Asian Business Research Journal
Vol. 10, No. 7, 60-66, 2025
ISSN: 2576-6759
DOI: 10.55220/25766759.496

Digital Transformation Strategy in the Logistics Sector of Emerging Markets: A Case Study of Indotrans, Vietnam

Nguyễn Ngọc Dung[1]
Phan Minh Duc[2]✉

[1]*Operation Manager, ITL Corporation, Vietnam.*
[2]*Academy of Journalism and Communication, Vietnam.*
Email: phanminhduc@ajc.edu.vn
(✉ Corresponding Author)

Abstract

The logistics sector in Vietnam plays a critical role in the national economy, contributing significantly to socioeconomic development and global competitiveness. With the advent of the Fourth Industrial Revolution and the COVID-19 pandemic, digital transformation (DT) has become a strategic imperative for logistics enterprises to enhance operational efficiency, reduce costs, and maintain competitiveness. Despite rapid growth in Vietnam's digital economy and e-commerce, the logistics industry faces challenges such as high logistics costs, limited financial capacity, outdated infrastructure, and workforce deficiencies. Indotrans Joint Stock Company (ITL), a leading logistics enterprise in Vietnam, has proactively embraced DT by developing proprietary digital solutions like the eTMS system, which optimizes road freight operations through automation, real-time data exchange, and integrated functionalities. ITL's DT efforts have demonstrated clear benefits in operational productivity, cost management, and customer satisfaction, although challenges such as employee resistance, high investment costs, and complex tax procedures persist. The study highlights the importance of managerial leadership, workforce development, technological infrastructure, and innovation in driving successful DT. It also emphasizes the need for a cohesive strategy to build an integrated logistics ecosystem, leveraging mergers and acquisitions to expand resources and capabilities. Strategic recommendations include fostering a digitally skilled workforce, enhancing internal and external communication, and institutionalizing innovation to sustain competitive advantage. ITL's case exemplifies the transformative potential of DT in Vietnam's logistics sector, offering insights into overcoming systemic barriers and achieving sustainable growth in emerging markets.

Keywords: Digital transformation, Emerging markets, eTMS system, Indotrans, Logistics sector, Vietnam, Workforce development.

1. Introduction

The logistics industry is widely regarded as the backbone of the economy, influencing all aspects of production, distribution, circulation, and consumption of goods. In Vietnam, logistics plays a pivotal role in the overall structure of the national economy, contributing to socioeconomic development and enhancing the country's competitiveness. In recent years, Vietnam's logistics sector has experienced an annual growth rate of approximately 14–16%, reaching a market scale of around USD 40–42 billion. This expansion has been supported by substantial infrastructure investment, including USD 24 billion allocated during the 2016–2020 period, and ongoing public–private partnership (PPP) projects valued at USD 30 billion. In the context of increasing economic openness and deeper global integration, Vietnam's total import–export turnover has surpassed USD 500 billion annually, with large-scale freight transportation conducted across road, sea, air, and rail networks. These dynamics present significant business and growth opportunities for the domestic logistics industry.

In the era of the Fourth Industrial Revolution and the proliferation of digital technologies, digital transformation has emerged as a global phenomenon that is reshaping economies and industries worldwide. DT represents a continuous process of digitization and advanced applications that foster new operational methods and approaches at higher levels of performance. It has become a key enabler of organizational success, addressing key aspects such as customer experience enhancement, operational agility, innovation, and business model evolution. Notably, DT has shifted from being a strategic initiative to becoming indispensable for enterprise sustainability, particularly after the disruptions triggered by the COVID-19 pandemic. The pandemic exposed major vulnerabilities in traditional supply chains, reinforcing the urgency of DT to improve responsiveness, efficiency, and competitive advantage.

The Government of Vietnam has recognized the transformative potential of digital technologies in driving economic growth and improving national competitiveness. The National Digital Transformation Program, approved in 2020, sets out goals for developing a digital government, digital economy, and digital society by 2025, with a vision extending to 2030. Logistics has been identified as one of the leading sectors in this transformation

effort. Vietnam's digital economy has grown at an impressive pace, registering the fastest growth rate in Southeast Asia in 2023, with a value of USD 30 billion, and is projected to reach USD 45 billion by 2025. Concurrently, e-commerce has expanded dramatically, with consumer behavior shifting toward online shopping, generating a market size of USD 32 billion in 2023—an increase of 25% compared to the previous year—underscoring the growing importance of electronic logistics (e-logistics) in enabling digital consumption.

