

บทความวิชาการ (Academic Article)

กรอบความตกลงอาเซียนว่าด้วยการขนส่งต่อเนื่องหลายรูปแบบกับ การขนส่งต่อเนื่องหลายรูปแบบที่ยั่งยืนของอาเซียน: วิเคราะห์ความเชื่อมโยง ระหว่างการประสานกฎหมายและประสิทธิภาพโลจิสติกส์

ASEAN Framework Agreement on Multimodal Transport (AFAMT) and
ASEAN's Sustainable Multimodal Transport: Exploring Correlations between
Legal Harmonisation and Logistics Performance

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บทคัดย่อ

การศึกษานี้มุ่งวิเคราะห์ความเชื่อมโยงระหว่างความก้าวหน้าในการดำเนินการตามกรอบความตกลงอาเซียนว่าด้วยการขนส่งต่อเนื่องหลายรูปแบบ (ASEAN Framework Agreement on Multimodal Transport: AFAMT) กับพัฒนาการด้านประสิทธิภาพโลจิสติกส์ และศักยภาพในการปรับใช้ความตกลงดังกล่าวในการส่งเสริมการพัฒนาเศรษฐกิจที่ยั่งยืนภายในภูมิภาคอาเซียน โดยอาศัยการวิเคราะห์หลักเกณฑ์ทางกฎหมายของกรอบความตกลงดังกล่าว ร่วมกับการวิเคราะห์ข้อมูลดัชนีผลการดำเนินงานด้านโลจิสติกส์ (Logistics Performance Index: LPI) ซึ่งผลการศึกษาแสดงให้เห็นถึงรูปแบบความเชื่อมโยงกันระหว่างระดับความคืบหน้าในการดำเนินการประสานกฎหมายตามกรอบความตกลง AFAMT กับการลดลงของต้นทุนธุรกรรมทางการค้า รวมถึงการยกระดับประสิทธิภาพด้านโลจิสติกส์ แม้ว่าการศึกษาชิ้นนี้จะไม่อาจอ้างถึงความสัมพันธ์ในลักษณะสาเหตุโดยตรง แต่ข้อมูลเชิงประจักษ์บ่งชี้ว่า ประเทศสมาชิกอาเซียนที่มีระดับการพัฒนาทางกฎหมายให้เป็นไปตามกรอบความตกลง AFAMT ที่ดี มีระดับการพัฒนาประสิทธิภาพโลจิสติกส์ที่ดีขึ้นควบคู่กันไป ทั้งยังส่งผลโดยนัยต่อการพัฒนาที่ยั่งยืนของภูมิภาคอาเซียนในภาพรวมอีกด้วย

การศึกษานี้สะท้อนให้เห็นว่า ความสอดคล้องของกฎหมายเป็นปัจจัยพื้นฐานหลักที่เอื้อต่อการเสริมสร้างการบูรณาการทางเศรษฐกิจระดับภูมิภาค รวมถึงการเพิ่มขีดความสามารถในการแข่งขัน และการพัฒนาเศรษฐกิจสีเขียวของอาเซียน จากผลการศึกษานี้ จึงมีข้อเสนอแนะว่า ควรมีการเร่งรัดให้มีการดำเนินการตามกรอบความตกลง AFAMT อย่างเต็มรูปแบบ ควบคู่ไปกับการปฏิรูปกฎหมายและนโยบายแบบมุ่งเป้า เพื่อที่จะสามารถเสริมความแข็งแกร่งให้แก่การบูรณาการด้านโลจิสติกส์ของอาเซียน และสนับสนุนเป้าหมายด้านความยั่งยืนของภูมิภาคได้อย่างเต็มประสิทธิภาพ

คำสำคัญ: กรอบความตกลงอาเซียนว่าด้วยการขนส่งต่อเนื่องหลายรูปแบบ (AFAMT), การประสานกฎหมาย, ประสิทธิภาพโลจิสติกส์, การพัฒนาที่ยั่งยืน

Abstract

This study examines the correlations between the implementation progress of the ASEAN Framework Agreement on Multimodal Transport (AFAMT) and improvements in logistics performance, including potential contributions to sustainable economic development within ASEAN. By employing doctrinal legal analysis of the AFAMT's provisions and a descriptive review of the World Bank's Logistics Performance Index (LPI) data, this study highlights associative patterns between the degree of the AFAMT implementation and reductions in trade transaction costs and improved logistics efficiency. Although no causal relationship is asserted, the findings suggest that ASEAN member states (AMSs) implementing the AFAMT experienced concurrent improvements in logistics performance, while also promoting ASEAN's broader sustainable objectives.

The study demonstrates that legal coherence creates conditions conducive to regional economic integration, competitiveness, and green economy. It proposes that accelerating full-scale implementation of the AFAMT, alongside targeted legal and policy reforms, could strengthen ASEAN's logistics integration and sustainability objectives.

Keywords: ASEAN Framework Agreement on Multimodal Transport (AFAMT), Legal Harmonisation, Logistics Performance, Sustainable Development.

1. Introduction

The establishment of seamless, integrated, efficient, predictable, and sustainable logistics systems is essential for regional economic integration and competitiveness. In the Association of Southeast Asian Nations (ASEAN), the complex and fragmented frameworks governing cross-border multimodal transport operations, which have governed by disparate national laws of its member states, has presented significant legal and operational barriers to trade growth. Given the importance of legal coherence, the ASEAN Framework Agreement on Multimodal Transport (AFAMT) was adopted in 2005 to harmonise legal frameworks across member states. As emphasised in the 2019 Implementation Framework for the ASEAN Framework Agreement on Multimodal Transport (2019 Implementation Framework), the AFAMT aims to reduce transaction costs, enhance logistics performance, and support sustainable economic growth.

This study examines the correlation between the implementation progress of the AFAMT and improvements in logistics performance indicators within ASEAN member states (AMSs). It employs a qualitative research approach with the combination of doctrinal legal analysis with descriptive empirical review of the World Bank's Logistics Performance Index (LPI) data. While cause-and-effect relationship is not asserted, the study highlights observable associative patterns suggesting that legal harmonisation efforts under the AFAMT may coincide with improvements in logistics efficiency and the establishment of conditions conducive to sustainable multimodal transport development. The significance of logistics performance as a key measure of regional integration is explicitly recognised in ASEAN's Regional Action Plan for the Implementation of the AFAMT 2020-2025. The aim of this particular measure is to encourage AMSs to conduct benchmarking exercises using indicators such as the LPI. These indicators provide valuable insights into the practical effects of multimodal transport efficiencies on trade and logistics performance across ASEAN and its member states.

In addition, the study situates the analysis of the AFAMT within the broader discourse on how harmonised legal frameworks interact with regional economic integration and sustainability objectives. It argues that a harmonised multimodal transport regime, by fostering more seamless, efficient, and lower-emission logistics practices, aligns with ASEAN's ambitious aspirations for a green economy and sustainable infrastructure development.

By applying this interdisciplinary inquiry, the study contributes to a nuanced understanding of the relationship between multimodal transport harmonisation, logistics performance, and sustainable economic development in ASEAN. It proposes that effective and full-scale implementation of the AFAMT could significantly strengthen ASEAN's transport connectivity, regional competitiveness, and environmental resilience in a fast-changing and increasingly integrated global economy.

2. Literature Review

This section situates the ASEAN Framework Agreement on Multimodal Transport (AFAMT) within the broader theory of regional legal harmonisation and its intended effects on economic and environmental consequences.

