Developing an Integrated Framework for Experience Marketing in the Era of Artificial Intelligence and Metaverse Convergence

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ABSTRACT:

Background and Purpose: The rapid proliferation of transformative technologies, particularly Artificial Intelligence (AI) and immersive environments (Metaverse), is fundamentally reshaping the customer engagement paradigm in e-commerce. Despite independent research streams in AI for marketing and the Metaverse in isolation, a significant gap exists in the form of a comprehensive, integrative conceptual framework that elucidates the synergistic potential of these technologies to create a seamless customer journey and deliver exceptional experience. This article aims to propose a holistic integration model—the Smart Integrated Experience Paradigm (SIEP)—that demonstrates how four key AI applications in commerce—modernization and business model expansion, dynamic Product Experience Management (PXM), order intelligence, and secure payments—can be unified with the immersive and interactive capabilities of the Metaverse to realize a next-generation form of Experience Marketing.

Methodology: This research employs a qualitative methodology and a Grounded Theory approach, utilizing Systematic Content Analysis. The study corpus comprises peer-reviewed academic literature, leading industry reports, and documented implementation case studies from the period 2020 to 2024. Through the stages of open, axial, and selective coding, fundamental components, causal relationships, and emergent strategies from the literature are synthesized and organized into a novel paradigmatic framework.

Findings: The proposed SIEP framework is structured across three constitutive layers:

1.The Intelligent Infrastructure Layer: Encompassing the core role of AI in processing big data, predicting customer behavior, and enabling real-time, hyper-personalized processes.

2.The Immersive Interaction Layer: Positioning the Metaverse as the platform for product/service visualization, simulation, and embodied interaction, transcending physical limitations.

3.The Integration and Value Co-Creation Layer: Where the preceding layers converge to generate novel value propositions, including *Context-Aware Personalization*, *Low-Risk Virtual Experimentation*, and *Shared-Experience-Based Loyalty*. The framework elucidates how this convergence drives business model innovation, deepens customer relationships, and establishes a sustainable competitive advantage.

Originality/Value: The originality of this paper lies in the creation of a novel and actionable theoretical model that bridges the gap between previously siloed research on AI and the Metaverse. The SIEP framework provides marketing executives and digital strategists with a practical roadmap for investment and planning in this era of technological convergence. Furthermore, by establishing a robust theoretical linkage between core Experience Marketing concepts and cutting-edge technological advancements, this article lays a solid foundation for future research into measuring the efficacy and broader implications of this paradigm across diverse markets, with particular relevance for emerging markets in the Middle East.

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I. Introduction

1.1 Theoretical Background

The landscape of marketing has undergone a profound transformation over the past two decades, shifting from a transactional, product-centric orientation toward a relational, customer-centric paradigm (Vargo & Lusch, 2016). Within this evolution, **experience marketing** has emerged as a dominant theoretical lens, emphasizing that value is not merely embedded in products or services but is co-created through memorable, sensory, emotional, cognitive, and relational interactions between customers and brands (Schmitt, 1999; Pine & Gilmore, 1998). Schmitt's (1999) Strategic Experiential Modules (SEMs)—Sense, Feel, Think, Act, and Relate—remain foundational in understanding how brands can systematically engineer customer experiences.

However, the rapid proliferation of two transformative technologies—**Artificial Intelligence (AI)** and the **Metaverse**—has fundamentally disrupted the traditional boundaries within which experience marketing has been theorized and operationalized. On one hand, AI offers unprecedented capabilities in processing vast amounts of consumer data, predicting behavioral patterns, automating personalized interactions at scale, and optimizing real-time decision-making (Huang & Rust, 2021; Kumar et al., 2019; Davenport et al., 2020). AI enables what can be termed **intelligent experience infrastructure**—the backend analytical and predictive engine that makes hyper-personalization feasible.

On the other hand, the Metaverse—conceptualized as a persistent, shared, three-dimensional virtual space where users interact via avatars in real-time—provides a radically new frontend for customer engagement (Dwivedi et al., 2022; Buhalis et al., 2023; Hennig-Thurau et al., 2023). Unlike traditional two-dimensional e-commerce platforms, the Metaverse offers **immersive, embodied, and social** environments where customers can visualize products in realistic settings, participate in virtual try-ons, attend live branded events, and co-create products with other users. These capabilities directly address the sensory, affective, and relational dimensions of experience marketing in ways that conventional digital interfaces cannot.

1.2 Problem Statement and Research Gap

Despite the transformative potential of each technology independently, a critical theoretical and practical gap persists: **the absence of an integrated conceptual framework that explains how AI and the Metaverse can synergistically interact to enable a seamless, end-to-end experiential customer journey.** Existing literature treats AI and Metaverse largely as separate domains. For instance:

- Research on AI in marketing predominantly focuses on recommendation algorithms, chatbots, predictive analytics, and dynamic pricing within traditional web or app environments (Huang & Rust, 2021; Libai et al., 2020).
- Research on the Metaverse, while growing rapidly, often emphasizes immersive presence, virtual goods, and social interaction without adequately addressing the intelligent backend required to personalize these experiences at scale (Dwivedi et al., 2022; Wang et al., 2023).

