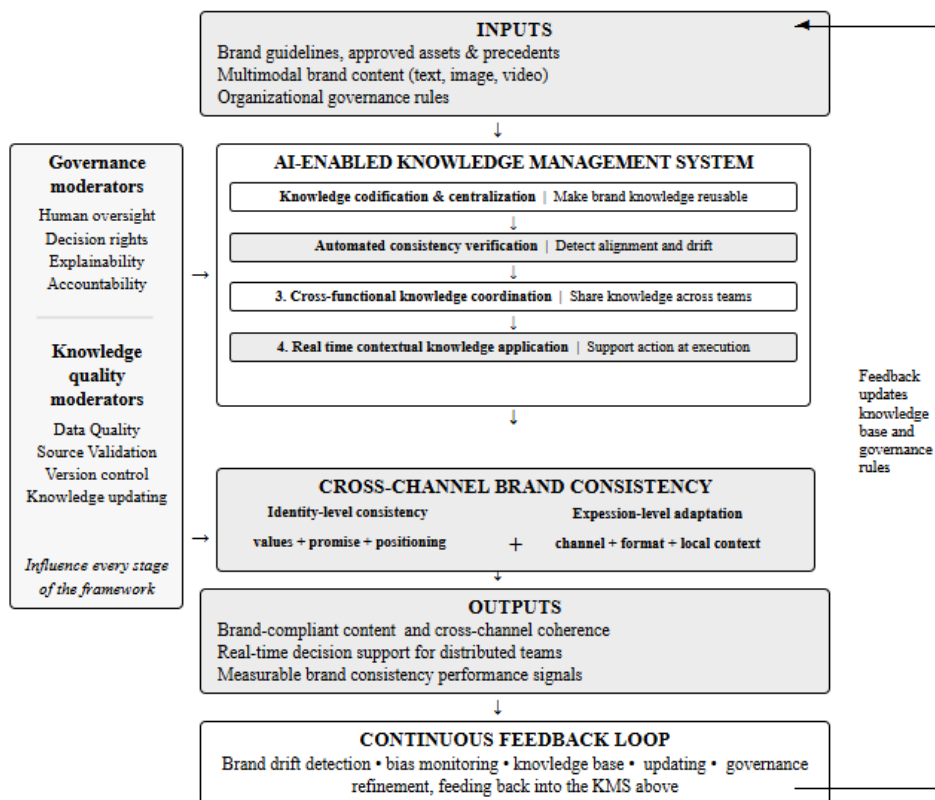


Figure 1. Proposed socio-technical framework of AI-enabled knowledge management for cross-channel brand consistency

Figure 1 depicts the four mechanisms as an integrated socio-technical framework rather than a simple list: brand knowledge and governance rules serve as inputs, the four mechanisms operate cyclically, governance and knowledge-quality moderators shape every stage, and a continuous feedback loop updates the knowledge base based on drift detection and bias monitoring. Key risks include data-quality failures, algorithmic bias, and adoption gaps where AI remains peripheral to workflows (Gelashvili-Luik et al., 2025; Stone et al., 2016; McKinsey & Company, 2025).

The socio-technical requirement

A consistent finding across the literature is that AI capabilities alone are insufficient to achieve cross-channel brand consistency. Successful implementation depends on complementary organizational capabilities, including knowledge infrastructure, governance, trained people, redesigned workflows, and clearly defined decision rights (Jarrahi et al., 2023; Gelashvili-Luik et al., 2025). This aligns with broader industry evidence that although AI adoption is widespread, many organizations still struggle to embed it into core workflows and generate measurable value (McKinsey & Company, 2025).

The reviewed evidence suggests that brand consistency is not created by advanced algorithms alone, but by the interaction between AI capabilities and organizational knowledge processes. If brand knowledge is fragmented across repositories, outdated guidelines, or unclear ownership, AI systems will scale inconsistency rather than reduce it. Likewise, if governance is weak—if responsibility for updating knowledge, approving exceptions, or overriding AI recommendations is unclear—automated verification and guidance are unlikely to translate into consistent execution.

