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Cross-Border Intellectual Property Governance and the Internationalization Capabilities of Yunnan-Based Enterprises in ASEAN Markets: A Mechanism-Based Analysis

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Abstract: Regional economic integration has opened up new avenues for businesses in China's border provinces, creating opportunities for expansion and growth. However, despite the increased commercial opportunities, challenges related to intellectual property systems still remain. In this study, we explore how cross-border intellectual property governance can enhance the internationalization capabilities of enterprises based in Yunnan operating in ASEAN markets. Through a comprehensive analysis of 19 official documents, economy profiles, RCEP chapters, ASEAN action plans, WIPO profiles, and trade statistics, we identified three key mechanisms that come into play. Firstly, governance helps in reducing costs related to information, registration, monitoring, and enforcement, thus enabling firms to better capitalize on their brands, technologies, creative content, and geographical indications. Secondly, it enhances the firms' ability to appropriate returns from their intellectual property assets. Lastly, it establishes a feedback loop where recurring business challenges influence regional services and enforcement cooperation. For sustainable internationalization, it is crucial for enterprises to have a strong internal intellectual property competence and tailor their strategies to the specific institutions, asset types, and platform conditions of each country. This study proposes a multilevel framework that connects regional rule coordination with firm-level capability building, offering a roadmap for Yunnan-based enterprises and public service institutions to navigate the complex landscape of cross-border intellectual property governance.

Keywords: Cross-Border Intellectual Property Governance; ASEAN Markets; Yunnan-Based Enterprises; Internationalization Capabilities; Institutional Heterogeneity; Dynamic Capabilities; RCEP

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1. Introduction

The commercial relationship between China and ASEAN has reached a scale at which intellectual property (IP) governance is no longer a peripheral legal issue. China-ASEAN merchandise trade amounted to approximately USD 1.055 trillion in 2025, including Chinese exports of USD 665.2 billion and imports of USD 389.4 billion. ASEAN therefore remained one of the most consequential external markets for Chinese producers, brand owners, technology suppliers, and digital merchants. In the same year, Yunnan recorded foreign trade of RMB 273.736 billion, while cargo transported through the China-Laos Railway reached 5.441 million tonnes with a declared value of RMB 26.68 billion. These figures demonstrate that Yunnan is not merely a geographic gateway. It is an increasingly important organizational interface through which agricultural products, pharmaceuticals, chemicals, cultural goods, services, and digitally marketed products enter Southeast Asian markets.[1][2]

The legal environment remains less integrated than the trade environment. The Regional Comprehensive Economic Partnership Agreement (RCEP) established a regional framework for IP, electronic commerce, small and medium-sized enterprises, and economic and technical cooperation. Chapter 11 seeks to reduce trade and investment impediments through the creation, utilization, protection, and enforcement of IP, while preserving public-interest balances and recognizing differences in national legal systems. It also requires electronic trademark administration and publicly accessible online information. These commitments improve transparency and procedural compatibility, but they do not establish a unitary ASEAN IP title or automatic recognition of Chinese registrations. Rights acquisition and enforcement remain principally territorial and subject to national law.[3] Recent legal scholarship consequently characterizes RCEP as a significant but calibrated form of regional coordination rather than complete harmonization.[4][5]

This distinction is especially important for Yunnan-based enterprises. Many firms enter ASEAN markets with commercially valuable brands, packaging, agricultural indications, technical know-how, software, creative content, and product designs, but with limited experience in foreign filing, freedom-to-operate analysis, evidence preservation, customs procedures, platform complaints, or local litigation. The resulting difficulty is not adequately described as a simple shortage of legal protection. It is a capability-conversion problem. Regional and national institutions may offer databases, accelerated procedures, administrative remedies, customs measures, and advisory services, yet firms obtain value from these resources only when they can identify relevant assets, select target markets, create an appropriate portfolio, monitor infringement, and coordinate commercial and legal responses.

Existing studies provide several parts of this explanation but rarely connect them. Institution-based research demonstrates that formal rules and enforcement environments shape international business strategy, while institutional distance and the liability of foreignness create costs that cannot be resolved by market resources alone.[6][7][8][9] Economic studies have examined the relationships among IP protection, trade, investment, and technology transfer. Strategic-management research has explained how firms appropriate innovation returns and reconfigure resources in changing environments. A separate literature addresses digital platforms, small-firm internationalization, counterfeiting, and geographical indications. The unresolved issue is how cross-border IP governance operates as a multilevel system that converts regional commitments and national procedures into concrete internationalization capabilities for enterprises in a border province.

This study addresses that issue through two questions. It first asks through which mechanisms cross-border IP governance shapes the internationalization capabilities of Yunnan-based enterprises in ASEAN markets. It then asks how institutional heterogeneity across ASEAN conditions the effectiveness of those mechanisms. A structured comparative analysis of official regional instruments, country profiles, implementation materials, and empirical scholarship is used to develop a mechanism-based framework. The analysis makes three contributions. It moves beyond the conventional equation of governance with protection strength by examining accessibility, implementation, and firm-level conversion. It integrates the institution-based view with transaction-cost reasoning, appropriability, and dynamic capabilities. It also translates a broad policy concept of enterprise empowerment into observable capacities for risk sensing, portfolio deployment, commercialization, enforcement, and market adaptation.