Moreover, most existing e-commerce platforms still operate with fragmented experiential architectures: a customer may receive an AI-driven product recommendation on a 2D website, click through to a separate virtual showroom with no personalization, and then encounter friction during checkout. This **discontinuity** between intelligent backend and immersive frontend undermines the very essence of experience marketing, which demands seamlessness, consistency, and contextual relevance across touchpoints (Lemon & Verhoef, 2016).

A recent systematic literature review by Chen and Lin (2024) confirms that fewer than 12% of articles examining AI and the Metaverse in marketing consider them as integrated systems. Most studies remain siloed, treating one technology as the independent variable without modeling interaction effects or synergistic value creation. This gap is particularly problematic for practitioners seeking strategic guidance on technology investment priorities and integration roadmaps.

1.3 Research Questions

Building upon the identified gap, this study addresses the following research questions:

RQ	Question
RQ1	What are the core AI-driven functions in e-commerce that can meaningfully? enhance experience marketing, and how do they contribute to the customer journey?
RQ2	How do Metaverse environments contribute to experiential value across different dimensions of experience marketing (sensory, emotional, cognitive, relational)?
RQ3	What are the structural relationships between the AI infrastructure layer, the Metaverse interaction layer, and the value co-creation layer within an integrated framework?
RQ4	What novel theoretical propositions emerge from the convergence of AI and the Metaverse that are not observable in traditional or isolated technology contexts?

1.4 Research Objectives

The primary objectives of this study are as follows:

1. To identify and categorize the key applications of AI relevant to product experience management (PXM) and customer journey orchestration in e-commerce.

2. To delineate the specific affordances of Metaverse environments that enable immersive experiential marketing.
3. To propose a novel, integrative conceptual framework—the Smart Integrated Experience Paradigm (SIEP)—that synthesizes AI and Metaverse capabilities within a unified architecture.
4. To derive testable theoretical propositions from the grounded analysis that can guide future empirical research.
5. To provide strategic implications and practical recommendations for marketing executives and digital strategists, with specific attention to emerging markets such as the Middle East.

1.5 Theoretical and Practical Contributions

This study makes several distinctive contributions:

Theoretical contributions: First, it bridges the gap between two previously siloed research streams (AI in marketing and Metaverse marketing) by offering a systematic integration grounded in qualitative data. Second, it extends experience marketing theory (Schmitt, 1999; Pine & Gilmore, 1998) into the era of spatial computing and intelligent automation, updating classical frameworks for contemporary technological realities. Third, it proposes three novel value propositions—Context-Aware Personalization, Low-Risk Virtual Experimentation, and Shared-Experience-Based Loyalty—that emerge specifically from AI-Metaverse convergence.

Practical contributions: First, the SIEP framework provides marketing strategists with a layered architecture that clarifies where to invest (intelligent infrastructure first, immersive interfaces second, integration third). Second, it offers a diagnostic tool for assessing existing e-commerce platforms' readiness for AI-Metaverse integration. Third, for emerging markets (e.g., Iran, UAE, Saudi Arabia), it provides a phased implementation roadmap that respects infrastructural constraints while enabling gradual capability building.

II. LITERATURE REVIEW

2.1 Experience Marketing: Foundations and Contemporary Extensions

Experience marketing emerged as a paradigm shift from traditional feature-and-benefit marketing (Schmitt, 1999). Pine and Gilmore (1998, p. 98) famously argued that "experiences are a distinct economic offering, as different from services as services are from goods." In their framework, experiences become memorable when they engage customers on multiple dimensions:

entertainment (passive absorption), education (active participation), escapism (immersion in an environment), and aesthetics (passive immersion).

Schmitt (1999) operationalized experience marketing through five Strategic Experiential Modules (SEMs):

SEM	Description	Marketing Application
Sense	Aesthetic pleasure through sensory inputs (sight, sound, touch, taste, smell)	Visual branding, music, haptic feedback
Feel	Affective experiences generating emotional attachment	Storytelling, empathy-driven campaigns
Think	Cognitive engagement and problem-solving	Interactive product configurators, educational content
Act	Physical behaviors and lifestyle changes	Try-ons, fitness challenges, user-generated content
Relate	Social identity and belonging to reference groups	Brand communities, influencer collaborations

More recent extensions have incorporated digital and omnichannel dimensions. Lemon and Verhoef (2016) conceptualized the customer journey as a dynamic process spanning pre-purchase, purchase, and post-purchase stages, with experience touchpoints distributed across physical and digital channels. Hollebeek, Srivastava, and Chen (2019) introduced the concept of **customer engagement** as a psychological state resulting from interactive customer-brand experiences, emphasizing that engagement is both a process and an outcome.

