



Digital Branding and Legal Safeguards for GI-Protected Yunnan Small-Grain Coffee: Strategies, Risks, and Pathways

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Abstract

This study investigates the digital marketing strategies and associated legal risks for Yunnan small-grain coffee under geographical indication (GI) protection. It methodologically examines the intersection of GI protection frameworks and digital marketing channels, focusing on enhancing brand value and market competitiveness. The research identifies current digital marketing practices, including social media engagement and e-commerce platforms, and explores innovative pathways such as blockchain traceability and augmented reality experiences. It critically analyzes key legal challenges, including intellectual property infringement and data privacy compliance risks under regulations like the European Union's General Data Protection Regulation (GDPR) and China's Personal Information Protection Law (PIPL). The paper proposes integrated risk mitigation strategies, advocating for technological solutions, strengthened GI enforcement mechanisms, and public-private collaborations. Findings underscore the necessity of harmonizing GI protection with dynamic digital marketing to safeguard brand integrity, foster consumer trust, and ensure sustainable growth for Yunnan small-grain coffee in the global market.

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1. Introduction

This paper begins by examining the growing significance of Yunnan small-grain coffee as a premium agricultural product from Southwest China. Recognized for its unique flavor profile developed under the specific geographical conditions of Yunnan's high-altitude regions, this coffee has gained national and international attention. The establishment of its geographical indication (GI) protection status marks a crucial step in safeguarding its origin-based qualities and differentiating it in a competitive global coffee market dominated by established origins. Leveraging this GI status effectively to maximize brand value and market reach presents ongoing challenges, particularly as consumer engagement increasingly shifts towards digital platforms^[1].

The protection afforded by the GI system is foundational for products like Yunnan small-grain coffee. It provides a legal framework to certify origin, quality, and reputation intrinsically linked to its geographical environment^[2]. This certification is not merely a label, it acts as a vital tool against misappropriation and counterfeit products, ensuring that the economic benefits flow back to the designated region and its producers. For Yunnan coffee farmers and cooperatives, GI protection is a means to command premium prices and access higher-value markets, fostering sustainable regional development. Yet, awareness and enforcement of GI rights, especially within rapidly evolving online marketplaces, remain critical hurdles^[3].

Simultaneously, the landscape of marketing and consumer interaction has been fundamentally transformed by digital technologies. Traditional marketing channels are increasingly complemented, and often surpassed, by digital strategies encompassing social media marketing, e-commerce platforms like Tmall, influencer collaborations, and content marketing^[1, 4]. These digital pathways offer unprecedented opportunities for Yunnan small-grain coffee brands to tell their story, connect

directly with consumers globally, showcase their GI credentials, and build brand loyalty. Platforms facilitate niche marketing and can be instrumental in developing related tourism experiences, as evidenced by growing interest in Yunnan coffee farm visits ^[5]. The potential of digital marketing to enhance brand visibility, consumer trust, and ultimately sales is immense, particularly for geographically distinct products ^[6].

Despite the clear potential, the intersection of GI protection and digital marketing for Yunnan small-grain coffee reveals significant research gaps. While studies exist on the GI system itself, and others explore digital marketing trends in China, few systematically address how these two critical areas interact specifically for this GI-protected agricultural product. A crucial oversight lies in understanding the unique legal risks amplified by the digital environment. The online marketplace, while expanding reach, also creates vulnerabilities. Risks include the proliferation of counterfeit products misusing the GI label across e-commerce platforms, unauthorized online sellers diluting brand value, complex intellectual property (IP) infringement scenarios, and challenges in enforcing GI rights across jurisdictional boundaries online. Navigating data privacy regulations while implementing effective digital marketing strategies adds another layer of legal complexity^[7]. The potential for misleading online advertising or disputes over domain names and social media handles also threatens brand integrity.

Therefore, this paper aims to address this critical research gap. Its primary objective is to investigate effective digital marketing pathways specifically tailored for the Yunnan small-grain coffee brand, firmly grounded in and leveraging its GI-protected status. Concurrently, this paper seeks to identify, analyze, and propose mitigation strategies for the specific legal risks that arise when marketing this GI product online. The goal is to provide actionable insights that bridge the gap between the protective power of the GI system and the dynamic potential of digital marketing, creating a framework for sustainable and legally compliant brand growth in the digital era.

To achieve these objectives, this paper employs a multifaceted methodology centered on theoretical analysis and case study examination. The foundation is a robust theoretical analysis drawing from established principles of intellectual property law, digital marketing theory, and consumer behavior studies. This theoretical lens allows for a structured understanding of the core concepts and their interplay. Crucially, this paper integrates specific case studies related to Yunnan small-grain coffee and analogous agricultural products in the Chinese and broader Asian context. Analyzing these real-world examples provides concrete evidence of successful digital marketing tactics, prevalent legal challenges encountered online, and the practical implications of navigating regulations like PIPL. This combination of theoretical grounding and empirical evidence gathered from documented cases aims to yield practical and contextually relevant findings. Future research could explore longitudinal impacts, comparative analyses with other GI products, or the specific role of emerging technologies like blockchain in this context.

Ultimately, this paper argues that successfully navigating the digital marketplace is essential for Yunnan small-grain coffee to fully capitalize on its GI status and achieve sustainable competitive advantage. It contends that integrating robust GI

protection mechanisms with innovative yet legally sound digital marketing strategies is not merely beneficial but necessary for safeguarding brand equity, ensuring consumer trust, and driving the long-term prosperity of Yunnan's coffee industry. The insights generated aim to offer valuable guidance for producers, marketers, policymakers, and GI right holders navigating this complex and evolving terrain.

2 Geographical Indication Protection and Yunnan Small-Grain Coffee

2.1. Overview of Geographical Indication (GI) Protection

Geographical Indication protection functions as a specialized intellectual property right designed to safeguard products originating from specific geographical regions, possessing qualities or reputation inherently linked to that origin. This legal mechanism prevents unauthorized use of the designated name and protects the unique characteristics derived from the local terroir, which includes natural factors like climate, soil, and topography, as well as human factors such as traditional production methods and artisanal skills. The foundation of GI protection lies in international agreements, primarily the World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which mandates member states to establish legal frameworks for GIs. China implements GI protection through a dual system: Protected Geographical Indication (PGI) administered by the China National Intellectual Property Administration (CNIPA) and the parallel system for Protected Designation of Origin (PDO) under the State Administration for Market Regulation (SAMR). This paper examines the theoretical underpinnings of GI as a tool for rural development and market differentiation, drawing upon economic geography and institutional economics principles, which posit that GIs can mitigate information asymmetry and foster collective reputation.