2.1 Legal Harmonisation, Transaction Costs, and Logistics Performance

In regional economic integration theory, legal harmonisation is widely recognised as a strategic legal approach for advancing regional economic integration, particularly in sectors requiring cross-border operations, such as trade, transport, and logistics.¹ By aligning national laws under a commonly accepted framework, harmonisation enables member states to create a more predictable legal environment for cross-border operations.² This predictability, in turn, correlates with improved efficiency in the movement of goods within the regional common market. Such harmonisation contributes to the removal of non-tariff barriers (NTBs) and the reduction of legal difficulties associated with disparities between national laws, thereby lowering trade transaction costs, delays, and uncertainty in cross-border trade and transport within the market.³

From a theoretical perspective, the linkage between legal harmonisation and trade facilitation can be further demonstrated through the lens of transaction cost economics,

¹ Jose Angelo Estrella Faria, *Legal Harmonisation through Model Laws: The Experience of the United Nations Commission on International Trade Law (UNCITRAL)* (UN Working Group on Electronic Commerce 2002).

² Michael G. Faure, 'Defining Harmonisation, Codification and Integration' (2000) 9 *European Environmental Law Review* 6.

³ Eva Julia Lohse, 'The Meaning of Harmonisation in the Context of European Union Law – A Process in Need of Definition' in Mads Andenas and Camilla Baasch Andersen (eds), *Theory and Practice of Harmonisation* (Edward Elgar Publishing 2012); Dewan Mohammad Zahurul Islam, 'International Freight Transport Multimodal Development in Developing Countries: The Case of Bangladesh' (PhD thesis Plymouth Business School, University of Plymouth 2005).

particularly as developed by scholars such as Coase (1937) and Williamson (2009).⁴ These scholars noted that transaction costs are not limited only to the prices paid in market exchanges, but also include the costs of negotiating, monitoring, honouring contractual commitments, complying with laws and regulations, and managing legal uncertainty and regulatory fragmentation.⁵ Thus, where national legal systems are divergent and unpredictable, these transaction costs rise accordingly, discouraging cross-border operations and reducing overall market efficiency.

In cross-border trade, efficient logistics is therefore deeply influenced by the legal frameworks governing transport. As elaborated by North, laws and regulations, as a form of formal institutions for capturing the gains from trade, are devised to “create order and reduce uncertainty in exchange” in the market.⁶ Inconsistent laws across countries can cause unnecessary transaction costs for businesses by increasing legal uncertainty, duplicating compliance efforts, and elevating legal and operational risks. In this respect, Efrat suggests that harmonising commercial laws across jurisdictions can facilitate trade and transport by reducing these costs.⁷

Within the logistics sector specifically, when relevant laws and regulations are harmonised across the agreed territory of a regional grouping, service providers and cargo interests can operate with lower transaction costs and fewer legal frictions.⁸ Accordingly, legal harmonisation serves as a vital measure for trade facilitation. By aligning national rules under a common framework, member states aim to create a more predictable legal environment for logistics operations, which, in theory, correlates with improved efficiency in the movement

⁴ R. H. Coase, ‘The Nature of the Firm’ (1937) 4 *Economica* 16; Oliver E. Williamson, ‘Transaction Cost Economics: The Natural Progression’ (Prize Lecture, The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2009).

⁵ Oliver E. Williamson, *The Mechanisms of Governance* (Oxford University Press 1996) 379; Paul Milgrom and John Roberts, *Economics, Organization and Management* (Prentice Hall 1992).

⁶ Douglass C. North, ‘Institutions’ (1991) 5 *Journal of Economic Perspectives* 1, 97.

⁷ Asif Efrat, ‘Promoting Trade through Private Law: Explaining International Legal Harmonization’ (2016) 11 *The Review of International Organizations* 3.

⁸ UNESCAP, ‘Selected legal issues affecting multimodal transport operations in Asia and the Pacific’ (2020) *Background note by the Secretariat in the Virtual Expert Meeting on Legal Frameworks for Multimodal Transport Operations in Asia and the Pacific* (Bangkok, August 2020) <https://www.unescap.org/sites/default/files/Background%20note%20by%20ESCAP_multimodal%20legal%20frameworks%20for%20VEGM%20August%202020.pdf> accessed 18 May 2025.

of goods. This theoretical linkage between legal harmonisation and transaction costs underpins many regional integration efforts in trade and transport facilitation initiatives, including ASEAN.

Specifically, a sector where these dynamics are particularly evident is multimodal transport. Since the advent of containerisation, multimodal transport has played an increasingly important role in cross-border trade and logistics. It involves the carriage of goods via multiple transport modes under a single contract with one single responsible party, namely, the multimodal transport operator (MTO). Generally, the carriage of goods by sea, road, rail, and air is governed by separate unimodal transport conventions and national laws.⁹ This has led to a patchwork of legal regimes for through-transit shipments. Due to the absence of a unified legal framework for multimodal transport, a single shipment may be governed by different unimodal transport regimes, including those governing liability, documentation, and jurisdictional clauses for each leg of transit. This legal and operational fragmentation raises significant transaction costs, as parties must navigate multimodal transport operations by negotiating complex and multiple contracts to bridge legal gaps, securing multiple transport documents, and encountering uncertainty over applicable legal regimes in the case of loss or delay of goods.¹⁰ Consequently, such fragmentation is regarded as a non-tariff barrier (NTB) to efficient trade in transport services, which are a crucial part of logistics.

In the ASEAN context, this practical impact was well recognised. Before the adoption of the ASEAN Framework Agreement on Multimodal Transport (AFAMT), the legal environment for cross-border multimodal transport operations in ASEAN was significantly fragmented. Disparities in national laws governing multimodal transport across AMSs caused legal uncertainty and increased both the legal and operational risks for transport services providers. Goods often had to be unloaded and reloaded at borders because carriers lacked cross-border operating rights or were not mutually recognised in the host state. These inconsistencies imposed additional transaction costs on multimodal transport operations, including costs

⁹ Marian Hoeks, *Multimodal Transport Law: The Law Applicable to the Multimodal Contract for the Carriage of Goods* (Kluwer Law international BV. 2010).

¹⁰ Theodora Nikaki, 'Bringing Multimodal Transport Law into the New Century – Is the Uniform Liability System the Way Forward' (2013) 78 *Journal of Air Law and Commerce* 1.

arising from legal compliance, risk management, litigation, and insurance.¹¹ Essentially, they made transportation “inefficient, unreliable and high cost,” thereby discouraging trade and increasing the market prices of goods supplied in the region.¹² Empirical observations in ASEAN underscore that, without harmonised laws, traders faced not only higher insurance premiums, but also less efficient routing and operational management, reflecting the hidden costs of legal uncertainty in supply chains.¹³ Therefore, reducing these unnecessary costs through legal harmonisation became a strategic priority for ASEAN to improve logistics performance within the region.

The harmonisation of laws under the AFAMT seeks to address these concerns by providing a common legal framework that reduce disparities in national laws across the ASEAN region. As outline in the 2019 Implementation Framework, a “well-integrated and sustainable multimodal transport framework is imperative” for AMSs to fully leverage economic integration opportunities. This emphasis suggests that a coherent legal framework for multimodal transport is viewed as foundational to achieving the ASEAN Economic Community’s single market goals.

2.2 ASEAN Framework Agreement on Multimodal Transport (AFAMT)

In 2005, as part of the ASEAN Economic Community blueprint, all AMSs agreed to adopt the ASEAN Framework Agreement on Multimodal Transport (AFAMT) as a legal harmonisation measure to tackle legal fragmentation in cross-border trade and support door-to-door transport across the region. The AFAMT was built in consistent with international standards, especially the United Nations Convention on International Multimodal Transport of Goods (the 1980 MT Convention), the UNCTAD/ICC Rules on Multimodal Transport Documents (the 1992 UNCTAD/ICC Rules) and the FIATA Multimodal Transport Bill of Lading (FBL).

