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Research on International Marketing in the Context of Intelligence

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Abstract

As intelligent technologies such as artificial intelligence and big data profoundly reshape the global business landscape, international marketing is undergoing a fundamental paradigm shift from experience-driven to data-driven approaches. This paper employs a mixed method of systematic review and content analysis to examine core literature sources from 2010 to 2025. The key findings are: ① Intelligent technologies have increased international marketing ROI by 12%–25%, with consumer decision-making shifting from linear to nonlinear patterns; ② Traditional international marketing theories, constrained by static assumptions and linear logic, struggle to explain intelligent contexts, whereas new frameworks have emerged including data-driven precision marketing theory, nonlinear customer journey reconstruction theory, cross-border intelligent value co-creation theory, and global intelligent marketing ecosystem theory; ③ Mainstream innovation models include data-driven precision marketing, AI-powered cross-border CRM, intelligent omnichannel integration, and cross-cultural intelligent localization marketing; ④ Technical bottlenecks (cross-border data compliance, algorithm interpretability) and ethical challenges (algorithmic bias, privacy infringement, cultural conflicts) are intertwined, with enterprise capability adaptation serving as the key support for model implementation. This paper identifies five major research gaps and proposes future research directions.

Keywords: Intelligence; International Marketing; Artificial Intelligence; Big Data; Precision Marketing; Cross-Cultural Marketing

1. Introduction

1.1. Research Background

The world is currently experiencing a deepening intelligent revolution centered on artificial intelligence, big data, and the Internet of Things. Research indicates that an increasing number of enterprises are integrating AI into their global marketing strategies, fundamentally reshaping the

way they connect with consumers worldwide (Huang & Rust, 2021; Ngamvichaikit, 2025; Rahman et al., 2025). According to the United Nations Conference on Trade and Development, the global digital economy now accounts for 41.5% of GDP, with cross-border e-commerce transaction volumes exceeding $6.1 trillion. Concurrent studies show that the penetration rate of intelligent technologies in international marketing has surpassed 70%, transforming marketing from experience-driven to data-driven, from mass communication to precise targeting, and from one-way push to two-way interaction (Li & Wang, 2025; Wei & Sun, 2025).

Simultaneously, global consumer behavior has undergone profound changes: over 5 billion internet users exist worldwide, with more than 60% obtaining product information through social media and 75% of cross-border shoppers relying on algorithmic recommendations for purchase decisions. Amazon's AI-powered personalized recommendations have sustained cross-border sales growth above 25%; TikTok's intelligent content distribution mechanism increased user conversion rates by 30% in Southeast Asian markets; and global brands such as Netflix, Unilever, and Alibaba have successfully leveraged AI technologies to balance global scale with local relevance (Huang & Rust, 2021; Reis et al., 2024).

However, traditional international marketing theories and practices face unprecedented challenges. The classic 4P and 4C frameworks struggle to explain the marketing logic in intelligent contexts—questions such as how data assets become core marketing elements and how algorithms reconstruct channel-user relationships remain unanswered within traditional paradigms. Research demonstrates that the “born global” characteristic of digital enterprises has fundamentally disrupted the gradual internationalization assumptions of traditional international business theories, significantly reducing their explanatory power (Yang et al., 2025). Moreover, traditional marketing models exhibit increasingly evident shortcomings: traditional international advertising conversion rates remain below 5%, while intelligent targeted advertising achieves rates above 15%; traditional market research cycles span months, whereas big data-based real-time analysis completes market trend predictions within hours (Liu, 2025; Li & Yan, 2025).

1.2. Core Concepts Defined

To ensure analytical rigor and conceptual consistency, this paper defines three core concepts:

Intelligence: The comprehensive capability to achieve system perception, analysis, decision-making, and execution based on new-generation information technologies including artificial intelligence, big data, the Internet of Things, and cloud computing. In international marketing contexts, intelligence manifests as enterprises' ability to automate and dynamically optimize marketing activities—market insights, user targeting, content generation, and channel management—through algorithms and data-driven approaches.

Precision Marketing: The practice of delivering personalized marketing content to specific users at optimal times through appropriate channels, based on in-depth analysis of multidimensional user behavioral data and algorithmic matching. Its core characteristics are segmentation, real-time responsiveness, and measurability, aiming to maximize marketing resource efficiency while precisely satisfying user needs.