2. Literature Review and Theoretical Framework

2.1 Cross-Border IP Governance in Regional Economic Integration

Cross-border intellectual property governance refers to the aggregate of regional commitments, domestic laws, administrative arrangements, cooperative services and private enforcement mechanisms governing the creation, registration, utilization, licensing, monitoring and defense of intangible assets across jurisdictions. Its scope extends far beyond treaty chapters. While treaties establish principles such as national treatment, procedural transparency, cooperation and enforcement standards, the economic impacts of these commitments hinge on domestic implementation, institutional capacity, information access, judicial and administrative practices, and the availability of complementary commercial services. Maskus argues that the effects of strengthened international intellectual property protection are contingent on complementary conditions including competition, market openness, technology absorption and institutional quality. [10] The central analytical issue is therefore not whether protection is uniformly strong, but whether firms can use the system at a cost and level of predictability compatible with their commercial strategy.

The institution-based view provides the primary theoretical foundation for this argument. Institutions define the permissible and credible range of strategic action, particularly where market-supporting arrangements are incomplete or heterogeneous.[6][7] Institutional distance increases the information and adaptation burden placed on a foreign enterprise because familiar assumptions about registration, contracting, evidence, remedies, and public authority may not travel across borders.[8] Zaheer's study of 24 foreign exchange trading rooms confirms that foreign subsidiaries may suffer performance disadvantages even within a highly standardized global marketplace, illustrating that international integration does not eliminate the liability of foreignness[9]. In the IP field, Papageorgiadis, Cross, and Alexiou constructed longitudinal measures for 48 countries from 1998 to 2011 and found that formal international convergence did not produce identical national patent-system conditions.[11] These findings support a distinction between regional rule convergence and operational institutional convergence.

2.2 IP Protection, Appropriability, and International Business

Economic literature confirms that credible intellectual property reforms can alter the location and composition of international activity, yet their effects are conditional rather than automatic. Branstetter, Fisman and Foley analyze subsidiary-level data of U.S. multinationals across 16 reforming countries between 1982 and 1999, documenting increased royalty payments and subsidiary R&D investment following strengthened IP protection, with patent-intensive parent firms exhibiting the most pronounced responses[12]. Subsequent studies report expansions in multinational activity and new product exports post-reform[13]. Ivus estimates that enhanced patent rights raised patent-sensitive exports from developed economies to 18 developing countries by approximately USD 35 billion in constant 2000 prices, equivalent to an 8.6% growth rate[14]. These studies do not imply uniform benefits for all enterprises; they demonstrate that credible protection reshapes incentives for technology transfer and trade only when firms possess transferable knowledge, viable target markets and organizational capacity to capitalize on institutional reforms.

Appropriability theory explains this firm-level contingency. Teece posits that innovators capture value through combinations of legal safeguards, complementary assets, industrial architecture, licensing options and organizational integration[15]. Dynamic capabilities theory extends this logic by emphasizing capacities to sense opportunities, seize market prospects and reconfigure assets amid technological and market uncertainty[16]. An intellectual property portfolio thus constitutes more than a collection of registrations; it represents a strategic apparatus linking rights, contracts, market channels, evidentiary records, complementary production and distribution assets, and enforcement options. Somaya's comprehensive review similarly frames patent rights, licensing and enforcement as interconnected dimensions of patent strategy[17]. Conversion challenges are particularly acute for small enterprises. Holgersson's interviews with 26 entrepreneurial SMEs reveal widespread weaknesses in internal patent capabilities, demonstrating that in-house IP resources underpin filing, monitoring and enforcement activities while also reinforcing relationships with clients and investors[18].

2.3 Internationalization Capabilities, Platforms, and Collective Assets

Internationalization scholarship further underscores the significance of organizational capacities. Lu and Beamish's sample of 164 Japanese SMEs finds that early outward foreign direct investment may erode profitability due to the liability of foreignness, though local alliances can partially mitigate such disadvantages[19]. While digital platforms reduce certain market entry costs, they introduce new dependencies on platform rules, data access, merchant identity and notice-and-takedown procedures. Nambisan, Zahra and Luo argue that global platforms and ecosystems redefine core assumptions about location, coordination and governance in international business[20]. Stallkamp and Schotter further illustrate that platform network externalities may be country-specific or transnational, exerting divergent impacts on market entry and cross-border strateg[21]. Qualitative evidence on small firms additionally indicates that public policy can shape platform-based internationalization by improving access, capacity building and ecosystem coordination[22].

Asset typology also matters significantly. Qian's panel analysis of Chinese footwear manufacturers from 1993 to 2004 shows that brands facing counterfeiting respond via innovation, private enforcement, vertical integration and quality signaling rather than litigation alone[23]. Legal registration alone similarly fails to unlock value for collective territorial assets. Belletti, Marescotti and Touzard find that the developmental value of geographical indications hinges on producer strategy, collective organization and public policy framework[24]. These findings hold direct relevance for Yunnan, where individual trademarks and patents coexist alongside geographical indication products, cultural expressions and reputation-based agricultural brands. Governance must therefore address both firm-specific proprietary rights and collective coordination challenges.