¹¹ Michael J. Ferrantino, ‘Policies to Improve the Supply chain: what Needs to be Done?’ in Deborah K. Elms & Patrick Low (eds), *Global Value Chains in a Changing World* (Fung Global Institute (FGI), Nanyang Technological University (NTU), and World Trade Organization 2013) 263-265.

¹² Chackrit Duangphastra, ‘Comparative Study of Transport Facilitation Issues in ASEAN Transport Facilitation Agreements and Greater Mekong Subregion Cross Border Transport Agreement’ (2024) 11 Asian Crime and Society Review 1, 2.

¹³ UNCTAD, ‘Multimodal Transport: The Feasibility of an international legal instrument’ (2003) *Report by the UNCTAD secretariat UNCTAD/SDTE/TLB/2003/1* <https://unctad.org/system/files/official-document/sdtetlb20031_en.pdf> accessed 18 May 2025.

According to its preamble, the AFAMT's objectives are doctrinally grounded in: (a) promoting smooth, economic and efficient multimodal transport services; (b) adopting rules relating to the carriage of goods by multimodal transport, including common provisions on carrier liability; and (c) creating a fair balance of interests between MTOs and shippers. It establishes uniform rules on key aspects of multimodal transport, including the definition of multimodal transport, the rights and liabilities of parties, the use of standardised transport documents, and the mutual recognition of MTO certificates. This legal uniformity is considered a means to facilitate trade and logistics in the region. Much like the removal of tariffs, harmonising multimodal transport laws under the AFAMT seeks to eliminate legal incompatibilities, the NTBs that previously caused costly workarounds.¹⁴ This is to reduce transaction costs and facilitate more efficient movement of goods across the ASEAN region.

A harmonised legal framework under the AFAMT enables goods to move continuously by the most efficient and cost-effective means across borders. From a legal-economic perspective, the AFAMT operationalises such legal harmonisation by establishing a uniform set of multimodal transport rules across the AMSs. The theoretical expectation is that consistent liability regimes, documentation standards, and streamlined procedures can reduce legal fragmentation and coincide with gains in logistics performance, e.g. faster transit times, lower costs.¹⁵ This is due to traders no longer need to navigate divergent national laws for a single door-to-door shipment.¹⁶ It is important to note that this study treats such improvements as correlative rather than strictly causative. This means while legal harmonisation provides an enabling environment, actual efficiency gains also depend on other factors, e.g., infrastructure quality, technological adoption, and private sector responsiveness.

The AFAMT also addresses specific legal difficulties that previously hindered multimodal transport operations. It introduces important procedural safeguards to reduce conflict of laws in multimodal transport contracts. By lowering legal and operational

¹⁴ Ben Shepherd and John S. Wilson, 'Trade Facilitation in ASEAN Member Countries: Measuring Progress and Assessing Priorities' (2009) 20 *Journal of Asian Economics* 4, 370.

¹⁵ UNECE, 'Possibilities for reconciliation and harmonization of civil liability regimes governing combined transport' (2000) *UNECE Inland Transport Committee: Working Party on Combined Transport - Results of two expert group meetings ("hearings") on civil liability regimes for multimodal transport, Thirty-fourth session, Agenda item 8* (UNECE Ad Hoc Expert Group on Civil Liability in Multimodal Transport, Geneva, September 2000) 5.

¹⁶ David A. Glass, *Freight Forwarding and Multimodal Transport Contracts* (Informa 2012) para 1.7.

complexity, the AFAMT minimises legal risks and promotes smoother dispute resolution. This aligns with the World Bank's Logistics Performance Index (LPI), which highlights the importance of regulatory environment and institutional quality as key determinants of logistics performance.¹⁷ Accordingly, when legal frameworks are harmonised and effectively implemented, logistics performance tends to improve, thereby facilitating trade and deepening economic integration.¹⁸

Importantly, the AFAMT also integrates, albeit impliedly, sustainability concerns. Legal harmonisation in transport can support the shift toward a greener economy. As outlined in the 2019 Implementation Framework, the AFAMT, by streamlining multimodal transport operations, may encourage shifts to more environmentally friendly modes and reduces inefficiencies like prolonged border delays. In theory, smoother logistics chains can reduce fuel consumption and greenhouse gas emissions per unit of cargo.¹⁹ Furthermore, uniform laws can incorporate environmental safeguards, for instance, through the promotion of electronic documentation, thus aligning legal harmonisation with sustainability objectives. This interdisciplinary approach, which bridges legal reform with economic and environmental analysis, frames the study. The AFAMT's implementation is examined not just as a legal development in isolation, but as a factor correlated with tangible developments in logistics efficiency and progress toward sustainable transport within ASEAN. By clarifying these theoretical linkages at the outset, the study sets the stage for an empirical inquiry into how legal harmonisation and multimodal transport integration are associated with observed outcomes, without presumptions of direct causation.

This study, therefore, suggests that the reduction in transaction costs resulting from legal harmonisation under the AFAMT is associated with improvements in logistics

¹⁷ Lauri Ojala and Dilay Celebi, 'The World Bank's Logistics Performance Index (LPI) and drivers of logistics performance' (2015) *OECD Roundtable on Logistics Development Strategies and their Performance Measurements (Queretaro, March 2015)* 6 <<https://www.itf-oecd.org/sites/default/files/docs/ojala.pdf>> accessed 2 June 2025.

¹⁸ Zhanarys S. Raimbekov, Bakyt U. Syzdykbayeva, Kamshat P. Mussina, Luiza P. Moldashbayeva, Bakytzhamal A. Zhumataeva, 'The Study of the Logistics Development Effectiveness in the Eurasian Economic Union Countries and Measures to Improve it' (2017) *XX European Research Studies Journal* 4B, 273.

¹⁹ ResearchAndMarkets, 'Global Multimodal Freight Transportation Market (2020 to 2025) – Featuring FedEx, Dascher & Sinotrans Among Others' *GlobeNewswire* (10 June 2020) <<https://www.globenewswire.com/news-release/2020/06/10/2046176/0/en/Global-Multimodal-Freight-Transportation-Market-2020-to-2025-Featuring-FedEx-Dascher-Sinotrans-Among-Others.html>> accessed 25 May 2025.

performance among AMSs. In this respect, the AFAMT functions as both a legal and economic instrument, designed not only to facilitate the movement of goods but also to contribute to the broader objectives of regional economic integration and sustainable development. The study also argues that although significant challenges remain, the AFAMT, if effectively implemented across the region, provides a unified legal framework with considerable potential to enhance logistics performance and sustainability. In doing so, this study contributes to a broader understanding of the connection between legal frameworks, logistics efficiency, and sustainable economic development in the ASEAN multimodal transport context. Precisely, it provides a comprehensive basis for asserting the practical relevance of the AFAMT in advancing ASEAN regional economic integration and sustainability objectives.

3. Research Method

This study employs a qualitative research approach combining doctrinal legal analysis with descriptive empirical review. This mixed methodology is designed to examine the correlations between the AFAMT's implementation progress and improvements in logistics performance and sustainable economic development in ASEAN.

A doctrinal legal analysis is employed to examine AFAMT's key provisions and their intended legal effects. This includes an in-depth analysis of key legal mechanisms established by the AFAMT, particularly regarding the harmonisation of multimodal transport regimes, liability frameworks, the standardisation of multimodal transport documentation, and the mutual recognition of MTO certificates. The analysis mainly focuses on demonstrating the intended legal effects of the AFAMT in addressing legal disparities within ASEAN's multimodal transport regime, thereby reducing trade transaction costs and enhancing legal predictability for cross-border logistics and transport operations.