Cross-Cultural Intelligent Localization: The process by which multinational enterprises, leveraging artificial intelligence technologies such as natural language processing, cultural dimension modeling, and sentiment analysis, dynamically adapt marketing content and strategies to the cultural contexts, consumption habits, and regulatory requirements of different target markets while maintaining global brand core values and consistency. This approach transcends the traditional binary choice between standardization and localization, emphasizing data-driven dynamic balance.

1.3. Literature Review Scope and Methods

This literature review encompasses three core dimensions: first, foundational research on the integration of intelligent technologies with international marketing; second, empirical studies and practical cases of international marketing model innovation; third, research on challenges and responses in the development of international marketing models within intelligent contexts. The timeframe focuses primarily on literature from 2010 to 2025, capturing the critical period of rapid technological penetration and deep integration with international marketing. Sources include SSCI and CSSCI-indexed journals and high-level international conference papers from Web of Science, Scopus, and CNKI databases, as well as industry reports from McKinsey, Boston Consulting Group, and United Nations Conference on Trade and Development.

Methodologically, this paper adopts a mixed approach combining systematic review with content analysis. Initial searches using multidimensional keyword combinations yielded approximately 1,200 documents. After two rounds of screening—first eliminating duplicates and irrelevant works, then assessing quality—237 valid documents were identified. Thematic analysis categorized the literature into four thematic modules: theoretical foundations, model innovation, effect evaluation, and challenge response, which were systematically reviewed and synthesized.

2. Theoretical Foundations and Paradigm Shift

2.1. Limitations of Traditional International Marketing Theories

Traditional international marketing theories—including the 4P marketing mix, international product life cycle theory, Uppsala internationalization process theory, and the OLI eclectic paradigm—played central guiding roles during the industrial economy era. However, with the proliferation of intelligent technologies, these theories exhibit significant limitations when applied to today's dynamic, personalized, and data-driven international marketing landscape (Yang, 2025).

Traditional theories rely on static market environment assumptions. The international product life cycle theory presumes linear stages of introduction, growth, maturity, and decline, yet in intelligent contexts, technological iteration accelerates dramatically—smartphone product cycles have shortened to 12–18 months—while consumer demand exhibits strong nonlinear characteristics. Strategy formulation based on static assumptions leads to missed market opportunities. Research explicitly notes that the static market assumptions of traditional global marketing theories cannot accommodate the nonlinear changes in consumer demand or the

dynamic nature of cross-cultural communication in the AI era (Wei & Sun, 2025; Ngamvichaikit, 2025).

Beyond such rigid environmental assumptions, traditional theories conceptualize consumer demand at the level of scale and homogeneity. The 4P framework's product strategy emphasizes standardized production to reduce costs, whereas in intelligent contexts, consumers actively participate in product design through social media and e-commerce platforms, generating highly personalized and fragmented demands. Research confirms that digital-age consumers have transformed from passive marketing recipients to active co-creators of marketing content and product value—a role shift unaccounted for in traditional frameworks (Rahman et al., 2025; Zhao & Fu, 2026). Conventional large-scale marketing approaches fail to reach segmented user groups, wasting resources while missing precision targeting opportunities.

Compounding these limitations, traditional decision-making processes rely on limited-sample market research data and lack the capacity for processing massive real-time data. Conventional market segmentation methods based on demographic characteristics or geographic divisions cannot efficiently integrate multidimensional data to construct dynamic user profiles, resulting in subjective and lagging marketing decisions. Traditional international advertising depends heavily on experiential judgment, whereas precision advertising in intelligent contexts requires algorithm optimization based on real-time data—an area where traditional theories provide no analytical guidance (Liu, 2025; Li & Yan, 2025).

Finally, traditional theories inadequately address how intelligent technologies reconstruct marketing processes. While traditional channels are primarily offline physical stores or conventional media, intelligent technologies have spawned new channels such as social commerce, live streaming, and personalized recommendations—operational logics unexplained by traditional channel strategy frameworks. Furthermore, traditional cross-cultural marketing analysis relies on static cultural difference classifications, whereas intelligent contexts feature accelerated cultural transmission and increasing cultural integration, rendering the traditional standardization-localization binary inadequate for responding to dynamic cultural changes (Hofstede, 2001; Qiu, 2025).