2.4 Integrated Analytical Framework

The literature substantiates an integrated framework wherein cross-border intellectual property governance shapes internationalization through three interrelated mechanisms. The first mechanism entails reduced protection and transaction costs. Accessible regulatory frameworks, searchable registries, electronic filing systems, predictable procedures, customs measures and clear enforcement pathways lower expenses associated with information gathering, registration, monitoring, evidence collection and dispute resolution. The second mechanism involves enhanced appropriability and organizational capacity. Protective regimes, licensing infrastructure, valuation practices and advisory services strengthen firms' ability to convert brands, technologies, creative content and geographical indications into controlled revenue streams and market signals. The third mechanism consists of co-evolution between governance and enterprise practices. Recurring disputes, platform operational norms, filing bottlenecks and commercialization demands generate feedback that incentivizes the development of new regional tools, guidance materials, specialized expertise and procedural cooperation. Sustainable internationalization emerges as the cumulative outcome of these three interlocking mechanisms, rather than a discrete fourth channel.

The framework further establishes boundary conditions. Regional governance cannot substitute for internal firm IP capabilities. Its effectiveness varies according to firm scale, the commercial value of protected assets, host-country institutional environments, reliance on digital intermediaries and availability of local partners. Figure 1 illustrates the proposed multi-layered structure. Regional and national governance conditions are expected to shape firm capabilities through cost reduction, appropriability gains and institutional learning, while enterprise operational experience feeds feedback into governance design revisions.

Figure 1. Analytical framework linking cross-border IP governance to enterprise internationalization capabilities

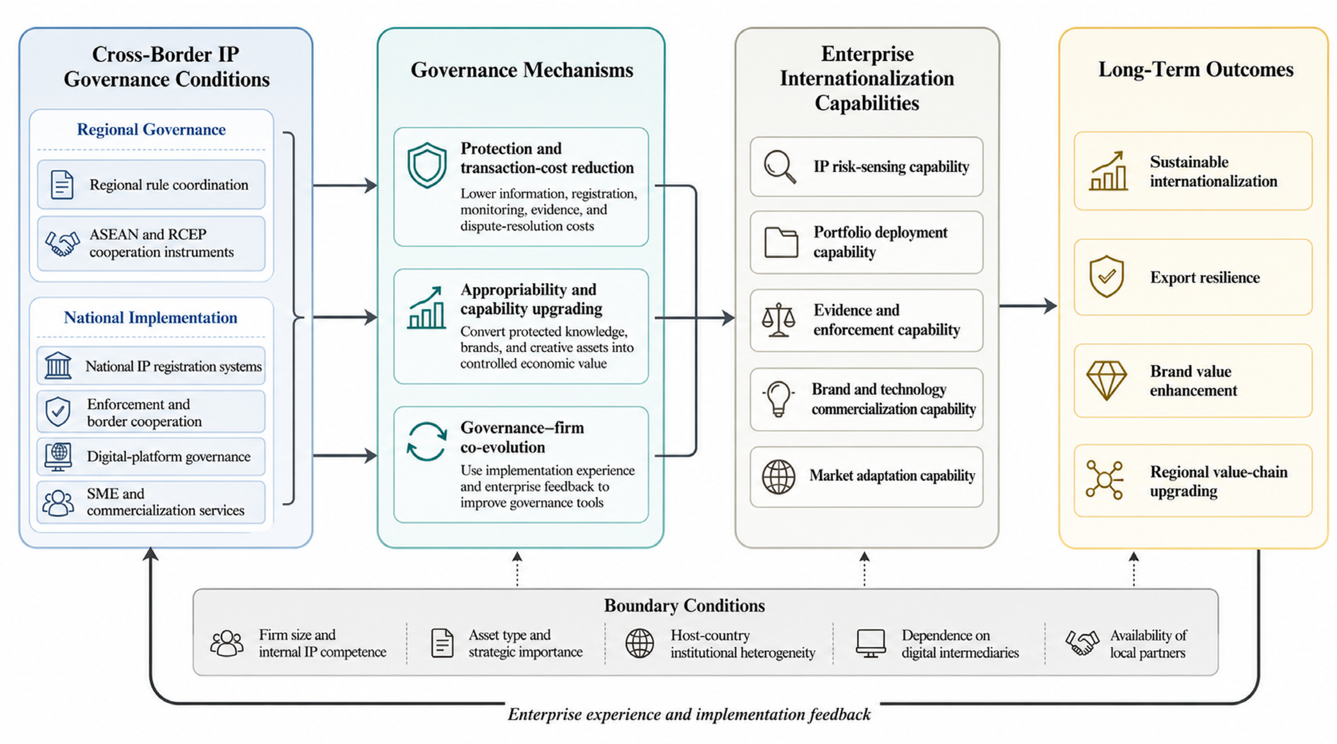


Table 1. Literature Streams and Their Role in the Analytical Framework

Research stream	Established evidence	Unresolved issue	Role in this study
Institution-based international business	Formal and informal institutions shape strategic options; institutional distance and foreignness generate adaptation costs. [6] [8] [9]	Explains why regional trade integration does not remove country-specific IP burdens.	Institutional accessibility and implementation credibility
IP protection, trade, and technology transfer	Stronger and more credible rights can increase royalties, affiliate R&D, new-goods exports, and patent-sensitive trade. [12] [13] [14]	Aggregate effects vary by sector, firm assets, and complementary institutions.	Protection and transaction-cost reduction
Appropriability and dynamic capabilities	Value capture depends on rights, complementary assets, licensing, enforcement, and organizational reconfiguration. [15] [16] [17]	Protection must be converted into usable firm routines.	Appropriability and capability upgrading
SME internationalization and platforms	Foreignness disadvantages of smaller firms; alliances, platforms, and policy support can reduce selected constraints. [19] [20] [22]	Platform entry lowers some costs but creates new monitoring and data dependencies.	Market adaptation and digital enforcement capability
Counterfeiting and collective assets	Firms respond through innovation, signalling, integration, and self-enforcement; geographical indications require collective action. [23] [24]	Litigation or registration alone cannot protect reputation-based assets.	Governance-firm learning and collective coordination