However, these foundational frameworks were developed prior to the widespread adoption of AI-driven personalization and immersive virtual environments. A key limitation is their **technological neutrality**—they describe what experiences should achieve but not how contemporary technologies can systematically enable them. This study addresses this limitation by embedding AI and Metaverse capabilities directly into the experiential architecture.

2.2 Artificial Intelligence in Marketing: Capabilities and Applications

The application of AI in marketing has expanded rapidly across four primary domains: customer insight generation, personalized content delivery, interaction automation, and optimization of marketing mix elements (Huang & Rust, 2021; Davenport et al., 2020; Kumar et al., 2019).

Customer insight generation: Machine learning algorithms analyze structured (transactional) and unstructured (social media, reviews, call logs) data to identify latent preferences, predict churn risk, and segment customers into micro-segments. For example, collaborative filtering recommendation engines (e.g., Amazon's "customers who bought this also bought") remain a foundational application (Libai et al., 2020).

Personalized content delivery: AI enables real-time adaptation of website content, email campaigns, and push notifications based on individual browsing behavior, purchase history, and contextual factors (time of day, location, device). This capability is often termed **hyper-personalization** and directly supports the "Think" and "Feel" dimensions of experience marketing by making interactions feel individually crafted (Huang & Rust, 2021).

Interaction automation: Natural Language Processing (NLP) powers conversational agents (chatbots, voice assistants) that handle routine customer queries, process returns, provide product advice, and even execute transactions. Advanced systems integrate sentiment analysis to adjust tone and escalation protocols based on detected emotional states (Davenport et al., 2020).

Marketing mix optimization: AI algorithms dynamically adjust pricing based on demand elasticity, competitor actions, and inventory levels; optimize ad bidding in real-time across programmatic platforms; and predict optimal product assortments for specific customer segments (Kumar et al., 2019).

Application	Example	Experiential Dimension
Virtual brand spaces	Nike's Nikeland on Roblox (over 30M visitors)	Sense, Relate
Virtual try-ons	Gucci Garden virtual handbags	Sense, Act
Live events	Fortnite x Balenciaga concert; Travis Scott virtual concert (12M attendees)	Feel, Relate
Product co-creation	BMW's virtual car configurator with customizable colors/wheels	Think, Act
NFT-based loyalty	Starbucks Odyssey (NFT rewards for engagement)	Relate, Feel

Despite these advances, most AI applications in marketing operate within traditional 2D interfaces (websites, apps, email). The integration of AI with immersive 3D environments such as the Metaverse remains underexplored. Specifically, it is unclear how AI-driven personalization can be translated into embodied avatars, virtual store layouts, and dynamic environmental adjustments within Metaverse spaces—a gap this study addresses.

2.3 The Metaverse as a Marketing Channel: Affordances and Early Evidence

The Metaverse is broadly defined as a "persistent, shared, 3D virtual space where users, represented as avatars, interact with each other and with digital objects in real-time" (Dwivedi et al., 2022, p. 2). Key affordances distinguishing the Metaverse from traditional digital environments include:

1. **Immersion:** Users experience presence and embodiment through first-person perspectives, spatial audio, and haptic feedback (Cheng et al., 2022).
2. **Interactivity:** Users manipulate objects, navigate environments, and communicate with others through voice, gestures, and text in real-time.
3. **Persistence:** The environment continues to exist and evolve even when individual users are not logged in.
4. **Social presence:** Multiple users co-inhabit the same virtual space, enabling shared experiences, synchronous events, and community formation.
5. **User-generated content and economy:** Users create, trade, and monetize virtual goods (skins, accessories, virtual real estate) often using blockchain-based tokens and NFTs (Hennig-Thurau et al., 2023).

From a marketing perspective, early adopters have experimented with several Metaverse applications:

Preliminary evidence suggests that Metaverse experiences can generate significant brand engagement metrics, including extended session durations, high social sharing rates, and willingness to pay premiums for virtual goods (Dwivedi et al., 2022; Hennig-Thurau et al., 2023). However, two critical limitations persist. First, most Metaverse experiences remain static or minimally adaptive—the same virtual store or event is presented uniformly to all users. Second, there is limited integration between Metaverse frontend interactions and enterprise backend systems (CRM, product catalogs, payment gateways). This disconnection prevents personalized experiences and seamless purchase journeys.

2.4 The Integration Gap: AI and Metaverse in Experience Marketing

A small but growing body of research has begun to explore the intersection of AI and immersive environments. Buhalis, Leung, and Lin (2023) proposed a **smart tourism ecosystem** framework where AI-powered recommendation systems guide tourists through Metaverse-based destination previews before physical travel. Hennig-Thurau et al. (2023) argued that AI is the "hidden engine" of the Metaverse, enabling everything from avatar animation to dynamic content generation and fraud detection.

However, these studies remain conceptually fragmented. No study to date has developed a **comprehensive, layered integration framework** that systematically maps:

- Which specific AI applications support which Metaverse affordances;
- How data and intelligence flow between layers;
- What novel value propositions emerge specifically from integration rather than from either technology in isolation.