2.2. New Theoretical Frameworks for Intelligent Marketing

The rapid development of intelligent technologies has catalyzed a fundamental paradigm shift in international marketing theory. Emerging frameworks, characterized by data empowerment, customer centricity, and ecosystem synergy, reconstruct the value creation logic and practical pathways of international marketing (Huang & Rust, 2021; Rahman et al., 2025).

Data-Driven Precision Marketing Theory serves as the foundational pillar of intelligent marketing frameworks. Centered on big data analytics and machine learning algorithms, it transcends the static demographic-based segmentation of traditional approaches, enabling dynamic, real-time customer need identification and market positioning. Research demonstrates that deep AI-big data integration shifts international marketing from standardized mass communication to precise targeting based on dynamic user profiles, fundamentally reconstructing marketing's value creation logic (Li & Wang, 2025; Liu, 2025; Li & Yan, 2025). In international

contexts, this theory enables refined user segmentation across different countries and cultural backgrounds while allowing real-time marketing strategy optimization through reinforcement learning—adjusting product prices based on market competition, exchange rate fluctuations, and consumer price sensitivity across different nations.

Table 1. Comparison of Traditional and New Intelligent Marketing Theories

Dimension	Traditional Theory	New Intelligent Theory
Market Assumption	Static, Linear	Dynamic, Nonlinear
Consumer Role	Passive Recipient	Value Co-creator
Data Foundation	Limited Samples, Structured Data	Massive Real-time, Multimodal Data
Decision Logic	Experience-based, Post-hoc	Algorithm-driven, Real-time
Value Creation	Firm-centric	Multi-actor Ecosystem Synergy
Cross-Cultural Strategy	Binary Choice	Data-driven Dynamic Adaptation

Nonlinear Customer Journey Reconstruction Theory challenges the linear assumptions of the traditional AIDA model. In intelligent contexts, customer touchpoints in international markets are fragmented and multi-channel, with decision paths no longer following the fixed "Attention-Interest-Desire-Action" sequence but forming nonlinear closed loops through intelligent recommendations, social interactions, AI customer service, and other touchpoints. This theory shifts the focus of international marketing from product promotion to full lifecycle customer experience management, adapting to the complexity of consumer behavior in a globalized environment (Zhao & Fu, 2026; Reis et al., 2024).

Cross-Border Intelligent Value Co-Creation Theory expands the scope of value creation entities in international marketing. While traditional theories position the firm as the dominant value creator, intelligent technologies dissolve boundaries between firms, customers, and partners, forming multi-party value co-creation networks. Research indicates that digital technologies enable multinational enterprises to interact in real time with global suppliers, distributors, and end consumers, fundamentally transforming traditional value creation models (Yang et al., 2025; Nong & Liu, 2025).

Through blockchain-enabled transparent transactions, IoT device real-time data sharing, and AI-driven collaborative decision-making, multinational enterprises can invite global users to participate in product design, production, and marketing processes—enhancing product localization while strengthening customer brand loyalty (Wei & Sun, 2025; Nong & Liu, 2025).

Global Intelligent Marketing Ecosystem Theory adopts a systems perspective, viewing international marketing as a dynamic ecosystem composed of intelligent technologies, enterprises, customers, regulatory agencies, and partners. This theory emphasizes co-evolution and resource integration among ecosystem elements to achieve sustainable competitive advantage in global

markets. Research shows that leading brands such as Alibaba and Unilever exemplify this theory—these enterprises have built global intelligent marketing ecosystems integrating channels, data, and supply chain resources across different markets, enabling cross-market strategic coordination and resource optimization (Huang & Rust, 2021; Yang et al., 2025; Wang, 2025).

3. Innovation Practices and Empirical Research

3.1. Typical Innovation Models

Data-Driven Precision Marketing is the most widely adopted innovation model. Netflix's recommendation system accounts for over 80% of platform content views, with AI-driven personalization increasing cross-border marketing conversion rates by more than 30%. This model builds dynamic user profiles through machine learning algorithms based on full-lifecycle user data, enabling precise global targeting.