3. Materials and Methods

3.1 Research Design and Scope

A qualitative comparative institutional design was used because the research questions concern mechanisms, implementation conditions, and the conversion of regional governance into firm capabilities. The unit of analysis was the governance arrangement rather than an individual legal provision or enterprise. The geographical focus comprised Vietnam, Lao People's Democratic Republic, Thailand, Malaysia, and Singapore. Vietnam and Lao PDR were selected because of their direct relevance to Yunnan's land-based regional connectivity. Thailand, Malaysia, and Singapore were included to introduce variation in market sophistication, legal-administrative capacity, and regional business functions. The comparison was not intended to rank national legal systems. It was designed to identify the consequences of heterogeneity for enterprise strategy.

3.2 Document Corpus and Selection

We collected 19 official documents and institutional profiles published before July 2026 as our core analytical corpus. These materials include four key RCEP chapters on intellectual property, e-commerce, small and medium-sized enterprises, and economic and technical cooperation, together with eight ASEAN strategic and implementation documents. We also incorporated five WIPO economic country profiles from the 2025 Global Innovation Index, plus two official statistical datasets covering China–ASEAN trade and Yunnan's economic performance. The selected ASEAN resources cover the 2016-2025 IPR Action Plan and its mid-term review, the IPR Enforcement Handbook, SME IP management guidelines, digital economy handbooks, patent examination rules, geographical indication guidance, and the regional IP valuation toolkit. [25] [26] [27] [28] [29]

Documents were included in the analysis according to the following criteria: official publications released by treaty depositary bodies, governmental statistical authorities, WIPO, ASEAN, or other ASEAN-affiliated official platforms; documents concerning intellectual property acquisition, commercialization, law enforcement, digital governance, or enterprise support measures; and materials providing empirical or regulatory information applicable to multiple dimensions of the research framework. Accordingly, unsubstantiated media statements, promotional legal commentaries, and undocumented firm anecdotes were excluded from the corpus. This screening principle is essential for ensuring analytical rigor.

Claims concerning individual enterprises were retained only when they could be corroborated through court decisions, official customs announcements, corporate reports, or authoritative statistical sources. Unverifiable claims were excluded from the analytical corpus.

Because most regional IP instruments examined in this study were developed before Timor-Leste's accession, the analysis primarily concerns the ten ASEAN states participating in RCEP. Timor-Leste became ASEAN's eleventh member in October

2025 but was not a party to RCEP as of the study date.

3.3 Coding and Analytical Procedure

We coded every document twice. First, we picked out all distinct governance tools: filing and search databases, transparent official procedures, customs and administrative actions, digital platform rules, consulting services, asset valuation, licensing, and cross-border cooperation programs. In the second coding round, we sorted these tools into six analysis groups: access to regulations, IP right registration, enforcement practices, digital governance, business support services, and commercialization pathways. Next, we built a comparison matrix covering all target markets we studied, and explained the patterns using the three core theoretical mechanisms laid out in Section 2. Once the first version of the matrix was finished, we reread all original documents again. We only kept coded points that could be tracked back to exact paragraphs or official country briefings. We used peer-reviewed empirical papers just to cross-verify our theories, instead of treating them as firsthand real-case data about Yunnan local companies.

This study does not calculate causal effects, nor do we argue that written rules can perfectly predict every enforcement result. Official papers lay out legal and administrative options, but they rarely cover practical costs, long waiting times, unwritten local practices or firms' real-life experiences. That's why our analysis separates three layers: written laws, how these rules actually get carried out, and how businesses put these systems into use. This project does not include human participants, and every source document we used can be accessed publicly.

Table 2. Documentary Corpus and Coding Purpose

Source category	Coverage	Period	Analytical purpose
RCEP treaty architecture	4 chapters	2020 text in force during the study period	Regional obligations, national flexibility, digital administration, SME and cooperation context
ASEAN strategy and implementation instruments	8 documents	2020-2026	Enforcement transparency, SME management, digital rights, valuation, examination cooperation, and regional planning
WIPO economy profiles	5 profiles	Global Innovation Index 2025	Contextual variation in innovation-system capacity across selected markets
Official economic statistics	2 datasets	2025 data released in 2026	Scale of China-ASEAN trade and Yunnan's cross-border economic exposure
Peer-reviewed empirical literature	24 core journal articles and one book	1986-2024	Theoretical triangulation and evidence on institutions, trade, appropriability, SMEs, platforms, counterfeiting, and GIs

Note. The official core corpus comprised 19 documents and profiles. The scholarly literature was used to interpret mechanisms and did not replace official evidence on current regional arrangements.