The study also conducts a descriptive empirical review of the World Bank's Logistics Performance Index (LPI) data between 2007 and 2018. It analyses changes in LPI scores across AMSs, with particular focus on indicators related significantly to multimodal transport operations, such as infrastructure quality, customs efficiency, logistics competence, shipment reliability, and timeliness. The period of 2007 to 2018 is selected because it covers the earliest available LPI dataset and broadly corresponds with the initial implementation phase of the AFAMT among AMSs following its entry into force. The analysis reveals associative patterns

between the AFAMT's implementation progress and improvements in logistics performance indicators.

Notably, the study does not seek to establish causality between AFAMT implementation and logistics performance improvements. Rather, it aims to highlight observable correlations between legal harmonisation efforts in multimodal transport and logistics outcomes. This study fully recognises that such improvements are attributes to several factors, including infrastructure development, technological advancement, and national economic policies. Accordingly, the integrated methodological approach of this study allows for a nuanced understanding of how the AFAMT's uniform legal framework could contribute to creating regulatory conditions conducive to improving logistics efficiency and sustainable economic development within ASEAN. In other words, it allows for the presumption that legal harmonisation efforts may coincide with improved logistics efficiency and reduced trade transaction costs, while potentially contributing to ASEAN's broader goals of promoting sustainable transportation, green economy development, and deeper regional economic integration.

4. Analysis of Results

This section examines whether the legal harmonisation under AFAMT correlates with measurable improvements in logistics performance across AMSs. It begins with a doctrinal analysis of key AFAMT's provisions to assess their intended harmonising effects, followed by an empirical exploration using the World Bank's Logistics Performance Index (LPI) and related indicators. The analysis highlights associative patterns that emerge alongside the AFAMT implementation progress. The goal is to explore correlations between the degree of multimodal transport harmonisation, as proxied by AFAMT ratification and implementation progress, and improvements in logistics efficiency outcomes, while carefully avoiding any unwarranted attribution of causation.

4.1 AFAMT as a Harmonisation Measure for Trade Facilitation

The AFAMT attempts to harmonise both the substantive law of carriage and certain procedural aspects across AMSs. A number of legal difficulties would be resolved through this

harmonisation.²⁰ One key issue is, for instance, the lack of a globally accepted definition of multimodal transport within the region. Similar terms, such as “intermodal transport”, “combined transport”, “door-to-door transport”, and “multimodal transport” are often used interchangeably and arbitrarily to describe transport operations involving more than one mode of transport.²¹ Legal instruments at various levels reflect this confusion, providing different definitions and contributing to ambiguity in legal interpretation.²² Article 1 of the AFAMT introduces a uniform definition of multimodal transport, aiming to reduce such inconsistencies. This common definition could minimise misunderstandings and interpretative divergence.²³ It would also address the practical challenges associated with applying these terms in the ASEAN transport context.

Multimodal transport documentation is another critical substantive area harmonised by the AFAMT. Article 4 requires that when an MTO takes goods in his custody, he must issue a multimodal transport document (MTD), either in a negotiable or non-negotiable form at the consignor’s request. Following that, Article 5 provides a standardised set of particulars that should appear on the MTD, such as description of goods, the consignee’s name, the MTO’s name and principal place of business, the place and date of taking goods in charge, the designated place of delivery, etc. Additionally, Article 6 prescribe a uniform legal status for the MTD to serve as the prima facie evidence of the contract covering all transport legs of the journey. This could facilitate customs clearance and cargo handling without the need for separate transport documents containing differing legal clauses, thereby streamlining cross-border procedures. This uniformity aligns ASEAN’s multimodal transport documentation with international standards, notably the 1992 UNCTAD/ICC Rules. It also facilitates digitalisation, allowing parties to adopt electronic alternatives equivalent to standard documents more easily. This helps reduce paperwork and procedural delays, which, in turn, improve timeliness,

²⁰ A detailed comparative examination of definitional disparities in the domestic laws of AMSs is provided in the author’s earlier doctoral research. See, Nuanchan Changchit, ‘Towards Harmonisation of Multimodal Transport Law in ASEAN’ (PhD Thesis Queen Mary University of London 2025) 83-116.

²¹ Ralph de Wit, *Multimodal Transport: Carrier Liability and Documentation* (LLP 1995) para 1.2.

²² Marian Hoeks, ‘Multimodal Carriage with a Pinch of Sea Salt: Door to Door under the UNCITRAL Draft Instrument’ (2008) 53 *European Transport Law* 3, 259.

²³ UNESCAP (n 8) 2.

an essential element of logistics performance reflected in stronger outcomes on relevant efficiency indicators.²⁴

More importantly, the liability regime represents the most important substantive harmonisation under the AFAMT. Before the AFAMT's adoption, cross-border multimodal transport operations in ASEAN faced considerable legal uncertainty. Due to disparities among national laws, the applicable liability rules and the extent of a MTO's liability varied considerably across AMSs. This legal fragmentation raised transaction costs and weakened the efficiency of cross-border logistics and trade facilitation. The AFAMT addresses this by introducing a uniform default liability regime for the MTO, alongside standardised liability limits, replacing the myriads of possible national laws with one regional standard. In general, the MTO is responsible from the time the goods are taken in charge until delivery (Article 7). If a multimodal transport contract includes a sea leg, the MTO's liability limit is set under Article 14 of the AFAMT at 666.67 Special Drawing Rights (SDR) per package or 2 SDR per kilogramme, whichever is higher. If the contract excludes sea or inland waterway carriage, Article 16 applies a uniform limit of 8.33 SDR per kilogramme. Crucially, Article 17 adopts a modified liability system to address overlapping unimodal transport conventions. If the stage of loss or damage of goods is localised and an international convention or mandatory law applies to that leg, the MTO's liability limit is determined by reference to that regime. In effect, this system ensures that the MTO's liability limit under the AFAMT aligns with the relevant unimodal transport rules. Meanwhile, in case where the stage of loss or damage cannot be localised, the AFAMT's uniform limits under Articles 14 and 16 serves as a fallback. This compromise can reduce legal uncertainty by defining the applicable rules from the outset, thereby minimising disputes over the choice of law and the risk premium for MTOs.²⁵

In addition to liability limits, the AFAMT harmonises other liability aspects. For instance, while Article 24 extends the MTO's liability and limitations to servants, agents, and subcontractors, Article 12 provides a set of exemptions for MTOs similar to those in unimodal transport conventions. Stakeholders can therefore legitimately expect a broadly consistent risk allocation across AMSs that have ratified the AFAMT. This legal predictability encourages greater participation in ASEAN logistics services sector. From a trade transaction cost

²⁴ Dewan Mohammad Zahurul Islam (n 3).

²⁵ UNCTAD (n 13); Marian Hoeks (n 9).

perspective, the reduced legal risk would reduce the need for costly insurance and litigation to resolve cross-border claims, leading to a direct contribution to more efficient logistics performance.²⁶

Moreover, the AFAMT establishes a standard definition of a ‘multimodal transport operator’ (Article 1). All ASEAN MTOs must meet minimum qualification requirements outlined in Article 30 before being certified. This provision outlines the registration requirements covering aspects on legal capacity, financial security, and insurance coverage. It is coupled with a mutual recognition mechanism set in Article 32, in which any MTO registered in one AMS is entitled to be authorised for operating in any of the AMSs on a reciprocal basis. In other words, once an MTO is duly registered in Thailand, for instance, all other AMSs are agreed to accept that MTO’s registration status and allow them to provide services in their territory without requiring another registration certificate. This mutual recognition of MTO certificates can remove duplicative regulatory barriers to trade in transport services and foster regional market integration. Theoretically, it supplements the legal harmonisation approach by ensuring that there is one standardised set of market entry requirements applicable region-wide, rather than ten different national registration regimes. To support the application of mutual recognition, Article 32(3) mandates transparency and information-sharing by obligating all AMSs to lodge their registers of authorised MTOs with the ASEAN Secretariat. This harmonisation of MTO registration requirements and their mutual recognition across the region would reduce transaction costs by simplifying the legal due diligence and encouraging competition in the logistics market. Consequently, ASEAN-registered MTOs can expand their service networks across the region since they can perform the operations in many AMSs under one registration.