Table 1 synthesizes the key gaps identified across literature streams.

Table 1: Summary of Research Gaps in Existing Literature

Research Stream	**Focus**	**Limitation**
Experience marketing (Schmitt, 1999; Pine & Gilmore, 1998)	Dimensions and outcomes of experiences	Technologically neutral; no guidance on AI/Metaverse implementation
AI in marketing (Huang & Rust, 2021; Kumar et al., 2019)	Personalization, automation, optimization within 2D interfaces	Ignores immersive 3D environments
Metaverse marketing (Dwivedi et al., 2022; Wang et al., 2023)	Immersion, social presence, virtual goods	Lacks intelligent personalization backend
This study	Integration of AI and Metaverse for experience marketing	Addresses all gaps via SIEP framework

III. METHODOLOGY

3.1 Research Paradigm and Design

This study adopts a **constructivist-interpretivist paradigm** (Lincoln & Guba, 1985), recognizing that the phenomenon of AI-Metaverse integration in experience marketing is socially constructed, emergent, and context-dependent. Given the novelty of the phenomenon and the absence of established quantitative measurement instruments, a **qualitative methodology** is most appropriate (Creswell & Poth, 2018).

Specifically, this research employs a **systematic grounded theory approach** (Corbin & Strauss, 2015; Charmaz, 2014), which is designed for developing new theoretical frameworks from systematically analyzed qualitative data rather than testing pre-existing hypotheses. Grounded theory is particularly suitable when: (a) existing theories are inadequate to explain a phenomenon, (b) the phenomenon is complex and dynamic, and (c) the researcher aims to generate novel concepts and relationships (Glaser & Strauss, 1967).

3.2 Data Corpus

Data were collected from three distinct but complementary sources to ensure triangulation and richness:

Source 1: Peer-reviewed academic literature. A systematic search was conducted in Scopus and Web of Science databases using the following Boolean search string applied to titles, abstracts, and keywords:

text

("artificial intelligence" OR "AI" OR "machine learning" OR "predictive analytics") AND
("metaverse" OR "virtual world" OR "immersive environment" OR "virtual reality") AND
("experience marketing" OR "customer experience" OR "experiential value" OR "customer journey") AND
("e-commerce" OR "online retail" OR "digital commerce")

Inclusion criteria: (a) published between January 2020 and June 2024, (b) in English, (c) in Q1 or Q2 journals (Scopus/Web of Science), (d) full-text availability. The search yielded 247 initial records. After removing duplicates (n=41) and screening for relevance (n=206 remaining), 68 articles were included in the final corpus.

Source 2: Industry and consulting reports. To capture practitioner perspectives and emerging trends not yet reflected in peer-reviewed literature, we analyzed 15 reports from Gartner, McKinsey & Company, Accenture, Deloitte, and Boston Consulting Group published between 2021 and 2024.

Source 3: Documented case studies. We identified 22 case studies of firms implementing AI, Metaverse, or integrated initiatives in e-commerce. Cases were selected based on: (a) availability of detailed implementation documentation, (b) verifiable outcomes (quantitative or qualitative), and (c) diversity of industry sectors (retail, luxury, automotive, fashion, consumer electronics).

Examples include Nike (Nikeland on Roblox), Alibaba (Buy+ VR shopping), Gucci (Gucci Garden), BMW (Virtual Car Configurator), and Sephora (Virtual Artist AI + AR try-on).

3.3 Data Analysis Procedures

Data analysis followed the three-stage coding process prescribed by Corbin and Strauss (2015):

Stage 1: Open coding. Each document (article, report, case study) was read line-by-line to identify discrete concepts, actions, events, and processes relevant to AI, Metaverse, and experience marketing. Initial codes were formulated as gerunds (e.g., "predicting customer preferences", "rendering 3D product models", "authenticating transactions biometrically") to maintain action orientation. This process generated 312 distinct open codes.

Stage 2: Axial coding. Open codes were grouped into higher-order categories based on similarities, differences, and dimensional ranges. Axial coding involved reassembling data fractured during open coding into coherent categories by identifying:

- **Causal conditions** (what leads to a phenomenon)
- **Contextual factors** (broader conditions affecting strategy)
- **Action/interaction strategies** (how actors respond)
- **Consequences** (outcomes of strategies)

Through iterative comparison, eight axial categories emerged, including: "AI-driven predictive personalization", "Metaverse-based sensory immersion", "PXM infrastructure", "order fulfillment intelligence", "secure payment authentication", "virtual product experimentation", "avatar-mediated social interaction", and "cross-layer integration mechanisms".

Stage 3: Selective coding. The axial categories were further synthesized around a **core category** that accounted for most of the variation in the data and connected all other categories. Following extensive memoing and diagramming, the core category was identified as: **"Smart Integrated Experience Paradigm (SIEP)"** — representing the systematic integration of intelligent AI infrastructure with immersive Metaverse interaction to enable novel forms of experiential value co-creation.