Despite substantial opportunities, the digital transformation process in Vietnamese logistics enterprises continues to encounter considerable challenges. Logistics costs in Vietnam account for 16.8% of the national GDP—significantly higher than the global average of 10.6%—which underscores the urgency of DT to streamline operations and maintain competitiveness. Most Vietnamese logistics firms (89%) are small and medium enterprises (SMEs) with limited financial capacity and outdated infrastructure, making it difficult to implement comprehensive digital solutions. Labor force deficiencies in technological readiness further constrain progress. In practice, only around 30% of firms have adopted digital technologies within their supply chain operations, compared to over 60% in developed economies, and approximately 70% of Vietnamese businesses have failed in their digital transformation efforts. These initiatives are often isolated, lacking system-wide integration, while 90.5% of logistics service providers remain in the initial digitization phase. At present, most domestic logistics firms operate as intermediaries for foreign companies, offering limited services such as customs declaration, vehicle rental, and warehousing. Merely 16% have integrated third-party or fourth-party logistics solutions, with high value-added services predominantly provided by foreign enterprises.

As such, accelerating the digital transformation of logistics firms is a pressing imperative to enhance managerial capability, strengthen competitiveness, reduce costs, and drive operational efficiency. Digital technologies—including the Internet of Things (IoT), cloud computing, artificial intelligence (AI), big data, and blockchain—have been identified as foundational for modern logistics systems. These innovations enable service providers to optimize resources, reduce labor and transportation costs, improve cargo tracking, and ensure cross-border security.

In this context, Indotrans Joint Stock Company (ITL) has emerged as one of Vietnam's leading private logistics enterprises, offering integrated logistics solutions to both domestic and international clients. Armed with strong financial capacity, advanced technology, and in-depth understanding of local culture, ITL has proactively invested in warehouse management software and integrated these systems into distribution centers. Furthermore, the company has made substantial investments in e-logistics to enhance service quality, operational productivity, processing speed, and reduce paperwork—all while maintaining cost-efficiency. ITL exemplifies the strategic efforts of Vietnamese enterprises striving to spearhead digital transformation within the logistics sector, thereby contributing to the nation's goals of sustainable development and global integration.

2. Literature Review

Digital transformation has emerged as a critical focus for governments, enterprises, and academia worldwide, driven by the need to adapt to rapid technological advancements and shifting market dynamics. It is not merely the digitization of resources but a holistic process that leverages digital technologies to develop new operational methods, business models, and approaches, thereby enhancing organizational performance and efficiency (Vial, 2019). DT requires fundamental changes in organizational structure, corporate culture, and business processes, making it an imperative for maintaining competitiveness and ensuring long-term sustainability, particularly in the wake of disruptions caused by the COVID-19 pandemic (Ivanov, Dolgui, & Sokolov, 2019; Westerman, Bonnet, & McAfee, 2014).

The DT process is commonly conceptualized through three evolutionary stages: digitization, digitalization, and full-scale transformation. Digitization involves converting physical data into digital formats, serving as the foundation for subsequent stages. Digitalization focuses on automating and interconnecting processes to improve operational effectiveness and governance. Full-scale transformation represents a comprehensive shift across all aspects of the enterprise, emphasizing seamless integration of business systems, real-time information exchange, and cost-effective operations (Vial, 2019; Jović, Tijan, & Vidmar, 2022). These stages highlight the progressive nature of DT, requiring organizations to align their technological capabilities with strategic objectives.

Several theoretical frameworks have been developed to explain the factors influencing DT. The Theory of Planned Behavior (TPB) posits that human behavior is strongly driven by the intention to act, emphasizing the role of psychological commitment in adopting new managerial approaches (Ajzen, 1991). The Technology-Organization-Environment (TOE) framework offers an integrated perspective by examining technological factors (existing and available technologies), organizational attributes (resources, structure, scale), and environmental conditions (competitive pressure, regulatory landscape) (Tornatzky & Fleischer, 1990). Additionally, the Resource-Based View (RBV) suggests that a firm's sustainable competitive advantage derives from resources and capabilities that are valuable, rare, inimitable, and non-substitutable (VRIN), such as digital assets, human capital, and managerial expertise (Barney, 1991).