Regarding procedural aspects, the AFAMT addresses jurisdictional and institutional coordination challenges within ASEAN. Article 34 requires AMSs to designate competent national bodies (CNBs) to register MTOs and oversee the AFAMT’s implementation. To support this, Article 35 mandates these CNBs to coordinate “all aspects of multimodal transport” with stakeholders and other AMSs’ CNBs. This coordination can promote administrative harmonisation between the CNBs, enabling alignment of customs procedures and technical standards affecting multimodal transport operations. Moreover, Article 33 requires AMSs to

²⁶ UNCTAD (n 13) para 54.

“organise and regulate... all matters necessary to facilitate the efficacious carriage of goods” by multimodal transport. This encourages AMSs to amend their domestic laws and strengthen coordination among relevant agencies to support effective implementation of the AFAMT.

Notably, the AFAMT is designed to coexist with other international and national legal frameworks. Article 33(2)-(3) clarifies that the AFAMT does not restrict or derogate from any rights or obligations under existing or future international initiatives, including national laws relating to international carriage of goods. Similarly, Article 36 reaffirms that the AFAMT shall not affect the rights and obligations of AMSs under any applicable international conventions or national laws implementing those conventions. These provisions reflect ASEAN’s recognition of legal coexistence. They reassure AMSs that implementing the AFAMT will not result in breaches of obligations under other transport regimes. In this way, the AFAMT can reduce potential legal conflicts, one of the most common challenges in harmonisation.²⁷ It reflects that the AFAMT was designed to complement, not contradict, the patchwork of unimodal transport regimes, thereby limiting legal uncertainty in ASEAN’s transport sector. All these provisions allow the AFAMT to establish a coherent regional multimodal transport regime that fills legal gaps between unimodal transport regimes, while respecting their continued mode-specific application. As such, the AFAMT can promote legal harmonisation in both substantive and procedural dimensions, thereby supporting the broader goal of the ASEAN Economic Community (AEC) to create an integrated ASEAN single market.

Clearly, the harmonisation under the AFAMT directly addresses the challenges of a fragmented legal environment in ASEAN. By requiring all AMSs to adopt the same standardised multimodal transport framework in their national laws, legal disparities that previously complicated cross-border logistics and transportation are expected to be eliminated.²⁸ Shippers can confidently conclude a contract with an ASEAN-registered MTO with the

²⁷ Irwin U.j. Ooi, ‘Closing the Pandora’s Box of Unimodal Regimes with the ASEAN Framework Agreement on Multimodal Transport 2005?: A Critique of the “Scope of Application” Provisions’ (2007) *A compilation of papers of the 1st National Maritime Conference, Kuala Lumpur, Malaysia*, 120 <https://www.malaysianbar.org.my/cms/upload_files/document/Dr%20Irwin%20U%20J%20Ooi.pdf> accessed 24 May 2025.

²⁸ Several potential challenges may affect the effective implementation of the AFAMT, including differences in socio-economic development among AMSs and the institutional characteristics of ASEAN, the so-called “ASEAN Way”, where commitments are often implemented through flexible and non-binding mechanisms. A more detailed discussion of these challenges is provided in Nuanchan Changchit, ‘Towards Harmonisation of Multimodal Transport Law in ASEAN’ (PhD Thesis Queen Mary University of London 2025) 152-251.

understanding that a uniform liability regime and standardised MTD will apply throughout the journey. This could reduce transaction costs associated with negotiating separate contracts for each transport leg or procuring additional insurance for uncertain legal exposures.²⁹ Dispute resolution is also streamlined, as the AFAMT regime applies uniformly through national implementing laws. In theory, these legal improvements could translate into practical logistics performance gains.³⁰ The harmonisation under the AFAMT could eliminate documentation or regulatory issues at border points, leading to fewer delays in transferring goods, faster claims processing and cargo release, and more reliable multimodal supply chain planning. Article 33(1) emphasises this, requiring AMSs to exercise due diligence to “facilitate the efficacious carriage of goods”, which has prompted measures like single-stop inspection, single submission, and electronic data interchange under the ASEAN Single Window initiative, as well as coordinated border clearance for multimodal shipments in some AMSs. For example, Thailand has implemented electronic customs clearance and data exchange mechanisms through its National Single Window (NSW) system connected to the ASEAN Single Window platform.³¹ These mechanisms facilitate faster documentation processing for cross-border shipments. Such measures are reflected in greater LPI scores, especially in customs efficiency and timeliness, in countries that implement them.³²

At this point, it can be noted that, based on the doctrinal analysis above, there is a clear conceptual and observable link between legal harmonisation and logistics performance in ASEAN. The AFAMT provides a concrete example of how a unified legal framework could reduce trade transaction costs in supply chains and facilitate cross-border logistics. As a harmonisation measure, the AFAMT approximates substantive rules and procedures governing multimodal transport to create a coherent legal pathway for multimodal shipments. It addresses the legal fragmentation of unimodal transport regimes and offers compromised

²⁹ UNCTAD (n 13).

³⁰ UNECE (n 15) 5.

³¹ Somnuk Keretho, ‘Single Window (SW) and Paperless Trade Implementation: Success Factors, Lessons Learned & Emerging Trends’ (ESCAP-ARTNET/ITD Trade Facilitation for Sustainable Development Regional Workshop 2019, United Nations Conference Centre, Bangkok, 23-26 September 2019) 10 < <https://www.itd.or.th/wp-content/uploads/2019/09/Session-10-SW-Paperless-Trade-Imp-1.pdf>> accessed 10 March 2026.

³² Prawpan Oruangke, ‘The Impact of International Logistics Performance on ASEAN Trade’ (2021) 25 Chiang Mai University Journal of Economics 1.

solutions, such as the modified liability system under Article 17 and mutual recognition of MTO certificates under Article 32, to bridge legal and procedural gaps among national laws. In other words, the doctrinal legal expectation of adopting the AFAMT is that such harmonised rules can lower legal uncertainty, enabling the freer movement of goods and multimodal transport services across ASEAN. Fully operationalising the AFAMT across all AMSs is thus regarded as crucial for ASEAN to achieve seamless logistics under the AEC's initiative.³³

Regarding this, empirical data on ASEAN logistics performance provides complementary evidence. Therefore, the following section moves beyond doctrinal analysis to explore how these legal developments correlate with logistics performance in practice. Using empirical data from AMSs, it examines whether improvements in LPI and its key indicators, such as customs efficiency, infrastructure quality, and shipment timelines, have emerged alongside the AFAMT's implementation. This provides a more comprehensive understanding of the AFAMT's operational significance in enhancing ASEAN's logistics and trade capabilities.

4.2 Correlations between AFAMT Implementation Progress and Logistics Performance

In addition to the theoretical rationale for legal harmonisation, insights into the practical impact of the AFAMT can be drawn from an empirical analysis of logistics performance trends among AMSs. This section explores observable correlations between AFAMT implementation and logistics performance, using the World Bank's Logistics Performance Index (LPI) as the empirical reference.