4. Results

4.1 Regional Architecture: Convergence without a Unitary IP System

The analysis of the document revealed that the regional architecture of RCEP encompasses a blend of substantive convergence, procedural cooperation, and the preservation of national autonomy. Within this framework, RCEP establishes common goals and basic procedural obligations such as national treatment, cooperation, electronic trademark management, and public availability of registration data. However, each party is allowed the flexibility to choose the most suitable approach for implementation within its legal system. [3] This approach helps reduce uncertainty about the overall IP protection framework, while taking into account each country's unique practices regarding examination standards, evidence rules, administrative workflows, legal remedies, language requirements, local agency representation, and judicial procedures. For this reason, firms must understand that successful registration or domestic enforcement in China and Yunnan cannot replace tailored preparations for individual ASEAN countries. ASEAN official guidelines have gradually worked to bridge this implementation gap. The 2020 Enforcement Handbook was developed to address the information deficit that disadvantaged rights holders, as the then ten ASEAN member states covered by the handbook operated different legal systems and procedural arrangements. Instead of promoting a unified standard procedure, the handbook systematically sorts out civil, criminal, customs, and administrative remedy channels across ASEAN nations. [27] The 2022 SME guidebook placed an IP audit at the beginning of enterprise planning, emphasizing the need to inventory assets and their legal status. [28] The 2025 digital-world handbook stated expressly that trademarks are territorial, described national and Madrid System filing routes, and advised businesses to search and plan for markets expected to be entered during the following three to five years. [30] These instruments convert abstract regional cooperation into decision-relevant information.

The implementation record nevertheless remained uneven. The mid-term review of the ASEAN IPR Action Plan reported that, as of March 2021, 18 percent of 56 deliverables had been completed, 64 percent were ongoing, and 18 percent had not started. [26] It shows that institutional progress is underway, but we should not mistake a newly adopted action plan for a fully functional governance system. By 2026, ASEAN had rolled out more practical operational frameworks. The ASPEC+ initiative launched on April 6, 2026, builds on existing patent examination cooperation by aligning review reports more tightly and setting firm timeframes for all participants. [31] The current regional system is therefore best understood as a layered and evolving arrangement rather than a finished legal union.

4.2 Protection and Transaction-Cost Reduction

The first mechanism operates by reducing the costs of finding, acquiring, monitoring, and enforcing rights. Electronic applications and searchable databases reduce basic information and filing costs. Common classifications, treaty routes, examination cooperation, enforcement handbooks, and expert directories reduce the cost of identifying an appropriate procedure or adviser. Customs and administrative remedies can provide alternatives to full civil litigation, particularly when counterfeit goods move through visible logistics channels. For a Yunnan exporter, these arrangements can lower the cost of screening a mark before product launch, recording evidence, filing in several target markets, and determining whether a platform complaint, customs request, administrative action, or court proceeding is the proportionate response.

The reduction is partial rather than complete. The ASEAN enforcement materials show that available remedies may be classified similarly, but procedures and responsible authorities remain national. Digital enforcement creates an additional allocation problem because merchant identity, transaction data, and listing history are frequently controlled by private platforms. The 2025 digital handbook observed that notice-and-takedown systems are increasingly important, but platform processes and secondary-liability rules remain inconsistent across the region. [31] Transaction-cost reduction therefore depends on coordination between public and private governance. A firm that registers rights but lacks documentary control over product images, licensees, distributors, platform accounts, and prior use may still be unable to use a nominally accessible remedy.

The analysis further showed that transparency has an independent business value. When firms can search rights and anticipate procedures before entry, they can integrate IP into market sequencing and contracts; fragmented information instead creates fixed costs that fall heavily on smaller exporters. Regional services reduce this burden but do not eliminate the need for local verification.

4.3 Appropriability and Capability Upgrading

The second mechanism concerns the firm's ability to convert intangible assets into controlled economic returns. The documentary evidence showed that ASEAN policy has expanded beyond registration and enforcement toward management, commercialization, valuation, and finance. The regional valuation project surveyed nearly 400 practitioners, financial specialists, technology managers, and enterprises across the ten member states. It found that IP valuation was not widely used, access to expertise was limited, and valuation reports lacked consistency. The resulting toolkit was intended to establish common practices and a basis for training. [29] [32] This finding is important because an enterprise cannot use a patent, brand, or geographical indication effectively in licensing, financing, or partnership negotiations if it cannot articulate the asset's scope, ownership, commercial contribution, and risk.

The empirical literature supports the economic relevance of this institutional shift. Stronger and more credible rights have been associated with increased royalty flows, affiliate research, technology transfer, and patent-sensitive exports. [12] [13] [14] The causal channel, however, depends on organizational preparation. Teece's appropriability framework implies that a firm must combine legal rights with manufacturing, marketing, distribution, reputation, and contracting assets. [15] Holgersson's small-firm evidence further indicates that internal competence affects the efficiency of application, monitoring, and enforcement. [18] For Yunnan enterprises, capability upgrading therefore requires more than subsidized filing. It requires routines for asset inventory, ownership verification, confidentiality, target-country selection, freedom-to-operate search, license design, channel control, evidence preservation, and periodic portfolio review.