Empirical studies have identified key factors influencing DT, including managerial leadership, employee capabilities, organizational culture, technological infrastructure, and competitive pressure (Nadkarni & Prügl, 2021; Cichosz, Wallenburg, & Knemeyer, 2020). Managerial leadership is particularly critical, as it shapes strategic direction, commitment, and continuity of DT initiatives (Westerman et al., 2014). Leaders who demonstrate a proactive orientation toward change and possess the ability to align organizational goals with technological advancements are more likely to drive successful transformation (Ngo, 2024). Employee competencies, such as IT skills, adaptability, and growth mindset, also play a significant role in accelerating technology adoption. However, organizational culture can either facilitate or hinder transformation, depending on its openness to change. In East Asian contexts, Confucian-rooted norms often resist disruptive change, posing challenges for DT implementation (Ngo, 2024; Luong et al., 2024).

Technological infrastructure emerges as the most substantial factor influencing both the intention and implementation of DT, serving as the technical foundation for system integration, data security, and operational efficiency (Le Viet & Dang Quoc, 2023). However, competitive pressures and rising customer expectations may

produce negative effects if firms are inadequately prepared, leading to hesitancy or resistance toward transformation (Nguyen & Dang, 2024). Financial constraints remain a significant barrier, particularly for SMEs, which dominate Vietnam's logistics sector. Approximately 70% of Vietnamese enterprises fail in their DT efforts, often due to limited financial capacity, outdated technologies, and a digitally unprepared workforce (Ministry of Industry and Trade, 2023; Nguyen et al., 2025).

In Vietnam, the logistics sector has seen annual growth of 14–16%, amounting to USD 40–42 billion, with over 3,000 active enterprises, 89% of which are SMEs (Ministry of Industry and Trade, 2023). Despite this growth, the sector faces systemic challenges, including high logistics costs, poor system integration, and limited adoption of advanced technologies. While 100% of logistics firms increased DT investment in the past year, only a small group of leading companies, such as DHL, FedEx, and Viettel Post, can execute full-scale transformation (Nguyen Canh Thao, 2024). Approximately 68% of logistics enterprises have adopted technologies from Industry 4.0, enhancing service quality and supporting the emergence of smart logistics centers. However, the overall DT process remains below expectations, with many firms struggling to develop clear strategies and select appropriate technologies (Nga Thanh Nguyen et al., 2024).

The determinants of DT evolve across its stages. During digitization, critical factors include IT infrastructure, financial resources, employee capacity, organizational pressure, and support services. Managerial leadership and institutional frameworks show limited influence at this initial stage. As DT progresses into digitalization—focused on process automation—executive leadership becomes crucial alongside existing drivers. In the final stage of full-scale transformation, leadership and human capital take on central roles, although external support services lack demonstrable influence in propelling progress at this level (Luong et al., 2024; Nguyen Canh Thao, 2024).

From a theoretical perspective, the intention to digitally transform exhibits the strongest positive influence on actual DT outcomes, particularly among SMEs. This underscores the TPB framework's emphasis on behavioral intention as a mediating mechanism more impactful than direct structural factors (Ajzen, 1991; Luong et al., 2024). However, systemic barriers such as financial constraints, skill deficits, cultural inertia, and cybersecurity risks continue to hinder progress, requiring strategic alignment and collaboration across stakeholders to achieve sustainable transformation (Nguyen et al., 2025).

In summary, DT is a multidimensional process shaped by technological, organizational, and environmental factors. While Vietnam's logistics sector has made progress, systemic barriers persist, requiring a cohesive strategy to align managerial leadership, workforce development, technological infrastructure, and innovation. The theoretical insights presented here provide a foundation for analyzing the challenges and opportunities in Vietnam's logistics sector, offering a roadmap for sustainable transformation in emerging markets.

3. Research Methodology

The research employed a purposive sampling method, targeting a minimum sample size of 81 respondents, with 89 participants ultimately recruited to compensate for non-response in interviews. The study population included senior executives and departments directly involved in digital transformation implementation, such as the Digital transformation Division, Business Department, Finance - Accounting Department, and Communications Department, as well as ITL's clients, primarily corporate customers and freight forwarding agents. The author emphasized that during the initial implementation phase, internal personnel played the most crucial role in shaping service experience and optimizing product solutions, accounting for 70% of strategic contributions, while client feedback provided valuable evaluative insights (30%).