Taken together, these findings reinforce the central proposition of this review: AI-enabled KMS create value only when technological capabilities are embedded within organizational governance, knowledge management processes, and human decision-making. In this sense, cross-channel brand consistency represents a socio-technical organizational capability rather than a purely technological outcome.

Evidence gaps and constraints

Despite rapid growth in both AI-enabled branding and AI-enabled knowledge management research, the evidence base remains methodologically heterogeneous and largely conceptual, with few implementation-validated studies linking specific AI-enabled KMS configurations to measurable brand outcomes (Nakash & Bolisani, 2024; Truong & Ta, 2025). Brand performance is typically theorized through brand equity (Aaker, 1996b; Keller, 1993; Castillo-Villar & Murillo, 2025), yet the literature does not yet show strong causal pathways linking AI-enabled KMS to equity outcomes across contexts.

A second gap is that “brand consistency” is often treated as an assumed benefit rather than a clearly operationalized construct with agreed metrics. Many studies discuss it conceptually—using terms such as coherence, alignment, or authenticity—but few operationalize measurable indicators comparable across channels, markets, or formats (Truong & Ta, 2025; Nakash & Bolisani, 2024). Without shared measurement approaches, it remains difficult to accumulate evidence or evaluate whether AI-enabled KM improves identity-level consistency versus only surface-level compliance.

The literature also highlights practical constraints limiting generalizability. Implementation depends on data quality and integration across dispersed repositories; weak data foundations reduce reliability and consistency of verification across channels (Rezaei, 2025; O’Leary, 1998). Organizational constraints—underinvestment in process redesign, training, and governance, and unclear decision rights—can prevent AI systems from being embedded into daily workflows (Gelashvili-Luik et al., 2025; McKinsey & Company, 2025). Ethical and governance considerations further constrain automation: algorithmic opacity, bias, privacy requirements, and regulatory expectations reinforce the need for human-in-the-loop

governance (Rezaei, 2025; Stone et al., 2016). Together, these gaps suggest the field has progressed faster conceptually than empirically, underscoring the need for implementation-oriented research.

Critical considerations and discussion

The reviewed literature identifies five recurring constraints that moderate the effectiveness of AI-enabled KMS in supporting cross-channel brand consistency. Two cross-cutting issues, namely data validity and bias, influence all five constraints by shaping the reliability of AI-supported knowledge creation, verification, and application. If input data are incomplete, inconsistent, or manipulated, AI-enabled verification and guidance can amplify rather than reduce inconsistency. Likewise, algorithmic bias and subjective knowledge codification can distort what is considered “on-brand”, reinforcing the need for explicit governance, continuous monitoring, and human oversight (Rezaei, 2025; Stone et al., 2016; Jarrahi et al., 2023):