This mechanism works differently depending on what kind of assets a firm owns. Pharmaceutical and chemical companies tend to focus on patent coverage, trade secrets, regulatory data, and distributor management. Agricultural and food businesses rely more on trademarks, geographical indications, quality standards and product traceability. Cultural and creative enterprises need copyright registrations, design rights, licensing terms and fast-track online enforcement measures. The 2025 Digital Handbook points out that companies now need protection for far more than trademarks — domain names, social media brand identities, data and contractual rights all matter greatly. [31] A generic enterprise-service package is consequently less useful than an asset-specific capability program.

4.4 Governance-Firm Co-evolution and Digital Learning

The third mechanism manifests itself in how practical implementation issues drive the creation of new regional documents. The 2016-2025 IPR Action Plan was revised following its mid-term evaluation. The enforcement handbook came into being to fix insufficient information sharing. Supporting documents for SMEs were developed in response to their actual management demands. Digital guidelines were rolled out to tackle platform-related issues and emerging technological challenges. Furthermore, the newly released 2026-2030 Action Plan places stronger emphasis on digital transformation, regional platform construction, commercialization, asset valuation, financing support, cross-border law enforcement collaboration, and targeted assistance for micro, small and medium-sized enterprises. [25] [26] [33] This sequence reflects institutional learning. Governance is not only imposed on firms; it is adjusted in response to recurring problems identified through applications, disputes, advisory work, and market practice.

Digital commerce makes this feedback loop much more straightforward. Online platforms let small Yunnan businesses break into multiple overseas markets without setting up local subsidiaries, yet this very setup also creates separation between IP owners, merchants, transaction logs, storage suppliers and end consumers. Research on digital ecosystems shows that platform-driven internationalization has completely reshaped traditional spatial and organizational assumptions in global business. [20] [21] Public policy can improve smaller firms' use of platforms, but only when access measures are accompanied by capability formation and ecosystem coordination. [22] So the real governance players are not just pairs of countries. They also cover IP offices, customs authorities, courts, online platforms, logistics firms, payment service providers, professional consultants, industrial associations and internal business teams.

For enterprises, co-evolution requires structured feedback on filing obstacles, platform rejections, counterfeit routes, evidence problems, delay, and repeat offenders. Public agencies can convert aggregated reports into multilingual guidance, sector training, expert referral, and country updates. Empowerment then becomes reciprocal learning rather than a one-directional subsidy.

4.5 Institutional Heterogeneity and Sustainable Internationalization

The comparative profiles of selected markets in the Global Innovation Index 2025 revealed significant differences among countries. Singapore obtained the fifth position, followed by Malaysia (34th),Vietnam (44th),Thailand (45th),and Lao PDR (109th) out of 139 economies. [34] These rankings represent the overall innovation ecosystems and do not reflect intellectual property enforcement. Instead, they offer insight into variations in institutions, infrastructure, human capital, market sophistication, and knowledge systems. The considerable diversity emphasizes the need to avoid using a one-size-fits-all approach for ASEAN entry strategies. Each country has its unique strengths and challenges that must be considered individually for successful market entry.

Table 3. Selected ASEAN Innovation-System Contexts and Illustrative Enterprise Implications

Economy	GII 2025 rank	Contextual interpretation	Indicative managerial consideration for Yunnan-based enterprises
Singapore	5	Highly developed regional innovation and business-services hub	Use sophisticated licensing, portfolio, valuation, and dispute-management strategies; preserve evidence and ownership chains for regional transactions.
Malaysia	34	Relatively developed innovation ecosystem with national filing, enforcement, and commercialization infrastructure	Combine early filing with channel contracts, customs and administrative options, and local commercialization support.
VietNam	44	Large and dynamic market with strong innovation outputs relative to inputs	Prioritize early trademark and design searches, local procedural advice, distributor controls, and online-market monitoring.
Thailand	45	Diversified market with significant consumer, manufacturing, agricultural, and creative sectors	Match protection to the asset type; integrate registrations with contracts, quality control, and platform enforcement.
Lao PDR	109	Smaller innovation ecosystem and a strategically important land-connected market for Yunnan	Use proportionate portfolios, clear documentary evidence, reliable local representation, and border and distribution controls.

Note. Rankings are from the WIPO Global Innovation Index 2025 and are used only as contextual indicators of innovation-system capacity. They do not rank the effectiveness of IP courts, administrative agencies, customs, or platform enforcement. [34]

Sustainable internationalization depends on matching the governance resource to the asset, channel, and market. Agricultural brands may prioritize marks, geographical indications, traceability, and distributor controls; technology firms may need patents, trade secrets, software, and licensing; platform-dependent creative firms require documentation, account security, and takedown routines. The durable objective is not the maximum number of rights but a maintainable portfolio that changes with sales, partners, and technology.

5. Discussion

5.1 Theoretical Contributions

The findings refine the institution-based explanation of internationalization in three respects. First, the analysis shows that cross-border IP governance should be evaluated through accessibility and conversion, not solely through formal protection strength. RCEP and ASEAN instruments can reduce uncertainty and provide procedural tools while national legal systems continue to differ. This layered structure explains why firms may encounter substantial costs even when all relevant states participate in common agreements. It also supports the patent-system evidence that formal international convergence does not eliminate operational differences. [11]

Second, this paper links public governance to firms' dynamic capabilities. Searchable IP registries help companies spot potential risks; filing systems and local advisory services let them seize market opportunities; contracts, licensing frameworks, asset valuation tools and enforcement channels support businesses in rearranging their core resources. These benefits only take effect through a firm's internal organizational capacity, which reconciles the positive findings on trade and technology transfer with the weak in-house IP resources widely seen among small enterprises. [12] [14] [18]

Third, this study identifies the co-evolution of governance and enterprises as a standalone mechanism. ASEAN's action plans, mid-term reviews, handbooks, digital guidelines, valuation toolkits and patent examination cooperation all prove that governance systems keep evolving based on real implementation experience. This framework therefore moves beyond state-centric models and treats corporate learning, platform operations and public coordination as interdependent components.