Regarding data collection, primary data were obtained using a structured three-step survey instrument distributed directly to key internal departments (with 5–7 members per department) and to 10 major clients, representing 80% of the company's service revenue. Secondary data were gathered from government statistics, sectoral journals, official reports from ministries and state agencies, and internal enterprise data. These were used to analyze macroeconomic, industry-level, and organizational environments. The data analysis included comparative and interpretative processing of secondary sources, while primary data was subject to thorough accuracy and completeness checks, followed by analytical synthesis to generate evaluations and strategic recommendations—particularly highlighting feedback from end-users.

4. Research Findings and Discussion

Digital transformation has emerged as a strategic priority for governments, enterprises, and academia worldwide—particularly in Vietnam. Rather than simply digitizing resources, DT is a comprehensive process that leverages digital technologies to introduce new operational methods and approaches, thereby enhancing organizational performance. DT has become a vital prerequisite for sustaining competitiveness and long-term viability, especially considering disruptions brought about by the COVID-19 pandemic. In the Vietnamese context, the government views DT as a key enabler of economic growth, improved public service delivery, and national competitiveness in global markets.

Vietnam's current digital transformation trajectory reflects remarkable progress. The country's digital economy was projected to be the fastest growing in Southeast Asia in 2023, reaching USD 30 billion and potentially expanding to USD 45 billion by 2025. By 2022, the digital economy had already contributed 14.26% to GDP, with an official target of 20% by 2025. Vietnam also consistently ranks among the top 50 countries on global innovation and postal development indices, placing 46th in 2023.

Nonetheless, significant challenges remain. Fewer than 40% of small and medium-sized enterprises in Vietnam possess sufficient financial capacity to implement DT at a moderate or advanced level. Recent studies indicate that 57.6% of SMEs struggle to execute DT initiatives. As SMEs comprise over 90% of all enterprises nationwide—and 97.2% in Hanoi—limited resources, outdated technology, and a digitally unprepared workforce hinder timely adoption. While 62% of firms expect DT to boost performance and foster innovation, 56% perceive DT as essential for survival and growth, only 3% consider DT an substantial decline from 22% in 2019.

In logistics, DT presents substantial breakthrough opportunities. The industry has seen annual growth of 14–16%, amounting to USD 40–42 billion, with over 3,000 active enterprises, 89% of which are SMEs with capital

under VND 10 billion. Although 100% of logistics firms increased DT investment in the past year and 86% expect gains in productivity and efficiency, only a small group of leading companies (e.g., DHL, FedEx, Viettel Post, Vietnam Post) can execute full-scale DT. Approximately 68% of logistics enterprises have adopted technologies from Industry 4.0. These digital initiatives have enhanced service quality, supported the emergence of smart logistics centers, and strengthened engagement with international clients. However, the overall DT process in logistics remains below expectations, with many firms facing challenges in planning and technology selection. Notably, 28.95% of logistics businesses report difficulties in developing DT strategies, and nearly 70% of Vietnamese enterprises fail to achieve successful transformation outcomes.

The factors influencing digital transformation have been extensively studied and are commonly categorized into six core dimensions: managerial capacity and attitude, digital transformation strategy, employee competency, organizational culture, technological infrastructure, and transformation-related pressure. Among these, the capabilities and proactive leadership of managers play a pivotal role, determining the level of commitment and direction-setting throughout the transformation process. A well-articulated digital strategy positively correlates with the intention to pursue transformation; however, empirical evidence suggests that the absence of a clear strategic roadmap among small and medium-sized enterprises in Hanoi diminishes its practical impact.

Employee competency is recognized as a critical driving factor, especially where the workforce possesses technological proficiency, a growth mindset, and access to internal training programs. In contrast, organizational culture has yet to demonstrate a definitive link to either transformation intention or implementation—possibly influenced by Confucian-rooted norms in East Asian contexts that tend to resist disruptive change. Technological infrastructure emerges as the most impactful factor, both in intention formation and practical execution; nonetheless, IT capacity among Hanoi-based SMEs remains modest. Meanwhile, pressure from the digital business environment exhibits a negative correlation with transformation intent, indicating apprehension toward the complexity and financial burden associated with such change.