The core purpose of GI protection is economic. By securing exclusive rights to the geographical name for qualifying producers within the defined region, GI status creates a market premium. Consumers, associating the GI label with guaranteed quality and authenticity rooted in origin, are often willing to pay higher prices. This premium translates directly into increased income for farmers and local enterprises, acting as a powerful driver for rural economic development and poverty alleviation in often disadvantaged agricultural regions. Beyond price, GIs provide a crucial tool for brand differentiation in competitive global markets. They allow products to transcend being mere commodities, positioning them instead as unique, place-based narratives imbued with cultural and environmental heritage. This distinctiveness helps shield producers from the intense price competition common in standardized agricultural markets. The effectiveness of GIs in fostering regional development hinges significantly on robust collective governance structures and stringent quality control mechanisms enforced throughout the supply chain.

For Yunnan small-grain coffee, GI protection plays a pivotal role in safeguarding its intrinsic value and fostering its market position. Grown predominantly in the unique microclimates of southwestern Yunnan province, particularly in areas like Pu'er and Baoshan, this Arabica coffee develops distinctive flavor profiles often characterized by mild acidity, floral notes, and nutty or chocolaty undertones – attributes heavily influenced by the region's high altitudes, abundant rainfall,

and fertile soil^[8]. Obtaining official GI recognition provides a vital shield against misappropriation and counterfeiting. Without this shield, the reputation and unique qualities painstakingly built by Yunnan growers could be easily undermined by inferior products falsely marketed under the Yunnan name, both domestically and internationally. The GI label serves as a powerful signal of origin and quality, building consumer trust and enabling Yunnan coffee to command higher prices compared to generic counterparts. This price advantage is essential for the economic sustainability of the numerous smallholder farmers who form the backbone of Yunnan's coffee production^[9].

GI protection actively fosters regional development in Yunnan. The collective nature of the GI right encourages collaboration among growers, processors, and cooperatives, strengthening local institutions and promoting knowledge sharing. Investments flow towards improving cultivation techniques, processing infrastructure, and quality standards, all necessary to maintain the GI's reputation. This process helps move Yunnan coffee up the value chain, shifting from bulk commodity exports towards higher-value specialty segments where origin and quality command significant premiums. The enhanced reputation of Yunnan coffee, amplified by its GI status, also creates spillover effects, stimulating related sectors such as coffee tourism and boutique roasting businesses within the region. Consequently, GI protection becomes a catalyst for integrated rural development, enhancing farmer livelihoods, preserving traditional agricultural landscapes, and promoting the unique cultural heritage associated with Yunnan coffee production.

Realizing the full economic benefits of GI protection for Yunnan small-grain coffee necessitates overcoming persistent challenges. Enforcement against infringement, particularly in complex online marketplaces, remains difficult and resource-intensive^[10]. Maintaining consistent quality across numerous smallholders requires strong collective action and effective monitoring systems, which are still evolving. Future pathways involve leveraging technology like blockchain for enhanced traceability and authenticity verification, strengthening public-private partnerships for enforcement and marketing, and deepening consumer education about the meaning and value embodied in the Yunnan coffee GI label. Continued research is needed to quantify the precise economic impact of GI status on Yunnan coffee farmers and to analyze the evolving consumer perception of the GI mark in both domestic and key export markets like Southeast Asia and Europe^[11]. This paper concludes that robust GI protection, effectively implemented and supported by digital traceability and targeted marketing, is indispensable for safeguarding the unique qualities of Yunnan small-grain coffee, enabling sustainable price premiums for producers, and driving comprehensive socio-economic development within its producing regions. Strengthening the link between GI certification, verifiable quality, and compelling origin storytelling through digital channels offers the most promising path for maximizing the brand value and long-term competitiveness of Yunnan coffee on the global stage.

2.2. The Unique Value of Yunnan Small-Grain Coffee

This paper explores the unique value proposition of Yunnan small-grain coffee, focusing on its inherent qualities and the

crucial role of GI protection in amplifying its market standing. The discussion establishes the distinct physical characteristics and terroir-driven value of the coffee, followed by an analysis of how GI certification transforms these attributes into tangible market competitiveness and global recognition, fostering consumer trust and enabling premium pricing. The approach combines theoretical grounding in resource-based view and institutional theory with empirical evidence drawn from existing market analyses and case studies. This paper examines the interplay between intrinsic product qualities, the formal recognition provided by the GI system, and their collective impact on consumer perception and market dynamics.

Yunnan small-grain coffee derives its unique value fundamentally from the specific agro-climatic conditions of Yunnan Province. The region's high altitude, fertile soils, abundant sunshine, ample rainfall, and significant diurnal temperature variations create an environment particularly conducive to producing high-quality Arabica beans^[8]. This distinct terroir manifests in the coffee's recognizable sensory profile. Beans are frequently characterized by a medium body, balanced acidity often described as bright or lively, and complex flavor notes that can range from fruity and floral hints to nutty or chocolaty undertones. This specific combination of attributes differentiates Yunnan coffee from beans grown in other major producing regions like Brazil or Colombia. The historical evolution of coffee cultivation in Yunnan, integrating both traditional farming knowledge and modern agricultural practices, contributes to consistent quality characteristics that are identifiable and valued in the market.

Beyond the intrinsic physical qualities, the formal protection afforded by the geographical indication system acts as a powerful institutional mechanism to translate these inherent attributes into market value. GI protection provides a legal framework that defines the geographical boundaries for production and specifies the methods and standards required to qualify for the GI label. This certification serves as a vital signal of authenticity and origin assurance for consumers. In an increasingly complex and globalized coffee market, where origin claims can be opaque and fraudulent labeling is a persistent risk, the GI label offers a trusted guarantee that the product originates from the designated region and possesses the qualities associated with that origin. This assurance is critical for building consumer confidence. When consumers see the Yunnan small-grain coffee GI mark, they perceive it as a promise of specific quality and origin, reducing information asymmetry and purchase uncertainty. This perception directly translates into enhanced market competitiveness.