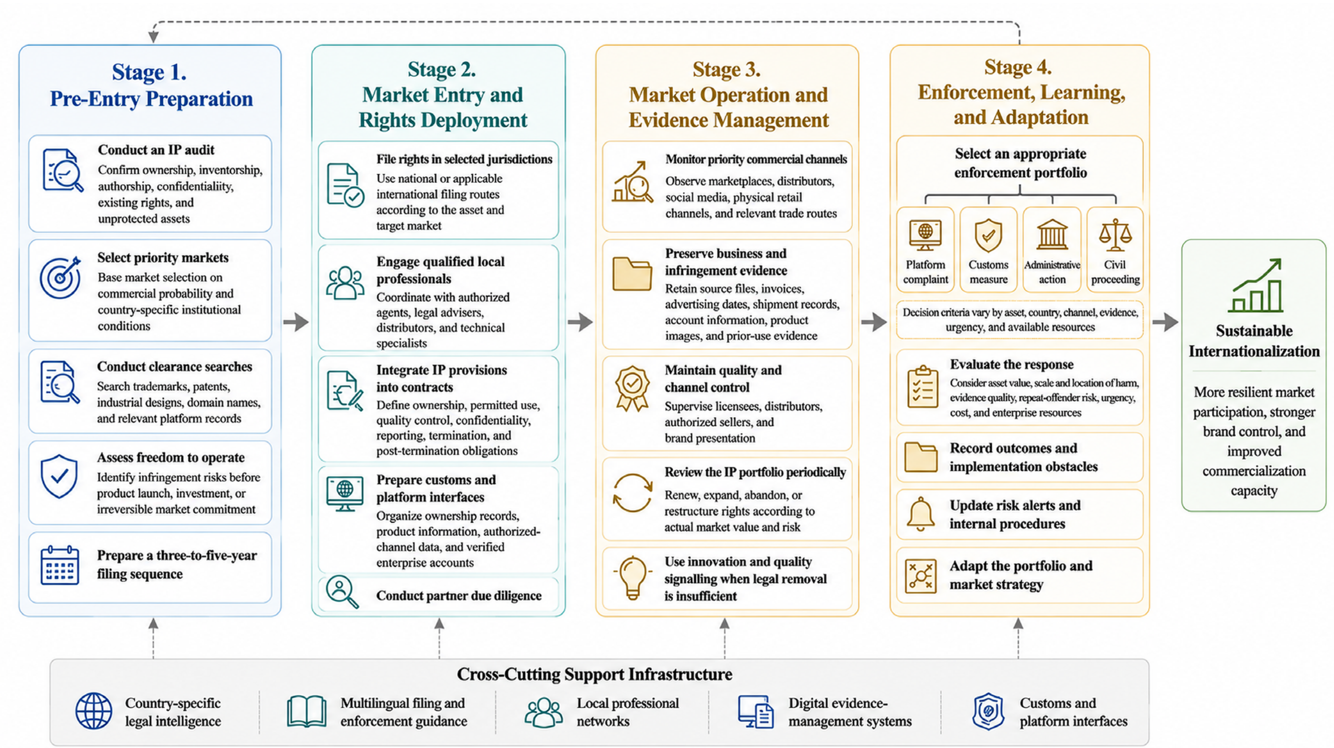
5.2 Managerial Implications for Yunnan-Based Enterprises

The immediate managerial implication is that IP strategy should begin before market entry and continue throughout the commercial cycle. An enterprise should first conduct an IP audit that identifies ownership, inventorship or authorship, confidentiality status, existing registrations, contractual restrictions, and unprotected assets. It should then select target markets according to commercial probability rather than treating all ASEAN states as a single filing territory. Early trademark, design, patent, domain-name, and freedom-to-operate searches are essential where rebranding, redesign, or product withdrawal would be costly after launch. The planning period suggested in ASEAN's digital handbook, covering markets expected to be entered during the following three to five years, provides a practical horizon for portfolio sequencing. [31]

During entry and operation, rights should be connected to distribution and evidence. Agreements should define ownership, permitted use, quality control, confidentiality, reporting, termination, and post-termination obligations. Product images, source files, invoices, advertising dates, shipment data, account records, and prior-use evidence should be preserved systematically. Monitoring should focus on channels that create material harm. Where counterfeiting cannot be removed quickly, innovation, signalling, channel integration, and quality assurance may also be required. [23]

Enforcement should be treated as a portfolio of options. Platform complaints may be rapid but may not identify the supplier or remove physical inventory. Customs measures may be effective for visible goods flows but require accurate rights and product information. Administrative actions can be proportionate in some jurisdictions, whereas civil proceedings may be necessary when injunctions, damages, disclosure, or precedent are important. The chosen response should reflect the value of the asset, the scale and location of harm, evidence quality, repeat-offender risk, and the firm's ability to sustain the proceeding. Figure 2 summarizes this staged managerial process.