A key finding is that the intention to digitally transform exerts the strongest positive influence on actual transformation outcomes among SMEs in Hanoi. This underscores the Theory of Planned Behavior (TPB), which posits that human behavior is primarily driven by the intention to act—reinforcing the importance of psychological commitment as an indirect yet powerful mechanism.

Digital transformation within Vietnam's logistics sector unfolds progressively across three evolutionary stages: digitization, digitalization, and full-scale transformation. In the initial phase, efforts focus on converting information into digital formats, reliant on IT infrastructure, workforce capability, and financial resources, while leadership and legal frameworks remain peripheral. As firms transition into digitalization—centered on process automation—executive leadership, policy structure, and enterprise scale become more prominent, enabling synchronized operational enhancements. In the final stage of comprehensive transformation, leadership and human capital take on central roles, although external support services lack demonstrable influence in propelling progress at this level.

Despite significant strides, Vietnam's digital transformation still confronts numerous systemic obstacles. These include financial constraints, outdated technologies, skill deficits, cultural inertia, incomplete legal frameworks, cybersecurity threats, and the absence of long-term leadership commitment. Such barriers hinder strategic clarity and delay implementation. To realize the full potential of Vietnam's digital economy, it is imperative to foster alignment and collaboration across government, industry, and academia—toward a cohesive, resilient, and globally responsive transformation ecosystem.

In terms of scale and strategic vision, Indotrans has established itself as a leading logistics service provider in the region, operating more than 90 offices and distribution centers across multiple countries with a workforce exceeding 1,800 employees. The company comprises eight subsidiaries and invests in strategic affiliates to offer comprehensive logistics solutions. Since 2017, ITL has developed a dedicated digital transformation division, aiming to build an intelligent logistics technology platform positioned at the forefront of the Indochina region.

The implementation of DT at Indotrans has encountered both enablers and constraints. On the enabling side, ITL designated digital transformation as a core strategic priority, receiving support from senior leadership, investors, and strategic stakeholders, while also benefiting from modern infrastructure and a well-matched digital talent pool. Nevertheless, the company faces challenges such as intense competitive pressure from domestic and emerging market logistics providers, high investment costs required for continuous technological upgrades, and rising customer expectations for enhanced digital experiences and diversified service offerings. According to the Vietnam Logistics Report 2023, 90.5% of logistics service firms remain in the early digitization stage—focused primarily on informatization and basic connectivity—while supply chain readiness indicators remain low due to limited infrastructure integration and substantial capital requirements.

In execution, ITL has pioneered the integration of an API-based service portal into its trucking operations. This initiative has delivered multiple benefits, including increased operational productivity through automation, real-time information exchange, improved data accuracy, and alignment with industry trends toward integrated logistics information systems. The eTMS (electronic Transport Management System) was deployed early in the digital transformation roadmap, with emphasis on overland cargo transport. The platform incorporates a range of core features, such as ribbon-style interfaces like Microsoft Excel, enabling multi-departmental access to shipment lists, vehicle and driver inventories, and itemized order contents. Operational modules include pricing management, route planning, dispatch coordination, documentation, trip reconciliation, and transport cost reporting. Additional functionalities encompass full-cycle expense breakdowns, vehicle asset management, route-based cost estimation, fuel procurement oversight, and receivables monitoring based on credit limits. Integrated with CRM capabilities, eTMS facilitates customer relationship management with controlled data access and real-time order tracking. Its KPI dashboard enables monitoring of shipment-level and client-level profitability, benchmarking against performance targets, and informed managerial decision-making.

Evaluation results of eTMS functionality have been overwhelmingly positive. For business departments, the system contributes to time and cost efficiency while facilitating distribution performance assessment. For operations, customer service, and accounting units, it improves information update cycles, accelerates client

interactions, and streamlines settlement procedures. For management teams, eTMS delivers actionable insights via dashboards and reporting tools, supporting timely strategic adjustments. Survey findings on eTMS features show average ratings ranging from 3.14 to 4.32 out of 5, with the highest score for recurring costs (4.32), attributed to lower implementation and maintenance expenses compared to third-party applications. The lowest score (3.14) pertained to system accuracy and stability. Notably, no respondents rated any feature below 3, resulting in a 0% dissatisfaction rate, suggesting strong alignment between eTMS functions and actual operational needs in road freight logistics. Regarding overall user satisfaction, no participants assigned scores below 3, and indicators such as "continued use of eTMS in the future" and "willingness to recommend the software to others" received the highest evaluations, reflecting its utility and appropriateness for ITL's service environment.