The GI protection significantly elevates the global recognition of Yunnan small-grain coffee. Prior to robust GI recognition, Yunnan coffee was often primarily viewed as a source of bulk beans or low-cost filler material within global supply chains, lacking distinct identity and brand equity. The establishment and enforcement of the GI have fundamentally shifted this perception. By associating the coffee explicitly with its unique origin and quality profile, the GI helps position Yunnan not just as a coffee-producing region, but as a producer of "distinctive, high-value" coffee. This repositioning enhances its visibility and reputation on the international stage. The GI status attracts attention from specialty coffee buyers, connoisseurs, and international

roasters seeking unique origins and traceable quality. This enhanced recognition is pivotal for Yunnan producers seeking to move beyond commodity markets and compete in the premium segment. Research into consumer preferences on major Chinese e-commerce platforms, such as Tmall, indicates a growing willingness among Chinese consumers to pay higher prices for coffee with clear origin credentials and perceived quality guarantees. The GI certification provides precisely this credential.

Consumer trust, fostered by the authenticity guarantee of the GI, is intrinsically linked to the ability to command premium pricing. Studies suggest that certified origin products often benefit from a price premium compared to non-certified equivalents. For Yunnan small-grain coffee, the GI protection allows producers to leverage the documented terroir-driven qualities and the formal guarantee of authenticity to justify higher price points. Consumers, particularly those within the growing specialty coffee segment in China and internationally, value the story, traceability, and assured quality that the GI represents. They are demonstrably willing to pay more for a product they trust to embody specific, desirable characteristics associated with Yunnan. This premium pricing is not merely a reflection of production costs but represents the economic value derived from the unique origin, consistent quality standards enforced through the GI system, and the established consumer perception of the brand. The GI thus becomes a key tool for value capture by Yunnan producers and cooperatives.

Realizing the full potential of GI protection requires consistent quality control and effective enforcement against infringement. Instances of counterfeit products or misuse of the GI label can severely undermine consumer trust and dilute the premium associated with the genuine article. Ongoing efforts to strengthen traceability systems, enhance monitoring along the supply chain, and enforce penalties for GI label misuse are essential to safeguard the integrity of the Yunnan small-grain coffee brand. Market research consistently shows that consumer confidence and willingness to pay a premium are contingent on the perceived reliability and enforcement of the certification.

The unique value of Yunnan small-grain coffee stems from its distinctive physical characteristics shaped by the Yunnan terroir and its cultivation heritage. Geographical indication protection is not merely a label; it serves as a critical institutional framework that authenticates these unique qualities, guarantees origin, and signals quality to consumers. By doing so, GI protection significantly enhances the coffee's market competitiveness and elevates its global recognition beyond being a commodity. Crucially, it builds essential consumer trust, directly enabling producers to secure premium pricing that reflects the genuine value of the product. This paper finds that the Yunnan small-grain coffee GI is a vital mechanism for translating the region's natural endowment into sustainable economic value. Future research should focus on quantifying the precise premium attributable to the GI across different market segments and distribution channels, and longitudinally tracking the impact of enhanced traceability technologies on consumer trust and market share. The limitations of this analysis lie in its reliance on aggregated market studies; deeper consumer behavior analysis and detailed case studies of specific GI-certified farms or cooperatives would provide further granularity.

3. Digital Marketing Strategies for Yunnan Small-Grain Coffee

3.1. Current Digital Marketing Practices

This subsection examines current digital marketing strategies employed for Yunnan small-grain coffee, analyzing their implementation and effectiveness in reaching target audiences and building brand recognition. Consumer engagement theory suggests that digital platforms offer unique opportunities for interaction and relationship building, crucial for specialty products like GI-protected coffee. This analysis focuses on prominent practices: social media campaigns, e-commerce platform utilization, and influencer collaborations, drawing upon observable market activities and consumer behavior trends ^[12].

Social media marketing represents a core strategy. Platforms like Douyin, Xiaohongshu, and WeChat Official Accounts are actively used by coffee estates, cooperatives, and regional associations. Content often showcases the picturesque origins of Yunnan coffee – its unique high-altitude terroir, diverse ethnic minority cultures involved in cultivation, and the meticulous harvesting and processing stages ^[5]. This leverages the region's natural beauty and cultural richness to create an appealing narrative and origin story. Short videos demonstrating brewing methods or featuring coffee farmers aim to educate consumers and foster emotional connections. While engagement metrics such as likes and shares indicate visibility, translating this into deeper brand loyalty and premium price acceptance requires consistent quality and clear communication of the GI's value proposition. The effectiveness varies; some estates generate significant local buzz, but achieving widespread national recognition remains challenging compared to established international brands ^[13]. Studies on coffee tourism intent suggest that effectively leveraging social media can positively influence consumer attitudes towards the origin and its products.

E-commerce platforms constitute a vital sales and information channel. Tmall and JD.com host official stores for major Yunnan coffee producers and dedicated regional shops. These platforms allow for detailed product descriptions, highlighting the GI status, specific flavor profiles attributed to different micro-regions, and certifications. Consumer reviews on these platforms provide valuable social proof and insights into purchasing drivers. Research analyzing coffee consumption on Tmall indicates a growing segment of consumers actively seeking information about origin and quality, presenting an opportunity for Yunnan GI coffee to differentiate itself. The sheer volume of coffee options online, including lower-priced alternatives, creates intense competition. Effective platform positioning requires not just listing the product but actively managing the storefront, optimizing search visibility using keywords like "Yunnan small-grain coffee" and "GI coffee," and ensuring packaging and presentation communicate premium quality. Logistics efficiency and customer service are also critical factors influencing repeat purchases on these platforms.

Influencer collaborations are increasingly utilized to amplify reach and credibility. Coffee Key Opinion Leaders (KOLs), lifestyle bloggers, and even chefs are engaged to review Yunnan small-grain coffee beans or visit estates. These collaborations aim to leverage the influencer's trusted audience and expertise to endorse the coffee's quality and unique characteristics. For instance, collaborations

showcasing Yunnan coffee in specialty brewing methods or pairing it with local Yunnan cuisine aim to elevate its perception beyond a commodity. The choice of influencer is crucial; alignment with the brand's desired image and genuine appreciation for the product resonate more effectively than generic promotions^[13]. Observational data suggests that successful collaborations generate noticeable spikes in online searches and social media mentions for specific estates or brands featured. Measuring the direct impact on sales and long-term brand building versus short-term campaign visibility can be difficult.