Figure 2. Stage-based intellectual property governance road-map for Yunnan-based enterprises entering ASEAN markets



5.3 Policy and Service Implications

The key to effective public support for businesses lies in aligning with their decision-making processes rather than solely providing isolated subsidies. A comprehensive support system tailored to Yunnan-based enterprises seeking to enter ASEAN markets should provide country-specific legal intelligence, multilingual filing assistance, market-entry assessments, customs support, and referrals to qualified professionals. Services should be customized for various industries such as agriculture and food products, pharmaceuticals, chemicals and manufacturing, software and digital services, and cultural and creative industries.

A second priority is the creation of a structured feedback mechanism. It is crucial for local authorities, customs, trade promotion bodies, industry associations, and service providers to utilize a common template to effectively record important information such as country, asset type, filing obstacles, suspected routes, evidence, procedures, outcomes, costs, and processing times. The current enforcement statistics in ASEAN highlight the need for this mechanism, as national data from different years between 2020 and 2024 are inconsistent and lack crucial information for regional comparisons. [35] Improving data collection would enable targeted alerts and investigations to identify and address recurring issues in enterprise preparation, platform design, local implementation, and cross-border coordination.

A third priority is commercialization. The regional valuation project demonstrates that unfamiliarity, limited expertise, and inconsistent reporting constrain the use of IP as a financial or transactional asset. [30] Yunnan's enterprise services should therefore connect protection advice with valuation, licensing, quality control, technology transfer, financing readiness, and partner due diligence. For geographical indications and collective brands, support must also strengthen producer coordination and standards because public registration cannot substitute for collective governance. [24]

Table 4. Mechanisms, Evidence, and Recommended Governance Responses

Analytical element	Evidence identified in the analysis	Enterprise-level effect	Recommended response
Protection and transaction-cost reduction	Electronic filing, searchable registers, enforcement maps, customs and administrative channels; continuing national procedural differences	Lower information and response costs when rights and evidence are prepared in advance	Country-specific guides, verified advisers, platform and customs protocols, and early risk screening
Appropriability and capability upgrading	Empirical links between credible IP reform, technology transfer, R&D, and exports; ASEAN commercialization and valuation initiatives	Stronger ability to license, signal quality, control channels, and capture returns from intangible assets	Asset audits, portfolio strategy, valuation and licensing support, contract management, and internal IP competence
Governance-firm co-evolution	Revised action plans, enforcement and SME handbooks, digital guidance, valuation tools, and ASPEC+	Enterprise problems become inputs for regional services and procedural cooperation	Standardized case feedback, multilingual risk alerts, sector-specific training, and institutional review
Sustainable internationalization	Wide variation across selected innovation ecosystems and firm types	Durable market presence depends on fit among rights, complementary assets, country institutions, and business channels	Stage-based and market-selective support rather than uniform filing targets

5.4 Limitations and Future Research

Several limitations should be acknowledged. The study relied on public documents and could not observe informal practice, firm-level costs, or the quality of individual proceedings. The five selected markets represent substantial institutional variation but do not exhaust ASEAN. The Global Innovation Index was used as a contextual measure and not as a proxy for enforcement quality. In addition, the framework identifies plausible mechanisms but does not estimate their relative effects. Future research should combine the document matrix with interviews involving Yunnan exporters, platform merchants, IP advisers, customs specialists, and ASEAN partners. A firm survey could measure internal IP competence, perceived institutional accessibility, enforcement experience, and internationalization performance. Longitudinal case studies would be particularly valuable for determining whether governance support changes market survival, licensing revenue, brand value, or innovation investment over time.

6. Conclusion

This study examined how cross-border IP governance can strengthen the internationalization capabilities of Yunnan-based enterprises in ASEAN markets. The comparative institutional analysis showed that regional integration has created a substantial architecture of treaty commitments, electronic administration, procedural guidance, examination cooperation, SME support, digital governance, enforcement information, and commercialization tools. This architecture does not constitute a unitary IP system. Rights remain territorial, national procedures differ, and implementation capacity is uneven.

Three mechanisms explain how governance can influence enterprise development. Accessible rules and procedures reduce information, registration, monitoring, and enforcement costs. Protection, valuation, licensing, and management support improve the capacity to appropriate returns from intangible assets. Recurrent filing, enforcement, platform, and commercialization problems create feedback that supports institutional learning and regional cooperation. Sustainable internationalization emerges when these mechanisms are converted into firm routines for risk sensing, portfolio deployment, commercialization, evidence, enforcement, and market adaptation.

The central policy implication is that empowerment should not be measured by the number of registrations or training sessions alone. It should be assessed by whether firms can use IP to enter markets with lower uncertainty, preserve control over brands and technologies, respond proportionately to infringement, and maintain profitable relationships across changing institutional environments. For Yunnan, the most effective approach is a staged, country-specific, and asset-sensitive governance system that links regional cooperation with enterprise capability building. Such a system would allow the province's geographic connectivity to be matched by stronger institutional and organizational connectivity.

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Conflict of Interests

The authors declare that there is no conflict of interest regarding the publication of this paper.

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