The LPI is an international benchmarking tool that assesses the logistics performance across six key indicators: (1) efficiency of customs clearance; (2) quality of trade and transport-related infrastructure; (3) ease of arranging competitively priced shipments; (4) competence and quality of logistics services; (5) ability to track and trace consignments; and (6) timeliness of shipments. Each indicator is scored on a five-point scale and widely recognised as a proxy for trade facilitation and a determinant of a country's competitiveness and attractiveness to foreign direct investments.³⁴

³³ So Umezaki, 'Chapter2: Transport Facilitation in the Era of ASEAN Economic Community' in Masami Ishida (ed), *Cross-Border Transport Facilitation in Inland ASEAN and the ASEAN Economic Community* (ERIA 2019) 35.

³⁴ Lauri Ojala and Dilay Celebi (n 17) 7; Burmaoglu Serhat and Sesen Harun, 'Analyzing the Dependency Between National Logistics Performance and Competitiveness: Which Logistics Competence is Core for National Strategy?' (2011) *Journal of Competitiveness* 4, 8.

Table 1 below presents LPI data from 2007 and 2018. It should be noted that by the end of 2015, six AMSs, namely Thailand, Vietnam, the Philippines, Lao PDR, Myanmar, and Cambodia, had ratified the AFAMT. Some had successfully implemented it domestically, while others were still in progress of doing so. By 2018, only Indonesia, Thailand, Vietnam, Lao PDR, and Myanmar, had implemented the AFAMT into their national laws. Singapore implemented it in 2021, while other remaining AMSs had not yet completed implementation. While several factors substantially influence logistics performance, the timing of the AFAMT implementation in certain AMSs coincides with positive trends in their LPI scores.³⁵

Table 1. LPI Scores of ASEAN Member States between 2007 and 2018

Country	LPI Rank		LPI Score		LPI Indicators											
					Custom		Infrastructure		International Shipments		Logistics Competence		Tracking and Tracing		Timeliness	
	2018	2007	2018	2007	2018	2007	2018	2007	2018	2007	2018	2007	2018	2007	2018	2007
Indonesia	46	43	3.15	3.01	2.67	2.73	2.89	2.83	3.23	3.05	3.10	2.90	3.30	3.30	3.67	3.28
Malaysia	41	27	3.22	3.48	2.90	3.36	3.15	3.33	3.35	3.36	3.30	3.40	3.15	3.51	3.46	3.95
Philippines	60	65	2.90	2.69	2.53	2.64	2.73	2.26	3.29	2.77	2.78	2.65	3.06	2.65	2.98	3.14
Singapore	7	1	4.00	4.19	3.89	3.90	4.06	4.27	3.58	4.04	4.10	4.21	4.08	4.25	4.32	4.53
Thailand	32	31	3.41	3.31	3.14	3.03	3.14	3.16	3.46	3.24	3.41	3.31	3.47	3.25	3.81	3.91
Brunei	80	-	2.71	-	2.62	-	2.46	-	2.51	-	2.71	-	2.75	-	3.17	-
Vietnam	39	53	3.27	2.89	2.95	2.89	3.01	2.50	3.16	3.00	3.40	2.80	3.45	2.90	3.67	3.22
Lao PDR	82	117	2.70	2.25	2.61	2.08	2.44	2.00	2.72	2.40	2.65	2.29	2.91	1.89	2.84	2.83
Myanmar	137	147	2.30	1.86	2.17	2.07	1.99	1.69	2.20	1.73	2.28	2.00	2.20	1.57	2.91	2.08
Cambodia	98	81	2.58	2.50	2.37	2.19	2.14	2.30	2.79	2.47	2.41	2.47	2.52	2.53	3.16	3.05

(Source: Author's compilation from the World Bank LPI Database)

Notably, the LPI data in the table above indicate that the AMSs which had implemented the AFAMT by 2018 saw consistent improvements in their overall LPI scores. Between 2007 and 2018, the LPI scores of these AMSs generally improved. Gains were

³⁵ Variations in the timing of AFAMT implementation among AMS may reflect differences in domestic legal structures, legislative procedures, institutional arrangements, and national policy priorities. See, Nuanchan Changchit (n 20) 152-251.

particularly evident in logistics competence, international shipments, and infrastructure indicators, which are critical dimensions for multimodal transport operations. For instance, after implementing the AFAMT, alongside other related facilitation agreements such as the ASEAN Framework Agreement on Facilitation of Goods in Transit (AFAFGIT) and the ASEAN Framework Agreement on the Facilitation of Inter-State Transport (AFAFIST), Thailand introduced legal and institutional reforms in customs procedures and multimodal transport law, particularly through the enactment of the Thai Multimodal Transport Act in 2005. Thailand's overall LPI score increased from 3.31 in 2007 to 3.41 in 2018, with specific improvements in customs, international shipments, and logistics competence. Vietnam's LPI performance, following its implementation of the AFAMT through Decree No.87/2009/ND-CP, was similarly notable. Its overall score rose from 2.89 in 2007 to 3.27 in 2018, supported by advancements in all indicators, especially in infrastructure, logistics competence, and tracking and tracing. Similarly, Lao PDR, which implemented the AFAMT through the enactment of Multimodal Transport Law (Multiple Transport Law) No.28/NA in 2012, experienced considerable improvements in both overall LPI score and all six indicators, with an outstanding rise in tracking and tracing from 1.89 in 2007 to 2.91 in 2018. Indonesia also exhibited gradual improvement, particularly in international shipments and logistics competence. Although Myanmar's scores remained relatively low compared to other AMSs, it still registered improvements across several indicators, reflecting a general trend of progress following the AFAMT's implementation through the enactment of Multimodal Transport Law (Pydaungsu Hluttaw Law No.3 of 2014). In contrast, AMSs that had not yet implemented the AFAMT by 2018, including Malaysia and Brunei, experienced either stagnation or slight declines in their LPI scores over the same period. While Singapore continued to maintain a high LPI ranking globally, its score marginally declined from 4.19 to 4.00 between 2007 and 2018. Malaysia's overall LPI score also fell from 3.48 to 3.22.

At this point, it can be noted that the AFAMT's harmonisation framework likely contributed to these improvements by reducing NTBs and legal uncertainty. Supporting this presumption, the ASEAN Secretariat and World Bank (2013) reported strong positive correlations between trade facilitation reforms and trade flows in ASEAN.³⁶ This supports the

³⁶ Jean-Francois Arvis, Yann Duval, Ben Shepherd, and Chorthip Utoktham, 'Trade Costs in the Developing World 1995-2010' (2013) *The World Bank Policy Research Working Paper No.6309*.

proposition that improvements in the regulatory environment, including in multimodal transport, are closely associated with enhanced logistics performance. Thailand's experience offers a particularly illustrative case. Following the AFAMT implementation, Thailand's total logistics costs declined from 15.2% of GDP in 2010 to 13.4% in 2018, despite steady growth in logistics value-added and volume.³⁷ Transportation costs, which comprise the largest component of logistics costs, accounted for 50.4% of total logistics expenses in 2018, while logistics administration costs remained stable at 7.4%.³⁸ This decline aligned with improved LPI scores, indicating a potential link between legal harmonisation efforts under the AFAMT and logistics efficiency. By contrast, AMSs that had not yet implemented the AFAMT, such as Brunei and Cambodia, continued to experience relatively high logistics costs, with ratios reaching up to 20% of GDP, almost double the global average of 10.7%.³⁹ This suggests that the absence of harmonised multimodal transport rules contributes to persistent inefficiencies and higher transaction costs.