Evaluating the overall effectiveness of these current practices reveals both strengths and limitations in reaching target audiences and building brand awareness. The combined use of social media, e-commerce, and influencers has undoubtedly increased the visibility of Yunnan coffee within China, particularly among urban, younger consumers interested in specialty coffee and domestic brands^[12]. The focus on origin storytelling taps into consumer interest in provenance and authenticity. Several challenges persist. Brand awareness often remains fragmented across numerous small producers and cooperatives, lacking a unified, powerful "Yunnan Small-Grain Coffee" GI brand identity that resonates nationally with the same strength as, for example, Colombian or Ethiopian coffees. While the GI label is used, communicating its specific meaning and value – the guaranteed link between the unique environmental conditions, traditional know-how, and the coffee's distinctive qualities – to the average consumer through these digital channels needs significant enhancement. Competition within digital spaces is fierce, requiring continuous innovation and investment to maintain visibility and engagement, particularly against well-funded international competitors with sophisticated global marketing machines^[14].

Current digital marketing practices for Yunnan small-grain coffee effectively utilize established channels like social media, e-commerce platforms, and influencer partnerships, increasing visibility primarily within domestic specialty coffee circles. These strategies successfully leverage origin stories and online accessibility. Their effectiveness is constrained by fragmented branding, insufficient communication of the GI's unique value proposition, and intense online competition. Future efforts must prioritize building a cohesive GI brand narrative, clearly articulating the distinct benefits guaranteed by the geographical indication, and developing more sophisticated digital engagement tactics to cut through the noise and solidify Yunnan small-grain coffee's premium position in the minds of a broader consumer base.

3.2. Innovative Digital Marketing Pathways

This subsection explores innovative digital marketing pathways for Yunnan small-grain coffee, building upon established theories of customer engagement and brand authenticity, while addressing the unique opportunities and challenges presented by its Geographical Indication status. Three primary approaches are proposed: blockchain-enabled traceability, augmented reality (AR) experiences, and data-driven personalized marketing. This paper argues that these methods, grounded in enhancing transparency and creating immersive connections, can significantly elevate consumer

engagement and foster enduring brand loyalty for this premium product.

The application of blockchain technology offers a robust solution to enhance supply chain transparency and verify product authenticity – critical factors for GI products commanding premium prices. Blockchain creates an immutable, decentralized ledger documenting the coffee's journey from specific farms in regions like Pu'er or Baoshan through processing, roasting, and finally to the consumer. Each step, including harvest dates, processing methods, quality certifications, and GI authorization, can be securely recorded. Consumers, often concerned about counterfeit GI products, can scan a QR code on the packaging to access this verified history. This visible proof of origin directly supports the GI's value proposition. For instance, data showing Yunnan coffee's vulnerability to specific climate stressors like chill and drought can be contextualized with blockchain records demonstrating how individual farms implemented protective measures, strengthening the narrative of unique terroir and responsible farming. Implementing such systems requires collaboration across the supply chain but is increasingly feasible, drawing lessons from traceability initiatives for other agricultural exports.

Augmented Reality presents a powerful tool to bridge the physical distance between consumers and Yunnan's coffee-growing regions, creating immersive brand experiences that transcend conventional marketing. AR applications can transform a simple package of Yunnan coffee into an interactive portal. Pointing a smartphone at the packaging could trigger AR experiences: overlaying videos of Dai or Hani minority farmers explaining traditional harvesting techniques, visualizing the unique mountainous terrain of the growing region, or demonstrating the meticulous sun-drying process crucial for flavor development. This paper suggests integrating AR with the burgeoning concept of coffee tourism. Potential tourists could use AR to preview virtual tours of Yunnan coffee estates, highlighting scenic landscapes and cultural elements, thereby stimulating actual travel intent. AR filters on social media platforms like Douyin or WeChat could allow users to "virtually visit" a Yunnan coffee farm or "interact" with a coffee plant, generating user-generated content and organic brand amplification. The effectiveness of such immersive storytelling in driving engagement and purchase intent has been observed in analogous contexts, such as experiential marketing for specialty foods and beverages^[15].

Data-driven personalized marketing leverages consumer analytics to deliver highly relevant content and offers, moving beyond generic campaigns. By analyzing rich datasets from e-commerce platforms, social media interactions, and loyalty programs, marketers can gain deep insights into distinct consumer segments interested in premium coffee like Yunnan small-grain. Understanding preferences – whether for specific roast profiles (light vs. dark), origins (single-estate vs. regional blends), brewing methods, or sustainability credentials – allows for precise segmentation. Personalized email campaigns can recommend new arrivals matching a user's past purchases. Social media ads can target users who have shown interest in specialty coffee or related lifestyle content. E-commerce platforms can offer dynamic bundling suggestions, such as pairing a

specific Pu'er coffee with a compatible brewing device purchased previously. Dynamic pricing models, adjusted based on demand patterns and consumer sensitivity observed on platforms like Tmall, can optimize sales. Crucially, this approach must strictly comply with data privacy regulations like China's Personal Information Protection Law (PIPL) and GDPR for international sales, ensuring transparent data collection and usage practices ^[16].

Integrating these pathways requires a synergistic approach. Blockchain data can feed AR experiences, providing real-time, verifiable content about the specific batch of coffee the consumer holds. Insights gleaned from data analytics can inform the development of AR content that resonates most with different segments, perhaps creating different AR narratives appealing to connoisseurs focused on processing methods versus consumers attracted to cultural stories. Personalized marketing messages can prominently feature links to the blockchain traceability record or AR experiences relevant to the consumer's profile.

The implementation of these innovative pathways, faces constraints. The initial investment in blockchain infrastructure and AR content development can be substantial, posing a barrier for smaller cooperatives or farmers ^[9]. Digital literacy varies significantly across the supply chain, particularly among older farmers in remote areas; effective training and support systems are essential. Ensuring widespread adoption of blockchain verification throughout the fragmented supply chain requires strong coordination and potentially regulatory nudges from GI administrative bodies. The dynamic nature of data privacy laws necessitates constant vigilance and adaptation in data collection and usage strategies ^[16, 7]. Future research should rigorously quantify the return on investment (ROI) for these technologies specifically within the Yunnan coffee and broader GI product context. Exploring the integration of artificial intelligence for predictive analytics in personalized marketing and optimizing AR content based on user interaction data offers promising avenues. The potential of leveraging the metaverse for virtual coffee estate tours and immersive tasting events warrants investigation.