AI-Powered Cross-Border Customer Relationship Management leverages natural language processing and large language models to achieve real-time multilingual customer inquiry responses, intelligent need prediction, and full-lifecycle customer value management. Case studies indicate that after implementing AI-driven CRM systems, multinational consumer goods companies reduced average inquiry response times from 24 hours to seconds, increased international customer satisfaction by 25%, and improved retention rates by 18%. However, existing research focuses primarily on technology effectiveness, with insufficient analysis of AI interaction adaptability across different cultural contexts.

Intelligent Omnichannel Integration uses AI algorithms to synchronize inventory, pricing, and promotional information across cross-border e-commerce platforms, social media, live streaming channels, and offline stores in real time, addressing customer experience inconsistencies caused by channel fragmentation. Research on VR/AR applications in omnichannel marketing shows that cross-border home furnishing companies using VR virtual showrooms achieved 40% increases in international customer purchase intentions and 35% improvements in product awareness. However, cost-benefit analysis of channel integration, particularly for small and medium-sized enterprises under resource constraints, remains underdeveloped.

Cross-Cultural Intelligent Localization Marketing enables brands to overcome cultural barriers in global markets. Traditional cross-cultural marketing relies heavily on local team experiential judgment, whereas intelligent technologies allow content adaptation based on cultural dimension theory. Unilever exemplifies this approach, using AI to generate localized marketing content while maintaining global brand consistency.

3.2. Effect Evaluation Systems

Effect evaluation has developed multidimensional systems balancing financial and non-financial performance. Financial dimensions include revenue growth, marketing ROI, and market share; non-financial dimensions encompass customer experience, operational efficiency, and brand value. Empirical research shows that after implementing AI-driven marketing, international

market revenue increased by an average of 25%, with marketing ROI improving by 12%. Studies using structural equation modeling found significant positive correlation between user profile precision and customer retention (correlation coefficient 0.68), indicating that precise targeting effectively enhances customer stickiness.

Table 2. Effect Evaluation Indicator System

Dimension	Primary Indicators	Secondary Indicator Examples	Measurement Method
Financial	Revenue Growth	Revenue Growth Rate, Cross-border Sales	Financial Data
Financial	Profitability	Marketing ROI, Profit Margin	Financial Data
Financial	Market Share	Target Market Share, Penetration	Market Research
Non-Financial	Customer Experience	Satisfaction, Net Promoter Score	Questionnaire
Non-Financial	Operational Efficiency	Response Time, Conversion Rate	System Data
Non-Financial	Brand Value	Awareness, Loyalty	Brand Tracking
Social	Privacy Protection	Data Compliance, User Privacy	Compliance Audit
Social	Fairness	Algorithm Bias Detection	Algorithm Audit

Evaluation methods reflect interdisciplinary characteristics, with quantitative and qualitative integration becoming mainstream. Difference-in-differences models analyzing 50 multinational consumer goods companies found that model innovation led to average annual export growth of 18%, with effects more pronounced in emerging markets. However, debates persist regarding effect sustainability—some research suggests long-term algorithm over-reliance may lead to consumer fatigue or privacy concerns, while others argue that algorithm iteration and improved privacy protections can sustain effects.

4. Challenges and Responses

4.1. Technological and Ethical Bottlenecks

Technological bottlenecks include cross-border data compliance, where regulations such as GDPR and China's Data Security Law impose strict requirements on data collection, storage, transmission, and use. Research identifies regulatory compliance as one of four core challenges in AI-driven global marketing. Algorithm interpretability presents another bottleneck—deep learning models' "black box" characteristics reduce user trust and hinder strategy adjustment across different markets. Infrastructure disparities create a "digital divide" in developing countries, limiting intelligent marketing model coverage and experience quality.

Ethical bottlenecks center on algorithmic bias—training data containing historical biases may produce discriminatory marketing content. Research emphasizes that algorithmic bias is a core ethical challenge in intelligent marketing; without proper management, it harms consumer rights and causes irreversible brand damage. Privacy infringement risks arise from excessive data collection and unauthorized data use. Cultural ethical conflicts occur when AI-generated content fails to consider target market cultural taboos and values, potentially causing public relations crises.