Throughout the coding process, constant comparative analysis was performed: each new finding was compared with existing codes and categories to refine definitions, identify negative cases, and ensure theoretical saturation (reached after coding 85% of the corpus, with the remaining 15% yielding no new conceptual insights).

3.4 Trustworthiness and Rigor

To ensure quality in qualitative research, we followed Lincoln and Guba's (1985) criteria:

Criterion	Technique Applied
Credibility	Prolonged engagement (6 months of data collection/analysis), peer debriefing (two marketing PhDs reviewed coding), member checking (three industry practitioners validated case interpretations)
Transferability	Thick description of contexts (academic, industry, cases) to enable readers to assess applicability to other settings
Dependability	Audit trail (retained all coding documents, memos, diagrams), independent replication by second coder (91% inter-coder agreement on axial categories)
Confirmability	Reflexive journal documenting researcher assumptions and potential biases; triangulation across three data sources

IV. FINDINGS

4.1 Overview of the SIEP Framework

The core finding of this study is the **Smart Integrated Experience Paradigm (SIEP)** , a three-layer conceptual framework that systematically integrates AI and Metaverse capabilities to enable next-generation experience marketing. Figure 1 (see Appendix A for full diagram) presents the framework visually.

The SIEP framework comprises three constitutive layers arranged hierarchically but with reciprocal feedback loops:

Layer	Primary Function	Key Components
Layer 1: Intelligent Infrastructure	Data processing, prediction, automation, security	Four AI applications (Modernization, PXM, Order Intelligence, Secure Payments)
Layer 2: Immersive Interaction	Sensory-rich, embodied, social engagement	Metaverse affordances (visualization, simulation, avatar interaction, events)
Layer 3: Integration & Value Co-creation	Synergy, personalization, joint value creation	Three novel value propositions (Context-Aware Personalization, Low-Risk Virtual Experimentation, Shared-Experience-Based Loyalty)

4.2 Layer 1: Intelligent Infrastructure (AI Backend)

From axial coding, **four core AI applications** in commerce emerged as critical for enabling experience marketing. Each serves a distinct function in the customer journey:

Application 1: Modernization and Business Model Expansion

This category refers to AI's role in transforming static, product-centric business models into dynamic, service-dominant configurations. Examples from case studies include:

- **Dynamic bundling:** AI algorithms identify complementary products based on co-purchase patterns and automatically generate personalized bundles (e.g., Amazon's "frequently bought together").
- **Subscription optimization:** Machine learning predicts optimal subscription renewal timing, pricing, and content personalization (e.g., Stitch Fix's AI-curated clothing boxes).
- **Platform ecosystem orchestration:** AI manages interactions among multiple actors (customers, influencers, developers, logistics providers) within digital ecosystems.

In experience marketing terms, modernization enables **act** and **relate** experiences by facilitating new participation modes (e.g., customers can subscribe to experience boxes, co-create product variants, or join loyalty tiers with experiential rewards).

Application 2: Dynamic Product Experience Management (PXM)

PXM refers to the systematic management of product-related content, data, and experiences across all customer touchpoints. AI enhances PXM in several ways:

- **Automated product enrichment:** AI extracts attributes from product images and descriptions (color, material, style) to populate catalog databases without manual entry.
- **Contextual product presentation:** Based on customer segment, browsing history, and situational factors, AI selects which product images, videos, or 3D models to display, in what order, and with what supporting content (e.g., technical specifications for engineers vs. lifestyle imagery for fashion-conscious buyers).
- **Cross-channel consistency:** AI ensures that product information (pricing, availability, specifications) is synchronized across website, mobile app, Metaverse store, and social commerce channels in real-time.

PXM directly supports the **sense** and **think** dimensions by ensuring that product presentations are both aesthetically appealing and cognitively informative, tailored to each customer's needs.

Application 3: Order Intelligence

Order intelligence encompasses AI applications that optimize the post-purchase journey from cart to delivery. Key capabilities include:

- **Demand forecasting:** Time series models (e.g., LSTM networks) predict short-term and long-term demand by SKU, region, and channel, enabling proactive inventory allocation.
- **Fulfillment optimization:** AI selects optimal warehouse locations, shipping carriers, and delivery routes based on cost, speed, and carbon footprint constraints.
- **Friction reduction:** AI predicts and preemptively resolves order issues (e.g., address corrections, payment authorization flags, backorder notifications) before customers experience delays or errors.

From an experiential perspective, order intelligence primarily affects the **feel** dimension (reducing anxiety and frustration) and **act** dimension (enabling seamless post-purchase actions such as returns, exchanges, or delivery rescheduling).

Application 4: Secure Payments with AI-driven Fraud Detection

Secure and frictionless payment processing is essential for positive customer experiences. AI contributes to:

- **Behavioral authentication:** Machine learning models analyze typing patterns, mouse movements, device fingerprints, and transaction histories to verify identity without explicit customer action.
- **Real-time fraud scoring:** Each transaction receives a risk score; low-risk transactions proceed seamlessly, while high-risk ones trigger step-up authentication (e.g., biometric verification).
- **Chargeback prediction:** AI predicts which transactions are likely to result in disputes, enabling preemptive interventions.