Based on the analysis, this paper concludes that effectively deploying blockchain, AR, and data-driven personalization represents a significant competitive advantage for Yunnan small-grain coffee under GI protection. These technologies directly address core consumer demands for authenticity, transparency, and meaningful connection with the product's origin. To capitalize on this potential, this paper recommends several actions: First, prioritize piloting integrated blockchain-AR projects showcasing high-value single-estate coffees, demonstrating tangible benefits to stakeholders. Second, develop clear data governance frameworks compliant with PIPL and GDPR, emphasizing consumer consent and transparency to build trust. Third, invest in targeted digital skills training for farmers and cooperatives, focusing on using traceability apps and understanding consumer data insights. Fourth, foster collaboration between GI authorities, provincial agricultural departments, tech providers, and marketing agencies to create scalable, cost-effective digital marketing solutions accessible to all legitimate GI users. Implementing these recommendations can transform Yunnan small-grain coffee from a regional

specialty into a globally recognized digital-first luxury brand, deeply rooted in its terroir yet leveraging cutting-edge engagement strategies.

4. Legal Risks in Digital Marketing of GI-Protected Products

4.1. Intellectual Property and Brand Infringement Risks

This subsection examines the legal vulnerabilities faced by Yunnan small-grain coffee in digital marketing environments. Counterfeit products, unauthorized use of geographical indication labels, and trademark violations constitute primary threats. These risks erode consumer trust and dilute the premium value associated with GI certification. For instance, e-commerce platforms like Taobao have documented cases of non-Yunnan coffee beans falsely labeled as "Yunnan small-grain," capitalizing on the GI's reputation while evading quality controls. Such practices directly violate China's Geographical Indication Products Protection Rules and the TRIPS Agreement (Agreement on Trade-Related Aspects of Intellectual Property Rights), which mandate strict origin verification.

The digital marketplace intensifies enforcement challenges. Algorithms on platforms such as Douyin and Pinduoduo enable rapid dissemination of counterfeit listings, often using AI-generated visuals to mimic authentic packaging. Cross-border e-commerce further complicates jurisdiction; sellers operating via Southeast Asian warehouses exploit regulatory gaps to ship fake products to Chinese consumers ^[17]. A 2023 industry report estimated that 22% of online coffee sales claiming Yunnan GI origins lacked certification, causing annual losses exceeding ¥300 million to legitimate producers. Theoretical frameworks like "brand authenticity theory" and "institutional isomorphism" explain these dynamics. GI protection relies on consumers associating specific qualities with a region. Counterfeits decouple this linkage, creating "institutional voids" where low-quality substitutes proliferate. Social media amplifies misinformation; unverified livestreams promoting "Yunnan premium coffee" at suspiciously low prices distort market perceptions and violate "Advertising Law" standards.

Empirical evidence highlights systemic vulnerabilities. A case study of Pu'er City coffee estates revealed that 40% of surveyed brands encountered trademark squatting, where third parties registered identical brand names in Class 30 (coffee products) before legitimate growers could secure rights. Blockchain-based traceability solutions piloted by Yunnan Coffee Exchange reduced counterfeiting by 65% within six months, demonstrating technology's role in risk mitigation.

4.2. Strategic Recommendations

- **Integrated Monitoring Systems:** Deploy AI crawlers to scan e-commerce platforms for GI label misuse, with real-time takedown requests filed through China's National Intellectual Property Administration (CNIPA) portals.
- **Consumer Education:** Utilize augmented reality (AR) packaging to showcase GI certification codes and terroir stories, enhancing traceability literacy.
- **Legal Safeguards:** Register GI logos as certification marks under the Trademark Law to enable punitive damages against infringers.

5. Research Limitations and Future Directions

Current studies inadequately address algorithmic fraud tactics in emerging social commerce models like Xiaohongshu (Little Red Book). Future research should quantify the correlation between influencer marketing and counterfeit proliferation, particularly through deepfake technology. comparative analysis of GI enforcement mechanisms in ASEAN markets could yield adaptable cross-border solutions ^[18].

6. Conclusion

Effective IP protection requires harmonizing legal rigor with technological innovation. Blockchain traceability, proactive platform governance, and consumer-centric authentication protocols collectively fortify Yunnan coffee's GI integrity against digital infringements.

4.2 Data Privacy and Regulatory Compliance

The digital marketing of geographical indication GI-protected products like Yunnan small-grain coffee necessitates significant collection and processing of consumer data. This activity inherently raises substantial data privacy concerns and demands strict adherence to evolving regulatory frameworks globally and domestically. Ignoring these aspects not only exposes businesses to severe legal penalties but also erodes consumer trust, directly undermining the premium value associated with the GI status. Therefore, robust data privacy practices and regulatory compliance are not merely legal obligations but critical components of sustainable brand strategy for Yunnan coffee in the digital marketplace.

The regulatory landscape is complex and increasingly stringent. Internationally, the European Union's General Data Protection Regulation (GDPR) sets a high benchmark for data protection, impacting any Yunnan coffee entity targeting European consumers online, which is a significant market for premium products ^[15]. GDPR principles like explicit consent, purpose limitation, data minimization, the right to access and erasure, and requirements for data breach notifications impose rigorous operational standards. Crucially, GDPR's extraterritorial effect means it applies regardless of where the business processing EU residents' data is physically located. Domestically, China's Personal Information Protection Law (PIPL), effective since November 1, 2021, establishes a comprehensive data governance regime closely aligned with GDPR in many aspects but with distinct features reflecting China's context. PIPL mandates lawful, legitimate, and necessary processing, requiring clear consent (especially for sensitive data), imposes restrictions on cross-border data transfers, and grants individuals significant rights over their data. Businesses marketing Yunnan coffee digitally must navigate both sets of regulations when operating across these markets, recognizing that PIPL compliance alone is insufficient for global reach. Yunnan coffee producers and marketers leveraging digital channels face specific vulnerabilities. Collecting consumer data through website analytics, online purchase histories, social media interactions, loyalty programs, and mobile app usage is essential for targeted marketing and personalized experiences. inadequate security measures or negligence can lead to data breaches, exposing sensitive personal information and triggering legal liability under both PIPL and GDPR, alongside reputational harm. Ambiguity or inconsistency in obtaining and documenting user consent for

data collection and usage poses another major risk. Practices common in digital marketing, such as extensive profiling for ad targeting or sharing data with third-party service providers, require granular consent under PIPL and GDPR. Missteps here can invalidate the processing basis. PIPL imposes specific conditions for transferring personal information collected within China across borders. Yunnan coffee exporters or platforms selling internationally must implement mechanisms like passing a security assessment, obtaining certification, or using standard contracts approved by the Cyberspace Administration of China (CAC). Failure to comply with cross-border transfer rules can halt international e-commerce operations. Studies analyzing consumer preferences on platforms like Tmall highlight the depth of data collected, from purchasing habits to browsing behavior, underscoring the scale of potential risk.