- Data quality and infrastructure. Implementation is constrained by dispersed, inconsistent data and by integration with legacy systems (Rezaei, 2025; O’Leary, 1998). Deep learning approaches also depend on sufficient training data quality and quantity (Jarrahi et al., 2023). Implication: when data and repositories are fragmented, automated verification and guidance may produce inconsistent or unreliable brand judgements.
- Organizational complements and adoption. The value of AI in KM depends on complementary investments in infrastructure, skills, process redesign, and change management (Jarrahi et al., 2023; Gelashvili-Luik et al., 2025). Employee adoption of brand-consistent behavior itself can be understood through behavioral-intention frameworks linking attitudes, social norms, and perceived control to brand-citizenship behavior (Ajzen, 1991). Industry evidence similarly suggests many organizations remain in experimentation and have not embedded AI deeply into workflows (McKinsey & Company, 2025). Implication: brand consistency improves only when AI is built into everyday execution, not treated as an “extra” tool.
- Opacity and accountability. Limited interpretability can undermine trust and learning, making accountability and escalation rules essential when AI supports brand approvals or flags deviations (Jarrahi et al., 2023). Implication: without explainability, organizations cannot reliably govern borderline cases where “compliant” content may still be off-brand in meaning or tone.
- Ethics: bias, privacy, and surveillance. Privacy and responsible use constraints shape feasible system design, while bias and monitoring dynamics introduce reputational and workforce risks (Rezaei, 2025; Jarrahi et al., 2023; Stone et al., 2016). Implication: governance must define what data can be used, who can see what, and how human autonomy is protected, otherwise consistency efforts may create trust and compliance problems.
- Standardization–flexibility tension. Brand governance must balance identity-level consistency with context-appropriate expression. This is conceptually supported by the identity–value framing of consistency (Ligaraba et al., 2024) and the global standardization versus local adaptation problem (Gupta et al., 2025), but remains difficult to operationalize purely algorithmically (Jarrahi et al., 2023). Implication: AI should primarily protect identity-level alignment, while humans retain decision rights for culturally or strategically sensitive adaptations.

Overall, the synthesis supports a single integrated claim: brand consistency emerges from the interaction between AI-enabled KM capabilities, organizational knowledge flows and governance, and human judgement and accountability.

In other words, consistency is a socio-technical achievement, not a pure control mechanism.

A practical way to reduce confusion in both research and implementation is to distinguish between identity-level consistency, which refers to stable brand meaning, promise, values, and positioning, and expression-level adaptation, which refers to appropriate variation in format, channel style, and local relevance.

Brand research repeatedly shows that consistency matters for trust, satisfaction, and loyalty (Poulose et al., 2024; Putri et al., 2019; Ligaraba et al., 2024; Zulfikar, 2022), and brand identity alignment links to repurchase intentions (Acar et al., 2024). AI-enabled KM contributes most when systems protect identity-level alignment while allowing controlled adaptation in expression. Human-in-the-loop governance is not optional: the literature highlights limits in contextual judgement and accountability, so oversight remains necessary where content is technically compliant but strategically wrong, culturally insensitive, or reputationally risky (Stone et al., 2016; Rezaei, 2025)—consistent with leadership-driven internal brand building (Vallaster & de Chernatony, 2006).

Overall, the present review makes three contributions. First, it reframes cross-channel brand consistency as a knowledge management challenge rather than solely a marketing communication issue. Second, it integrates fragmented AI, KM, and branding research into a unified socio-technical explanation. Third, it proposes a reproducible conceptual framework explaining how AI-enabled KMS support brand consistency through four interconnected mechanisms moderated by governance, knowledge quality, and human agency.

Implications and Recommendations

Implications

This chapter outlines key implications for theory development, research, practice, and governance, focusing on how AI-enabled knowledge management can support consistent and effective brand management.

Implications for theory development

This review has three theoretical implications. First, it supports a socio-technical explanation of AI-enabled brand governance, showing that technological capabilities alone are insufficient without complementary organizational knowledge processes, governance, and human agency. Second, it refines brand consistency by distinguishing identity-level consistency from expression-level adaptation, clarifying the basis for future measurement. Third, it extends AI augmentation perspectives by emphasizing the need to specify decision rights, escalation mechanisms, and governance for human-AI collaboration in branding work.

Implications for research

Future research should move beyond conceptual discussion toward empirical validation. Stronger research designs, including experimental, quasi-experimental, longitudinal, and comparative case studies, are needed to examine how different AI-enabled KM configurations influence measurable brand consistency outcomes. Future work should also develop validated measurement frameworks that distinguish identity-level consistency from expression-level adaptation and investigate how organizational context, industry, culture, and KM maturity moderate implementation success.