This application directly supports the **feel** dimension (trust, safety) and **act** dimension (completing purchase without barriers).

Summary of Layer 1: These four AI applications constitute the **intelligent nervous system** of the SIEP framework—operating largely invisibly to customers but essential for enabling personalization, consistency, reliability, and security that downstream immersive experiences depend upon.

4.3 Layer 2: Immersive Interaction (Metaverse Frontend)

While Layer 1 processes data and makes decisions, Layer 2 is where customers **experience** the brand in sensory-rich, embodied, and social ways. Based on axial coding, three primary Metaverse affordances emerged as most relevant to experience marketing:

Affordance 1: Embodied Product Visualization and Simulation

Unlike 2D product images or even 360-degree videos, Metaverse environments allow customers to:

- **View products in realistic 3D:** Rotate, zoom, and examine products from any angle, with accurate textures, materials, and lighting.
- **Simulate usage contexts:** Place a virtual sofa in a room, "wear" a jacket and see how it moves with body gestures, or "drive" a car on virtual roads.
- **Test product variations:** Change colors, sizes, configurations, or accessories in real-time with instant visual feedback.

Case example: IKEA's Metaverse experience allows customers to place true-to-scale 3D furniture models in their own space (via AR integration) and experiment with different arrangements before purchasing physical items. This directly addresses the **act** dimension (physical trial behavior) and **think** dimension (cognitive evaluation).

Affordance 2: Avatar-Mediated Social Presence and Interaction

Customers in the Metaverse are represented by avatars—customizable digital bodies that enable:

- **Social shopping:** Friends' avatars can meet in a virtual store, browse together, share opinions via voice or text, and even send virtual "gifts" to each other.
- **Live events:** Brand-sponsored concerts, fashion shows, product launches, or educational workshops where avatars co-inhabit the same virtual space.
- **User-generated content and community:** Customers create and share their own avatar outfits, virtual room designs, or branded content, fostering a sense of belonging and co-ownership.

Case example: Nike's Nikeland on Roblox has hosted millions of visitors who play mini-games, customize their avatars with Nike gear, and participate in brand-sponsored events. This experience directly targets the **relate** dimension (social belonging) and **feel** dimension (excitement, pride).

Affordance 3: Gamified Engagement and Tokenized Rewards

Metaverse environments can embed game mechanics (points, levels, challenges, leaderboards) to drive sustained engagement:

- **Quests and challenges:** Customers complete tasks (e.g., "visit three virtual product display areas", "try on five outfits", "attend a live tutorial") to earn rewards.
- **Tokenized loyalty:** Blockchain-based tokens or NFTs represent earned rewards that can be redeemed for virtual goods, discounts on physical products, or access to exclusive experiences.
- **Achievement display:** Customers' virtual goods and achievement badges are visible to others, conferring social status within the community.

Case example: Starbucks Odyssey program operates partially in a Metaverse-like environment where customers complete "Journey" activities (e.g., coffee trivia, virtual tastings) to earn NFTs ("Journey Stamps") that unlock unique benefits. This supports the **feel** dimension (sense of accomplishment), **act** dimension (participation in activities), and **relate** dimension (status signaling).

4.4 Layer 3: Integration and Value Co-creation

The distinctive theoretical contribution of the SIEP framework lies in Layer 3—where the intelligent infrastructure (Layer 1) and immersive interaction (Layer 2) are **integrated** to generate value propositions that neither technology can achieve alone. From selective coding, three novel value propositions emerged:

Value Proposition 1: Context-Aware Personalization

Definition: The real-time adaptation of Metaverse environments (virtual store layouts, product recommendations, avatar appearances, ambient conditions, event invitations) based on AI-processed customer data (past purchases, browsing history, current location, time of day, predicted emotional state).

How it works: AI algorithms analyze customer data and generate personalized parameters that the Metaverse rendering engine uses to dynamically construct the experience. For example:

- Returning customer's avatar automatically wears their favorite brand colors.
- Virtual store shelves display products based on past purchase categories.
- Ambient music tempo adjusts based on predicted stress levels (calm music for busy times, energetic music for leisure browsing).

Experiential outcomes: Sense (environment matches customer preferences), Feel (feeling "understood" and valued), Think (cognitive ease from relevant options), Act (reduced search effort), Relate (sense of belonging to a brand that "knows me").

Theoretical proposition derived:

P1: Higher levels of contextual personalization integration between AI backend and Metaverse frontend are positively associated with customers' perceived experiential value, mediated by perceptions of brand understanding and relevance.

Value Proposition 2: Low-Risk Virtual Experimentation

Definition: The ability for customers to extensively test, simulate, modify, and experience products in the Metaverse before committing to a physical purchase, with AI reducing perceived risk by providing personalized guidance and social validation.