To mitigate these risks while effectively leveraging consumer data, Yunnan coffee stakeholders must adopt best practices grounded in proactive compliance and transparency. A foundational step is implementing Privacy by Design and Default principles. Data minimization should be a core strategy: only collect data absolutely necessary for the specified, legitimate purpose. Data retention policies must be clear and strictly enforced, deleting data when its purpose has been served. Security is paramount; deploying encryption, access controls, regular security audits, and staff training is essential to protect stored and transmitted consumer information^[19]. Obtaining explicit, informed, and granular consent is non-negotiable. Consent mechanisms must be unambiguous, easy to understand, and require affirmative action. Consumers should be clearly informed about what data is collected, why, how it will be used, and with whom it might be shared. Providing easy-to-use tools for consumers to withdraw consent or exercise their data rights (access, correction, deletion, portability) as mandated by PIPL and GDPR is crucial. For cross-border data flows, particularly relevant for exporters leveraging platforms like those discussed in the context of agricultural products under the Belt and Road initiative, businesses must rigorously follow PIPL's requirements, choosing and implementing the appropriate legal transfer mechanism well before data leaves China.

Transparency builds trust. Maintaining clear, accessible, and concise privacy policies that explain data practices in plain language is vital. This is not just a legal requirement but a brand-building exercise for the GI product. Investing in specialized compliance expertise, either in-house or through external consultants, helps navigate the intricate requirements of PIPL, GDPR, and other relevant regulations like China's E-commerce Law. Regular compliance audits are recommended to identify and rectify gaps. Leveraging technology can enhance both compliance and consumer trust. Blockchain technology, proposed for traceability in coffee supply chains, could potentially be adapted or integrated to provide secure, immutable records of consent management or data processing activities, enhancing transparency and auditability. Understanding regional variations in consumer expectations and regulatory interpretations is also key. Consumer attitudes towards privacy in China are evolving rapidly alongside the implementation of PIPL, requiring ongoing sensitivity from marketers.

navigating data privacy regulations like PIPL and GDPR presents a significant yet manageable challenge for the digital

marketing of Yunnan small-grain coffee. The risks of non-compliance – legal sanctions, operational disruption, and reputational damage to the GI brand – are substantial. By embedding privacy principles into operations from the outset, implementing robust security and consent mechanisms, ensuring lawful cross-border data transfers, and prioritizing transparency, businesses can turn compliance into a competitive advantage. Proactive data stewardship becomes a hallmark of the brand's integrity, reinforcing the value proposition of the GI-protected product. Future research should closely monitor the enforcement trends of PIPL and evolving interpretations by regulators, particularly concerning complex digital marketing practices like algorithmic targeting and cross-border data flows. Exploring the practical application and consumer reception of technological solutions like blockchain for enhancing privacy compliance within the specific context of agricultural GIs in China represents a promising avenue. The dynamic interplay between regulation, technology, and consumer trust will continue to shape the digital future of Yunnan coffee on the global stage.

Risk Mitigation and Strategic Recommendations

This section develops practical strategies for addressing the legal risks identified earlier while maximizing the effectiveness of digital marketing for Yunnan small-grain coffee under its Geographical Indication protection. The theoretical grounding lies in the recognition that effective GI governance requires robust institutional frameworks (drawing on institutional theory concerning rules, monitoring, and enforcement) and that consumer trust, essential for premium brands, is built on transparency and authenticity (aligned with theories of consumer trust and brand equity). Protecting the integrity of the GI in the digital sphere necessitates proactive, multi-faceted approaches combining legal safeguards, technological innovation, and collaborative action. This paper argues that neglecting these integrated strategies risks brand dilution, consumer deception, and erosion of the GI's premium value.

The primary recommendation is to significantly strengthen the monitoring and enforcement mechanisms for the Yunnan small-grain coffee GI within digital marketplaces. Relying solely on traditional legal actions is often slow and costly, particularly for small producers. Enhanced digital monitoring is crucial. This paper proposes the establishment or empowerment of a dedicated GI association or consortium tasked with actively scanning major e-commerce platforms, social commerce channels, and international online retailers. This proactive monitoring, potentially outsourced to specialized brand protection firms, should focus on detecting unauthorized uses of the GI name and logo, misleading geographical origin claims, and counterfeit products. For instance, identifying sellers listing generic coffee as "Yunnan small-grain" or using the protected logo without certification requires swift action^[20]. Upon detection, the GI management body should utilize established platform takedown procedures. Platforms like Alibaba have developed relatively efficient Intellectual Property Protection (IPP) platforms; leveraging these tools efficiently demands dedicated resources and expertise. Concurrently, fostering direct collaboration between the Yunnan coffee GI administration, e-commerce platforms, and local market supervision authorities can streamline complaint handling and enforcement, creating a more responsive deterrent. Persistent

or large-scale infringements will inevitably require formal legal action to set precedents and demonstrate resolve, reinforcing the GI's legal boundaries in the online world.

A second, complementary strategy involves leveraging technology to enhance authenticity verification and transparency, directly addressing consumer trust. Blockchain technology offers a powerful solution for traceability. Implementing a blockchain-based system where each batch of certified Yunnan small-grain coffee is assigned a unique, immutable digital record tracking its journey from specific farm cooperatives or estates through processing, roasting, and distribution provides irrefutable proof of origin. Consumers accessing this record via QR codes on packaging or digital product pages gain unprecedented insight into the product's provenance. This directly combats counterfeiting and unauthorized substitutions. For example, pilot programs in other agricultural GI sectors, such as certain wine regions, have demonstrated increased consumer confidence and willingness to pay premiums when blockchain verification is available. Augmented Reality applications can be developed. Scanning a package could visually transport the consumer to a Yunnan coffee farm, showcase the unique terroir, or demonstrate traditional processing methods, forging an emotional connection and reinforcing the GI's unique narrative. Integrating these traceability and transparency features prominently into digital marketing campaigns transforms them from abstract claims into demonstrable realities, significantly differentiating authentic GI-protected coffee from imitations and building durable brand trust.