In this respect, Santoso et al. argue that high logistics costs present a significant obstacle to the development of a country's logistics sector.⁴⁰ They highlight that, apart from improvements in physical infrastructure, institutional and regulatory reforms are essential for reducing trade transaction costs and enhancing logistics performance.⁴¹ In this regard, the AFAMT implementation can be seen as an important component of the broader strategy to improve ASEAN's logistics efficiency and competitiveness.

Despite the methodological difficulties in isolating the effect of AFAMT implementation from other physical reforms, the associative pattern between legal harmonisation under the AFAMT and logistics performance can be observed. These movements may result from a

³⁷ Office of the National Economic and Social Development Council of Thailand, *Thailand's Logistics Report 2019* (Office of the National Economic and Social Development Council of Thailand 2020); Office of the National Economic and Social Development Council of Thailand, *Thailand's Logistics Report 2020* (Office of the National Economic and Social Development Council of Thailand 2021).

³⁸ Office of the National Economic and Social Development Council of Thailand, *Thailand's Logistics Report 2019* (n 37).

³⁹ *ibid.*

⁴⁰ Sugeng Santoso, R. Nurhidayat, Gustofan Mahmud, and Abdul Mujib Arijuddin, 'Measuring the Total Logistics Costs at the Macro Level: A Study of Indonesia' (2021) 5 *Logistics* 4 (68), 18.

⁴¹ *ibid* 10.

variety of factors. However, the observed patterns align with the hypothesis that legal harmonisation and regulatory certainty, as promoted by the AFAMT, may be associated with improvements in logistics performance. AMSs which actively pursued legal harmonisation in multimodal transport through the implementation of the AFAMT tended to gain notable improvements in logistics performance indicators, particularly in areas of law-driven facilitation, such as customs, logistics competence, and international shipments. This pattern supports the doctrinal argument that legal harmonisation can facilitate better logistics outcomes.

All the empirical analyses above reveal a strong correlation between enhanced trade facilitation, including laws and regulations, and logistics performance. Oruangke (2021) finds that in ASEAN, improvements in logistics performance, particularly in customs, infrastructure, and timeliness components of the LPI are statistically associated with higher trade flows.⁴² Specifically, she highlights that the greatest gains were linked to improved logistics services competence, followed by customs and infrastructure.⁴³ This is consistent with the findings of Raimbekov et al, who concluded that improvements in legal and regulatory frameworks through harmonisation processes can positively impact logistics performance and, by extension, regional economic integration.⁴⁴ Similarly, Arvis et al. suggest that enhancements in logistics competence and infrastructure quality reflect the strength of a country's institutional and regulatory environment.⁴⁵ Their earlier study demonstrated that ASEAN trade costs are significantly responsive to logistics performance improvements, and that legal harmonisation plays a critical role in reducing such costs.⁴⁶

Overall, while multiple factors undoubtedly influence logistics performance, the correlation between AFAMT implementation and improvements in LPI scores among AMSs provides suggestive evidence that legal harmonisation efforts in the field of multimodal transport are associated with positive outcomes in trade facilitation and logistics efficiency.

⁴² Prawpan Oruangke (n 32).

⁴³ *ibid* 11.

⁴⁴ Zhanarys S. Raimbekov, Bakyt U. Syzdykbayeva, Kamshat P. Mussina, Luiza P. Moldashbayeva, Bakytzhamal A. Zhumataeva, (n 18) 273.

⁴⁵ Jean-Francois Arvis, Lauri Ojala, Ben Shepherd, Anasuya Raj, Karlygash Dairabayeva, and Tuomas Kiiski, *Connecting to compete 2018: Trade Logistics in the Global Economy* (World Bank 2018) 4.

⁴⁶ Jean-Francios Arvis, Yann Duval, Ben Shepherd, and Chorthip Utoktham (n 36) 4.

The AFAMT's operational impact thus appears to extend beyond legal certainty to tangible improvements in regional trade logistics, supporting the broader objectives of ASEAN economic integration.

4.3 Multimodal Transport and Sustainability Outcomes

The development of a harmonised multimodal transport regime under the AFAMT is not only crucial for enhancing logistics efficiency and reducing trade transaction costs. Strategically, it also supports ASEAN's broader objectives of sustainable economic development within the region.⁴⁷ This section examines how multimodal transport harmonisation under the AFAMT is correlated with ASEAN's efforts toward promoting sustainability and advancing a green economy.

Several studies underscore the economic and environmental advantages of shifting from unimodal transport systems, particularly road-based system, toward seamlessly integrated multimodal transport systems. In ASEAN, cross-border road freight transport has traditionally dominated the regional logistics landscape. However, it is also recognised as the highest energy-consuming and most carbon-intensive mode of transport.⁴⁸ A study conducted by Mordor Intelligence in 2022 reaffirmed that cross-border road freight remains prevalent in ASEAN but is associated with substantial energy consumption and greenhouse gas (GHG) emissions.⁴⁹ In contrast, multimodal transport, which optimises the combination of various transport modes, has the potential to significantly reduce these negative externalities. By facilitating the seamless movement of goods through more energy-efficient modes such as rail and maritime transport, multimodal transport can lead to substantial environmental benefits.⁵⁰ As reported by ResearchAndMarkets in 2020, the use of multimodal transport can promote energy savings and emission reductions by more than one third compared to unimodal road transport operations.⁵¹ Moreover, it can improve transport efficiency by

⁴⁷ ASEAN Secretariat, *ASEAN Regional Strategy on Sustainable Land Transport* (ASEAN Secretariat 2019) 36.

⁴⁸ ASEAN Secretariat, *Guidelines on Sustainable Land Transport Indicators on Energy Efficiency and Greenhouse Gas Emissions in ASEAN* (ASEAN Secretariat 2019) 15.

⁴⁹ Mordor Intelligence, 'ASEAN Cross-Border Road Transport Market – Growth, Trends, Covid-19 Impact, and Forecasts (2022-2027)' *Mordor Intelligence* (2022) <<https://www.mordorintelligence.com/industry-reports/ASEAN-cross-border-road-transport-market>> accessed 7 May 2025.

⁵⁰ Lauri Ojala and Dilay Celebi (n 17) 20.

⁵¹ ResearchAndMarkets (n 19).

approximately 10 per cent and reduce transportation costs within supply chains by around 20 per cent.⁵² Thus, multimodal transport has emerged as both a cost-saving and a green logistics solution. These figures also suggest that enhancing the legal and operational frameworks for multimodal transport can be aligned with ASEAN's broader sustainable development goals.

The AFAMT contributes to this transition by providing a legal framework that supports the integration of more sustainable transport modes into regional logistics networks. Harmonised multimodal transport operations facilitated under the AFAMT enable the optimisation of routes and modes based on efficiency and environmental impact, promoting a shift away from carbon-intensive practices.⁵³ This connection between multimodal transport and sustainable development is increasingly recognised in ASEAN policy documents. The ASEAN Transport Strategic Plan (Kuala Lumpur Transport Strategic Plan (KLTSPP) 2016-2025), for instance, explicitly identifies the promotion of sustainable transport as a key priority. One of its strategic goals is to enhance transport connectivity while reducing environmental impacts.⁵⁴ Similarly, the ASEAN Economic Community (AEC) Blueprint 2025 emphasises the importance of environmentally sustainable growth and the promotion of green transport infrastructure and logistics.⁵⁵ More recently, the ASEAN Transport Sectoral Plan 2026-2030 further reinforces these priorities by promoting deeper multimodal transport integration, strengthening regional supply chain connectivity, and accelerating the development of low-carbon and smart transport system across ASEAN.⁵⁶ Moreover, in the broader international context, the Sustainable Development Goals (SDGs) adopted by the United Nations highlight the role of sustainable transport systems in achieving targets related to economic growth (Goal 8), infrastructure and innovation (Goal 9), sustainable cities and communities (Goal 11), responsible consumption and production (Goal 12), and climate action (Goal 13). Multimodal transport systems, by enhancing resource efficiency and reducing environmental degradation, directly contribute to these goals.