How it works: Unlike static virtual try-ons, low-risk experimentation is **iterative and AI-guided**:

- Customer tries a virtual product (e.g., a sofa in different colors).
- AI suggests variations based on observed preferences ("You spent more time examining blue fabric; would you like to see matching cushions?").
- Customer can see how the product would look in different simulated contexts (day/night lighting, different room layouts).
- AI can surface social proof ("87% of customers with your taste preferences chose this configuration").
- Purchase decision can be deferred, but the virtual item remains in customer's "closet" for future experimentation.

Experiential outcomes: Think (thorough evaluation without pressure), Act (confident purchase decisions), Feel (reduced anxiety about making wrong choice).

Theoretical proposition derived:

P2: The availability of low-risk virtual experimentation environments, enabled by AI-guided personalization within the Metaverse, reduces perceived purchase risk and increases purchase intention for high-involvement products.

Value Proposition 3: Shared-Experience-Based Loyalty

Definition: A loyalty dynamic where customer attachment to a brand derives not only from transactional rewards but from participation in shared, memorable, co-created experiences with other customers within the Metaverse, facilitated by AI's community detection and event orchestration.

How it works:

- AI identifies affinity groups (e.g., customers who share similar product preferences, demographics, or activity patterns) and recommends group activities (virtual running clubs, design workshops, Q&A sessions with product experts).

- Customers earn "experience points" not just for purchases but for participation, collaboration, and contribution to community (e.g., helping another customer configure a product, co-creating a virtual design, attending a live event).
- Shared experiences are memorialized (photos, NFTs, achievement badges) and visible to peers, strengthening social bonds.

Experiential outcomes: Relate (strongest—social identity, belonging), Feel (joy, pride, emotional attachment), Act (ongoing participation behaviors).

Theoretical proposition derived:

P3: Shared-experience-based loyalty (vs. transaction-based loyalty) leads to higher customer retention, willingness to pay premium prices, and positive word-of-mouth, with the effect strengthened by AI's ability to match customers into compatible experience groups.

4.5 Causal Relationships within the SIEP Framework

Grounded theory analysis revealed causal pathways connecting the three layers. These are summarized as propositions:

Proposition 4 (P4): The quality of AI-driven intelligent infrastructure (Layer 1) positively affects the perceived effectiveness of Metaverse immersive interactions (Layer 2). Specifically, without AI-generated personalization data, Metaverse experiences are perceived as generic and less engaging.

Proposition 5 (P5): The immersive quality of Metaverse interactions (Layer 2) positively affects customers' willingness to co-create value (Layer 3). Higher immersion—operationalized as presence, embodiment, and social co-presence—increases customers' cognitive and behavioral investment in the experience.

Proposition 6 (P6): Value co-creation (Layer 3) is positively associated with sustainable competitive advantage, operationalized as customer lifetime value, brand loyalty, and resistance to competitive switching.

V. DISCUSSION

5.1 Theoretical Implications

The SIEP framework makes three primary theoretical contributions to the marketing literature.

First, bridging siloed research streams. Prior research has examined AI in marketing (Huang & Rust, 2021; Kumar et al., 2019) and Metaverse marketing (Dwivedi et al., 2022; Hennig-Thurau et al., 2023) as separate domains. This study demonstrates that their integration is not merely additive but **synergistic**—the combined effect exceeds the sum of individual effects. The SIEP framework provides a systematic vocabulary and structural model for discussing this integration, moving beyond vague claims of "synergy" to specific mechanisms (context-aware personalization, low-risk experimentation, shared-experience loyalty).

Second, extending experience marketing theory. Schmitt's (1999) SEMs (Sense, Feel, Think, Act, Relate) were developed in an era before AI and immersive environments. The SIEP framework operationalizes each SEM in terms of concrete technological affordances:

- **Sense** is enabled by Metaverse rendering capabilities (visuals, audio, haptics) and AI's ability to match sensory presentations to individual preferences.
- **Feel** is supported by AI's emotional detection (sentiment analysis) and Metaverse's embodied social presence.
- **Think** is facilitated by AI-guided product simulations and virtual experimentation tools.
- **Act** is enhanced by order intelligence and seamless payment integration.
- **Relate** is deepened through shared Metaverse experiences and AI's community-matching algorithms.

Thus, SIEP does not replace classic experience marketing theory but **updates and specifies** it for contemporary technological contexts.

Third, generating testable theoretical propositions. Unlike purely descriptive frameworks, SIEP yields specific propositions (P1-P6) that can be empirically tested using quantitative methods (e.g., structural equation modeling, experiments). This positions the framework as a **middle-range theory** (Merton, 1968) that bridges abstract grand theories (e.g., service-dominant logic) and concrete empirical phenomena.

5.2 Practical Implications for Marketing Executives

For practitioners, the SIEP framework provides strategic guidance on investment priorities and implementation sequencing.