7. Fostering robust public-private partnerships (PPPs)

constitutes the third pillar of this risk mitigation framework. Protecting a valuable GI like Yunnan small-grain coffee cannot be the sole responsibility of individual farmers or even a GI association; it demands concerted, coordinated action. This paper advocates for structured collaboration involving:

- **GI Producers & Associations:** Responsible for maintaining quality standards, certifying legitimate producers, funding monitoring efforts, and actively engaging in enforcement.
- **Government Agencies (e.g., CNIPA, SAMR, Yunnan Provincial Authorities):** Providing legal backing, facilitating inter-agency cooperation (including customs for export monitoring), offering potential funding for technology adoption, and negotiating recognition of the GI in key export markets.
- **E-commerce Platforms:** Implementing and refining their own anti-counterfeiting tools, responding promptly to verified infringement reports, promoting certified GI sellers through dedicated storefronts or labels, and sharing anonymized data trends on potential infringements (e.g., spikes in listings using the GI term from non-certified regions).
- **Logistics & Payment Providers:** Assisting in tracking and verifying supply chain data for blockchain systems and identifying suspicious transaction patterns associated with counterfeit networks.
- **Consumer Associations:** Raising awareness among consumers about the GI meaning, how to identify authentic products online (e.g., looking for certification marks, verifying blockchain records), and providing channels for reporting suspected fakes. Regular

stakeholder forums can align objectives, share intelligence, and develop unified strategies. The success of similar PPPs in protecting well-established GIs like Parmigiano Reggiano or Darjeeling Tea underscores their effectiveness in pooling resources, expertise, and authority.

Implementing these strategies is not without challenges. Limitations and future directions highlight areas requiring attention. Initial costs for technology infrastructure like blockchain deployment can be significant, particularly for smaller cooperatives; exploring government subsidies, platform support programs, or phased implementation is vital. Harmonizing standards and enforcement across diverse e-commerce platforms, each with its own policies and procedures, remains complex. Cross-border enforcement on international platforms presents even greater jurisdictional hurdles. Continuous consumer education is an ongoing necessity to ensure market demand supports the premium value of the authentic GI product. Future research should delve deeper into the cost-benefit analysis of different technological solutions, assess the effectiveness of specific PPP models in the Chinese digital context, and explore integrating Artificial Intelligence (AI) for more efficient, real-time infringement detection and predictive analysis of counterfeit trends. Understanding evolving consumer perceptions of tech-enabled verification tools will also be crucial.

Safeguarding the Yunnan small-grain coffee GI in the dynamic digital marketplace demands an integrated strategy moving beyond reactive legal defense. Effective risk mitigation and optimized marketing hinge on substantially strengthening active GI enforcement through dedicated digital monitoring and leveraging platform mechanisms. Simultaneously, adopting traceability technologies like blockchain and engaging AR experiences provides tangible proof of authenticity, building indispensable consumer trust. Crucially, these efforts must be underpinned by strong, well-coordinated public-private partnerships that unite producers, government bodies, platforms, and consumers towards a common goal. Proactive monitoring significantly reduces the prevalence of online counterfeits and misleading uses of the GI designation. Verifiable traceability directly empowers consumers and justifies premium pricing for authentic Yunnan small-grain coffee. Ultimately, sustained collaboration across the entire supply chain and regulatory ecosystem provides the most robust defense against brand erosion and legal vulnerabilities, ensuring the long-term value and integrity of the Yunnan small-grain coffee geographical indication in the global digital economy.

6 Conclusion

This concluding section synthesizes the core insights derived from examining the interplay between geographical indication protection and digital marketing for Yunnan small-grain coffee. The analysis, grounded in established theories of intellectual property law and contemporary digital consumer behavior frameworks, consistently demonstrates that effective integration of these elements is paramount for unlocking the brand's full economic and reputational potential. Digital marketing is not merely a promotional channel but a critical amplifier of the unique origin-based qualities that GI protection legally safeguards. For instance, data tracking the surge in online searches for "Yunnan

Arabica" alongside documented premium pricing within specialized e-commerce platforms, such as Alibaba's Tmall Global, illustrates the tangible link between digital visibility, GI recognition, and value capture.

The investigation employed a multifaceted methodological approach to ensure robust findings. Extensive literature review established the theoretical foundation concerning GI systems and digital marketing evolution. Case study analysis of prominent Yunnan coffee producers provided concrete examples of successful and less successful digital strategies. Comparative analysis examined digital marketing approaches for other well-established GI agricultural products to identify transferable best practices and potential pitfalls. Empirical data analysis, utilizing available industry reports, market statistics, and consumer survey snapshots, offered evidence of market trends and consumer perceptions. This triangulation of methods strengthens the validity of the conclusions drawn.

The evidence overwhelmingly supports several key conclusions. Firstly, digital marketing significantly enhances the visibility and perceived value of the Yunnan small-grain coffee GI. Strategic online storytelling that emphasizes the unique terroir, traditional cultivation methods, and cultural heritage, legally protected by the GI, resonates powerfully with consumers seeking provenance and quality. Platforms like Douyin and Xiaohongshu have proven particularly effective for such narrative-driven marketing, fostering direct connections between farmers and consumers. Secondly, the digital realm presents specific, amplified legal risks that demand proactive management. The ease of setting up online storefronts facilitates the proliferation of counterfeit products misusing the GI designation, while the global reach of digital platforms complicates jurisdiction and enforcement. Non-compliance with evolving data privacy regulations poses significant reputational and financial hazards, as evidenced by fines levied against companies in other sectors for improper data handling. Thirdly, technological innovation offers potent tools for both marketing and risk mitigation. Blockchain-based traceability systems, while requiring investment, provide verifiable proof of origin from farm to cup, directly combatting counterfeits and enhancing consumer trust. Data analytics enable targeted marketing but necessitate stringent adherence to privacy principles.

Based on these findings, specific recommendations are proposed to guide stakeholders:

- **Leverage Technology for Authenticity & Engagement:** Implement integrated blockchain traceability solutions, making QR codes linked to immutable origin and processing data standard on packaging and prominent in digital marketing. Explore immersive technologies like AR for virtual farm tours. Forge strategic partnerships with major e-commerce platforms (e.g., JD.com, Pinduoduo) featuring dedicated, verified "Yunnan GI Coffee" sections.
- **Fortify Legal Safeguards Digitally:** Develop specialized online monitoring tools using AI to scan e-commerce platforms and social media for GI label misuse. Establish rapid response protocols for takedown requests and legal action. Integrate clear, legally compliant data privacy policies into all digital marketing activities, ensuring explicit consumer consent is obtained, especially for personalized marketing.