Therefore, the AFAMT can be viewed not only as a trade facilitation measure but also as a legal and economic instrument for promoting greener transportation and supply chains

⁵² *ibid.*

⁵³ ASEAN Secretariat (n 47) 36.

⁵⁴ KLTSPP, para 37.

⁵⁵ AEC Blueprint 2025, paras 47-48.

⁵⁶ ASEAN Transport Sectoral Plan 2026-2030, paras 3-5, 19, 45, and 48.

within ASEAN. By promoting a seamless, efficient, and integrated multimodal transport system, the AFAMT aligns closely with the aforementioned sustainability objectives at both regional and international levels. Although the AFAMT was not originally drafted with explicit environmental provisions, its facilitation of efficient multimodal transport operations indirectly supports ASEAN's commitments to sustainable economic development and environmental protection. By enabling more effective use of rail, inland waterways, and maritime transport, the AFAMT helps establish the legal conditions necessary for fostering a greener logistics sector.

Furthermore, reducing trade transaction costs associated with multimodal transport operations, as facilitated by the AFAMT, can incentivise greater private sector investment in sustainable logistics infrastructure. As discussed in the previous section, when transaction costs decline and legal certainty increases, logistics service providers, including MTOs, may be more willing to invest in multimodal transport hubs, intermodal transfer facilities, and environmentally friendly transport technologies.⁵⁷ This, in turn, can support the development of integrated green corridors and sustainable logistics chains across ASEAN. The private sector also increasingly views environmental performance as a competitive advantage in global supply chains.⁵⁸ Major multinational corporations are implementing supply chain decarbonisation strategies, seeking logistics partners who can demonstrate commitments to lower emissions and sustainable operations.⁵⁹ In this context, ASEAN's efforts to harmonise its multimodal transport framework through the AFAMT could enhance the region's attractiveness to global investors and trading partners who prioritise sustainability.

However, realising the full potential of multimodal transport for promoting sustainability requires effective and comprehensive implementation of the AFAMT across all AMSs. Legal harmonisation alone is not sufficient. It must be complemented by sufficient investment in multimodal transport infrastructure, adoption of green logistics technologies, and policy measures that support modal shifts toward more sustainable, integrated, and effective

⁵⁷ OECD, *Growth, Technology Transfer and Foreign Direct Investment* (OECD Global Forum on International Investment 2001) 2 <<http://www.oecd.org/industry/inv/investmentstatisticsandanalysis/2422334.pdf>> accessed 10 May 2025.

⁵⁸ VCI Legal, 'Healthy competition is necessary for e-commerce logistics' *VCI Legal* (15 February 2022) <<https://vci-legal.com/news/healthy-competition-is-necessary-for-e-commerce-logistics>> accessed 30 May 2025.

⁵⁹ World Economic Forum, *Supply Chain Decarbonization: The Role of Logistics and Transport in Reducing Supply Chain Carbon Emissions* (World Economic Forum 2009) 19.

transport.⁶⁰ Challenges such as inadequate infrastructure, gaps in regulatory enforcement and interpretation, and lack of technical capacity must be addressed to fully leverage the environmental and economic benefits of multimodal transport.⁶¹ In this respect, continued efforts to integrate environmental considerations into ASEAN's transport policies and regulatory frameworks are necessary. Future revisions or supplementary agreements to the AFAMT could incorporate explicit environmental objectives. This would further strengthen the link between multimodal transport harmonisation and sustainable development.

Overall, while the AFAMT primarily focuses on legal harmonisation to facilitate trade and logistics efficiency, it also indirectly supports ASEAN's transition toward a green economy. By reducing legal and operational barriers to efficient multimodal transport operations, the AFAMT contributes to shifting logistics practices toward integrated transport modes that are not only economically advantageous but also environmentally sustainable. As ASEAN continues to pursue deeper economic integration alongside commitments to sustainable growth, the full-scale and effective implementation of the AFAMT remains a crucial element in achieving these interconnected objectives.

5. Conclusions

This article examines the correlation between the implementation progress of the ASEAN Framework Agreement on Multimodal Transport (AFAMT) and improvements in logistics performance, as well as the potential contribution of a harmonised multimodal transport framework to sustainable economic development within ASEAN. Through a combination of doctrinal legal analysis and empirical review of Logistics Performance Index (LPI) data, the study highlights that while causality cannot be definitively established, there are observable associative patterns linking AFAMT implementation to enhancements in logistics efficiency and reductions in trade transaction costs.

⁶⁰ ASEAN Secretariat (n 47) 36.

⁶¹ Nuanchan Changchit (n 20) 117-251.

The analysis demonstrates that the AFAMT provides a comprehensive legal framework addressing substantive and procedural aspects of multimodal transport operations, including the standardisation of definitions, liability regimes, and mutual recognition of Multimodal Transport Operators (MTOs). By reducing legal uncertainty, harmonising regulatory approaches, and facilitating mutual recognition, the AFAMT creates conditions conducive to more efficient and integrated logistics systems across ASEAN member states.

Empirical observations from the LPI data indicate that ASEAN member states which implemented the AFAMT prior to 2018, namely Indonesia, Thailand, Vietnam, Lao PDR, and Myanmar, experienced concurrent improvements in logistics performance indicators. In contrast, member states that had not implemented the AFAMT during the same period generally exhibited stagnation or slight declines. While multiple factors undoubtedly influence logistics performance, these patterns suggest a positive association between legal harmonisation under the AFAMT and improvements in logistics capabilities.

Furthermore, the study has illustrated that the AFAMT's facilitation of multimodal transport aligns closely with ASEAN's broader objectives for sustainable development and green economic growth. By promoting modal shifts toward more energy-efficient and environmentally friendly transport systems, the AFAMT indirectly contributes to ASEAN's commitments under the ASEAN Transport Strategic Plan, the ASCC Blueprint 2025, and the UN's Sustainable Development Goals (SDGs).

Nonetheless, significant challenges remain. The incomplete and uneven implementation of the AFAMT across ASEAN, variations in national legal frameworks, persistent conflicts of laws, limited private sector awareness, and insufficient integration of sustainability objectives all constrain the full realisation of the AFAMT's potential benefits. Addressing these challenges requires coordinated regional action, including accelerated implementation efforts, legal refinement, strengthened institutional capacity, enhanced private sector engagement, and greater alignment with environmental sustainability goals.

Looking ahead, the AFAMT has the potential to serve not only as a vehicle for facilitating cross-border trade and logistics efficiency but also as a cornerstone for building a more integrated, competitive, and sustainable ASEAN economy. Achieving these ambitions will depend on ASEAN's collective commitment to advancing legal harmonisation, fostering regulatory coherence, and promoting a modern, green, and inclusive multimodal transport

network. In this respect, the continued evolution and effective implementation of the AFAMT will remain essential to realising ASEAN’s aspirations for regional connectivity, sustainable development, and economic resilience.

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AI Use Declaration

The author declares that artificial intelligence (AI) tools, namely Grammarly and OpenAI’s ChatGPT, were used exclusively to improve grammar and linguistic clarity. These tools did not contribute to the development, analysis, or interpretation of the article’s substantive content. The author retains full responsibility for the academic content and originality of the work.

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