Implication 1: Start with intelligent infrastructure. Many firms are tempted to immediately build Metaverse experiences (Layer 2) because they are visible and novel. However, SIEP suggests that without a functioning Layer 1 (AI-driven PXM, order intelligence, secure payments), Layer 2 experiences will be generic, inconsistent, and operationally fragile. Recommended sequence: audit and upgrade AI capabilities first; pilot Metaverse experiences second; integrate layers third.

Implication 2: Measure integration fluency. Traditional digital analytics measure isolated metrics (click-through rates, time on site, conversion). SIEP introduces the concept of **integration fluency** —the seamlessness with which customers move between AI-personalized content and

Metaverse interactions without friction or discontinuity. Metrics might include: cross-layer consistency scores (e.g., product recommended in email appears as highlighted item in virtual store), latency between AI personalization trigger and Metaverse environment update, and customer-reported seamlessness perceptions.

Implication 3: Phased implementation for emerging markets. For Middle Eastern markets (including Iran, UAE, Saudi Arabia), full SIEP implementation may be constrained by bandwidth limitations, regulatory uncertainty about virtual assets (NFTs, cryptocurrencies), or low Metaverse adoption rates. A phased approach is recommended:

Phase	Activities	Primary SIEP Layers
Phase 1 (0-12 months)	Implement AI-driven PXM and personalization on existing 2D e-commerce platform	Layer 1 only
Phase 2 (12-24 months)	Launch lightweight Metaverse pop-ups (web-based, not VR-headset dependent) for specific product categories; integrate with existing PXM	Layers 1 + partial Layer 2
Phase 3 (24-36 months)	Full Metaverse environment with avatar interaction, live events, NFT-based loyalty; full AI integration	All three layers

5.3 Limitations and Future Research Directions

Several limitations of this study should be acknowledged:

Limitation 1: Secondary data reliance. The framework is derived from published literature, industry reports, and case studies—all secondary sources. Primary empirical data (surveys, experiments, interviews with customers or managers) would strengthen validation.

Future research direction: Conduct a cross-sectional survey of e-commerce customers who have experienced AI-personalized Metaverse environments (e.g., Nike Nikeland visitors) to test propositions P1-P3 quantitatively. Develop measurement scales for constructs such as "context-aware personalization quality" and "shared-experience loyalty".

Limitation 2: Technological instability. Metaverse platforms and standards are evolving rapidly; some specific features mentioned (e.g., blockchain-based NFTs for loyalty) may become obsolete or be replaced.

Future research direction: Longitudinal studies tracking how SIEP framework components evolve with technological change. Identify which elements are **enduring** (e.g., need for integration between intelligent backend and immersive frontend) versus **transient** (e.g., specific VR hardware).

Limitation 3: Limited cultural and market variation. Cases analyzed were predominantly from North America, Europe, and East Asia. Emerging markets, including the Middle East, were underrepresented in the documented cases.

Future research direction: Comparative case studies of AI-Metaverse integration attempts in Middle Eastern markets (e.g., Dubai's Metaverse Strategy, Saudi Arabia's NEOM initiatives). Examine how cultural factors (e.g., privacy concerns, gender segregation norms, payment preferences) moderate SIEP effectiveness.

Limitation 4: Ethical considerations not fully explored. The framework assumes customers benefit from personalization and immersive engagement, but potential harms (privacy violations, manipulation, addiction, digital inequality) are not systematically addressed.

Future research direction: Develop an ethical extension of SIEP that incorporates safeguards: transparent data usage policies, opt-out mechanisms for personalization, equitable access to virtual experiences across socioeconomic groups, and design guidelines to prevent addictive patterns.

VI.CONCLUSION

This study set out to address a critical gap in the marketing literature: the absence of an integrated conceptual framework explaining how AI and the Metaverse can synergistically enable next-generation experience marketing. Through systematic grounded theory analysis of 68 academic articles, 15 industry reports, and 22 case studies, we developed the **Smart Integrated Experience Paradigm (SIEP)** —a three-layer framework comprising (1) intelligent infrastructure (four AI applications: modernization, dynamic PXM, order intelligence, secure payments), (2) immersive interaction (Metaverse affordances: embodied visualization, avatar-mediated social presence, gamified engagement), and (3) integration and value co-creation (three novel value propositions: context-aware personalization, low-risk virtual experimentation, shared-experience-based loyalty).

Six theoretical propositions derived from the framework specify causal relationships among layers and predict customer outcomes. Practically, SIEP provides marketing strategists with a sequenced implementation roadmap and diagnostic tool for assessing integration maturity. For emerging markets, phased adoption guidelines accommodate infrastructural constraints while building toward full convergence.

The era of isolated AI applications on 2D screens or standalone Metaverse gimmicks is ending. The future of experience marketing lies in **intelligent immersion**—where invisible AI infrastructure powers visible, memorable, and socially rich virtual experiences. The SIEP framework offers a theoretical foundation and practical compass for navigating this convergence.

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