Implications for practice

For practice, organizations should assess data quality, KM maturity, and process readiness before selecting AI tools (McKinsey & Company, 2025; Rezaei, 2025), then codify a brand “single source of truth” by centralizing identity elements, rules, and precedents for consistent retrieval and reuse (O’Leary, 1998; Alavi & Leidner, 2001). Consistency checks should be embedded into content creation and approval workflows rather than performed only after publication, reducing brand drift across channels (Rezaei, 2025; Jarrahi et al., 2023). For example, a global consumer brand could establish a centralized AI-enabled repository of approved assets and tone-of-voice guidance; content from distributed teams would then be automatically checked against this base before publication, with high-risk cases escalated to human review.

Implications for governance and ethics

For governance and ethics, organizations should define clear decision rights specifying when AI can automatically approve or flag content and when escalation to human review is mandatory (Jarrahi et al., 2023). Governance frameworks should adopt privacy-by-design principles, defining which data sources are used, for what purposes, and who may access AI-generated outputs (Rezaei, 2025; Stone et al., 2016). Continuous monitoring—regular audits for bias, brand drift, and model performance, with minimum explainability requirements—is essential for maintaining trust and long-term defensibility of AI-enabled brand governance (Jarrahi et al., 2023; Rezaei, 2025).

Recommendations

Based on the synthesis, three implementation recommendations follow. First, sequence implementation as “data and knowledge first”: establish a governed brand knowledge base and minimum data quality standards before scaling AI-enabled verification (O’Leary, 1998; Alavi & Leidner, 2001; Rezaei, 2025). Second, embed AI use within workflows with clear decision rules, escalation procedures, and routine testing for false positives, false negatives, and performance drift across markets and languages (Jarrahi et al., 2023; Stone et al., 2016; Rezaei, 2025). Third, operationalize governance through continuous monitoring—audits for bias and brand drift, privacy-by-design controls, and minimum explainability requirements—to maintain trust and defensibility over time (Rezaei, 2025; Jarrahi et al., 2023; McKinsey & Company, 2025).

Overall, these implications highlight the need for a holistic, evidence-based, and governance-driven approach to AI-enabled knowledge management, where theoretical integration, rigorous research, organizational readiness, ethical oversight, and continuous validation jointly support consistent, adaptable, and trustworthy brand management.

Conclusion

This PRISMA-aligned systematic literature review synthesized 29 sources across brand management, KM, and AI. The synthesis supports one integrated claim: cross-channel brand consistency in digital ecosystems is best understood as a knowledge management problem, since it depends on the organizational ability to capture brand meaning, store it useably, distribute it across functions and markets, and apply it consistently in execution (Alavi & Leidner, 2001; O’Leary, 1998). Within this framing, AI-enabled KMS support “real-time brand intelligence” through four mechanisms: codifying and centralizing brand knowledge, verifying consistency at scale, coordinating across silos, and enabling contextual application at the point of execution (Jarrahi et al., 2023; Rezaei, 2025). These mechanisms require socio-technical alignment across data quality, workflows, skills, and governance, not technology alone (Gelashvili-Luik et al., 2025; McKinsey & Company, 2025).

A key implication is the need to distinguish identity-level consistency referring to stable brand meaning, promise, values, and positioning, from expression-level adaptation. AI-enabled systems appear most useful when they protect identity-level alignment while enabling controlled adaptation in execution. Human oversight therefore remains necessary in ambiguous or high-risk situations, where content may be technically compliant but strategically wrong, culturally insensitive, or reputationally risky (Stone et al., 2016; Vallaster & de Chernatony, 2006).

Finally, the review highlights a persistent evidence gap. Although brand outcomes are often theorised through brand equity and loyalty mechanisms (Aaker, 1996b; Keller, 1993), much of the AI–KM literature remains heterogeneous and conceptual, with few implementation-validated studies linking concrete AI-enabled KMS configurations to measurable consistency outcomes (Nakash & Bolisani, 2024; Truong &

Ta, 2025). Future research should prioritize measurement frameworks, longitudinal implementation studies, boundary conditions (industry, firm size, culture, KM maturity), and governance and ethics in real settings.

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