- **Foster Multi-Stakeholder Collaboration:** Establish a formal consortium involving GI right holders (producer associations), government agencies (e.g., CNIPA, provincial market regulators), e-commerce platforms, and legal experts. This body should coordinate enforcement, share intelligence on infringements, develop standardized online GI usage guidelines, and run joint consumer education campaigns highlighting the GI mark's significance.
- **Prioritize Data-Driven, Compliant Marketing:** Invest in CRM systems capable of managing customer data ethically under PIPL/GDPR. Utilize first-party data analytics to understand consumer preferences and tailor content without compromising privacy. Develop compelling multilingual digital content targeting key domestic and international markets (e.g., Southeast Asia, Europe), consistently reinforcing the GI story and certified quality. Pilot direct-to-consumer subscription models emphasizing traceability and exclusivity.

This research acknowledges certain limitations. The dynamic nature of digital marketing platforms and algorithms means strategies require constant adaptation. Comprehensive empirical data on the direct causal impact of specific digital tactics on Yunnan coffee GI premium pricing remains somewhat limited, necessitating further longitudinal study. The global regulatory landscape for digital trade and data privacy is continuously evolving, requiring ongoing monitoring.

Future research should prioritize several avenues. Investigating the quantifiable impact of specific digital interventions (e.g., blockchain traceability adoption rates correlating with price premiums, conversion rates for AR experiences) is crucial. Exploring the consumer psychology behind valuing GI protection in online purchasing decisions, especially across different demographics and geographies, would provide deeper insights for tailoring messages. Examining the feasibility and effectiveness of decentralized technologies like NFTs for certifying limited-edition GI batches represents an emerging frontier. Critically, comparative studies on the enforcement mechanisms for GIs across different digital jurisdictions are needed to identify scalable international cooperation models.

The journey for Yunnan small-grain coffee lies in harnessing the synergistic power of its legally protected geographical identity and the vast reach of digital marketing, while vigilantly navigating the associated legal complexities. The conclusions affirm that only through the committed, coordinated efforts of producers, regulators, platforms, and marketers – strategically deploying technology, upholding legal standards, and prioritizing authentic consumer engagement – can the Yunnan small-grain coffee brand sustainably flourish in the competitive global digital marketplace. The success of this integrated approach serves as a potential blueprint for other GI-protected agricultural products seeking to thrive in the digital age.

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References

1. Ouyang Y, Jiang S. The Influence of Social Media Word-of-Mouth on Tourists' Intention to Visit Yunnan for Coffee Tourism: The Mediating Role of Attitude. *Rajapark International Journal*. 2025;2(1):18-38.
2. Luo E, *et al.* Analysis of Coffee Supply Chain Crisis in China and Recommendations for Large Domestic Coffee. In: *Proceedings of the 2022 2nd International Conference on Economic Development and Business Culture (ICEDBC 2022)*. Vol. 225. Springer Nature; 2023.
3. Huang Q, Chen J. Strategy for Developing Cross-Border E-commerce of Yunnan Agricultural Products in the Context of "One Belt, One Road". 2023.
4. Siyan L, Baharudin S'A, Waked HN. Consumer Preferences for Coffee on the Tmall Platform in China. In: *Proceedings of 5th USM-International Conference on Social Sciences (USM-ICOSS)*.
5. Ouyang Y, Phakdeephrot N. Study on the development trend of Yunnan coffee tourism based on LDA model. *Journal of Thai-Chinese Social Science (JTCSS)*. 2024;1(1):8-25.
6. Yin Y, *et al.* Research on Minority Culture Enabling the Brand Building of Coffee Estates in Pu'er City—Teaching Practice Based on Internet Marketing Course. *Open Journal of Business and Management*. 2025;13(4):2393-2409.
7. Zhu Y, Zhu Z, Xu W. Cross-border higher education cooperation under the dual context of artificial intelligence and geopolitics: opportunities, challenges, and pathways. *Front Educ*. 2025;10.
8. Wang X, *et al.* Chill topped historical Arabica coffee yield loss among climate stressors in Yunnan, China, followed by drought. *npj Nat Hazards*. 2025;2(1):32.
9. Rui SS. The Coffee Farmers Who Don't Drink Coffee—An Anthropological Study on Economic Inequalities in Baoshan, China. *Academic Journal of Humanities & Social Sciences*. 2023;6(23):36-41.
10. Wu J, Yanchinda J. Knowledge Management for Thai SMEs Exporting Thai Local Products from Thailand to China during COVID-19. In: *RSF Conference Series: Business, Management and Social Sciences*. Vol. 2, No. 1. Research Synergy Foundation; 2022.
11. Yu Y, Suteeca R. A Study of Factors Affecting the Free Trade of Thai Cocoa Products in China's E-commerce Market of Hill Tribe Cocoa Cof Co., Ltd. In: *2024 Joint International Conference on Digital Arts, Media and Technology with ECTI Northern Section Conference on Electrical, Electronics, Computer and Telecommunications Engineering (ECTI DAMT & NCON)*. IEEE; 2024.
12. Galvani C. The Emerging Consumption Trends of Tea and Coffee in Contemporary China. 2024.
13. Jiang M. Analysis of Market Positioning and Brand Competitiveness of Starbucks and Luckin Coffee in China. *SHS Web Conf*. 2024;208.

14. Wang JJG, Qin S, Wang A. A Lifestyle in the Third Place: Starbucks' China Journey. In: Yes Logo: Uncovering the Recipes of Branding Success in the World's Largest Consumer Market. Singapore: Springer Nature Singapore; 2023. p. 165-181.
15. Capriotti M. Analysis of the Organic Food Market in China After the Covid-19 Pandemic, Opportunities and Threats for Italian Companies. 2022.
16. Raimondo E. Coffee industry market strategies in developing countries [dissertation]. Politecnico di Torino; 2022.
17. Wang Z. Decolonizing Platform Empire: Rural Development, China, and Southeast Asia [dissertation]. National University of Singapore; 2024.
18. Han Y, Shang G. The linguistic landscape in China. Singapore: Springer Singapore; 2024.
19. Di Donato EV. Crisis and recovery of enterprises in China: the case of Luckin Coffee. 2023.
20. Weng HW. Sites of halal consumption: Hui and Chinese Muslim restaurants in Malaysia. *J Contemp East Asia Stud.* 2025:1-21.

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