4.2. Enterprise Capability Adaptation

Enterprise capability adaptation is crucial for intelligent marketing implementation.

Technology application capability: approximately 62% of multinational enterprises fail to achieve expected outcomes due to insufficient technological capabilities. SMEs achieve lightweight upgrades through SaaS platforms and AI service providers, with some increasing user conversion rates by 28% within six months.

Data-driven capability: data silos are major obstacles. Multinational companies building global data hubs integrating sales and user feedback data from 15 markets achieved 35% marketing ROI improvements. Data security and compliance capabilities are essential components under cross-border regulatory frameworks.

Table 3. Core Challenges and Enterprise Response Strategies

Challenge Category	Specific Challenge	Response Strategies
Technological	Cross-Border Data Compliance	Federated Learning, Regional Data Centers
Technological	Algorithm Interpretability	Explainable AI, Algorithm Auditing
Technological	Digital Divide	Differentiated Deployment, Local Partnerships
Ethical	Algorithmic Bias	Debiased Data, Diverse Teams, Regular Testing
Ethical	Privacy Infringement	Minimum Data Principle, Informed Consent
Ethical	Cultural Conflict	Local Advisors, Human Review, Sensitive Term Libraries
Capability	Technology Insufficiency	SaaS Partnerships, Lightweight Tools
Capability	Data Silos	Data Hubs, Cross-Departmental Integration
Capability	Organizational Barriers	Agile Teams, KPI Realignment, Local Empowerment
Capability	Talent Shortage	Internal Training, University Partnerships, Recruitment

Organizational coordination capability: agile organizational structures achieve 40% higher implementation efficiency than traditional hierarchies. Companies like Netflix and Alibaba succeed through flat, agile structures enabling rapid market response and timely strategy adjustment. Cross-cultural organizational capability requires sufficient local decision-making autonomy and efficient headquarters-subsidiary coordination.

Talent development capability: a global shortage of over 1.2 million "marketing technology professionals" exists. Enterprises address this through internal training, university partnerships for digital capability enhancement, and strategic recruitment of data scientists and AI marketing specialists.

5. Research Summary and Future Outlook

5.1. Contributions and Limitations of Existing Research

Existing research has advanced the intelligent transformation of international marketing theory, transforming technological elements from external variables into core driving factors. At the practical level, it has synthesized case studies across industries, providing replicable pathways for enterprise practice. Methodologically, it has introduced quantitative approaches such as big data analytics and machine learning.

However, significant limitations remain: theoretical integration is insufficient, with most studies focusing on single technologies and marketing elements; current international digital marketing research remains fragmented, lacking cross-disciplinary integrated frameworks. Industry and regional coverage is uneven: e-commerce and retail research accounts for over 65%, while manufacturing and agriculture are underrepresented; European and American markets account for over 70%, with emerging markets lacking attention. Enterprise size dimension: large enterprises account for over 80% of samples, while SMEs are severely underrepresented. Effect evaluation dimensions are narrow, focusing primarily on short-term financial indicators with limited longitudinal tracking. Technology-organization synergy is insufficient, with scattered research on organizational structure and talent development; current research focuses largely on technology itself, with significant gaps in organizational-level adaptability research.

5.2. Future Research Directions

Based on these gaps, future research should focus on:

Construct integrated theoretical frameworks: Strengthen interdisciplinary research combining artificial intelligence, international business, marketing, and ethics to explore coupling mechanisms between intelligent technologies and the full international marketing process, forming systematic theoretical systems encompassing technology application, organizational transformation, and ethical norms.

Expand empirical research breadth and depth: Broaden sample coverage to include SMEs and emerging market enterprises; adopt longitudinal designs to track long-term evolution; construct multidimensional evaluation systems balancing short-term performance and long-term value.

Deepen ethical risk and capability adaptation research: Propose actionable ethical norms and risk prevention mechanisms tailored to different industries and markets; focus on SME intelligent transformation pain points and technology absorption pathways.

Explore frontier technology applications: Investigate generative AI, the metaverse, and blockchain in international marketing, analyzing their transformative effects on marketing models and providing forward-looking strategic guidance for enterprises.

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