The achievements attained by Indotrans in implementing digital transformation initiatives include the development and deployment of business software applications featuring rich user interfaces, high scalability and storage capacity, rapid data retrieval, and seamless integration with third-party platforms. ITL has successfully integrated its logistics systems with major partners such as Vietranstimex, Vietranslink, Sotrans, Dash Logistics, Sowatco, and MLC. These applications are built on modern technological foundations and utilize MicroService-based architecture, which enables modular updates and system enhancements without interrupting operational continuity. The company has consistently been recognized in the Top 10 Reputable Logistics Enterprises by Vietnam Report and received the 2022 Sao Khue Award for its eTMS and eWMS solutions.

Survey results on the functional performance and user satisfaction of eTMS show highly positive responses. The author notes that, while the product may not be the most sophisticated or universally optimal solution, based on user feedback, it is the most suitable system at the current stage for logistics enterprises with ITL's operational model. Its tailored design effectively meets the specific demands of Vietnamese logistics service providers operating in road freight. The comparative evaluation of ITL's proprietary solution versus off-the-shelf third-party software—typically offered by technology vendors on the market—is presented and analyzed by the author as follows:

Table 1. Comparison between ITL's eTMS System and Third-Party Logistics Software.

Criteria	ITL's eTMS	Third-Party Software
Level of Customization	High – tailored to ITL's specific transportation model	Low – typically standardized across industries
User Interface	User-friendly, multifunctional, aligned with internal workflows	Possibly more modern but may require training to operate
Internal Integration	Integrates CRM, accounting, customer service, dispatch	Depending on API capabilities or additional customization
Installation and Operating Cost	Low – no external licensing or support fees	Generally higher due to licensing and service costs
Responsiveness & Updates	Flexible – maintained by internal technical team	Subject of provider schedule and support roadmap
Process Compatibility	Highly aligned with ITL's operational reality	Moderately compatible – may require adjustments
Accuracy & Stability	Good overall – with areas for improvement	Often strong due to mature technical platforms
User Satisfaction	High – no negative ratings below threshold	Varies depending on implementation context

Despite notable achievements, Indotrans continues to face limitations and persistent implementation challenges in its digital transformation efforts. Tax declaration procedures, including fees and surcharges, remain complex due to the need for frequent updates and multiple interface operations, posing difficulties for operational departments. Moreover, during the rollout of digital applications, cross-functional collaboration has been hindered by employee resistance to change and the pressure of routine workloads, resulting in a preference for familiar systems. This situation increases the risk of employee turnover, as staff must simultaneously meet core business requirements, learn to operate new platforms, and work with IT teams to troubleshoot system errors that significantly impact on the enterprise's digital transformation trajectory.

Looking toward 2025 and with a vision to 2030, Indotrans aims to pursue and enhance its strategic development of an integrated ecosystem of supply chain management solutions (eSCM), a model recognized as a target direction for many corporations and large-scale enterprises. This strategic roadmap is intended to establish a resilient digital foundation, increase customer value, advance Vietnam's logistics sector, and enhance global competitiveness. In expanding the ecosystem, ITL has augmented its resource base through key mergers and acquisitions, such as acquiring a 97% stake in Sotrans Group in August 2020 and gaining full ownership of ITL Keppel Logistics Vietnam in July 2022. These transactions significantly boosted ITL's warehouse capacity, fleet size, and service diversification. The digital logistics ecosystem is expected to reduce customer acquisition costs through automation and integrated procurement workflows, while generating enterprise and client value via data analytics, strengthening customer relationships and retention, and increasing enterprise valuation and market competitiveness.

From a managerial perspective, although survey results indicate positive outcomes, ITL's technological products are not necessarily the most advanced, but they are deemed the most appropriate given the company's specific logistics business model and operational maturity. ITL's internal solutions demonstrate competitive advantages over third-party software products in several dimensions, including the capacity to scale and input data instantly, seamless integration across functional units—enabled by deep understanding of internal requirements, higher initial investment but greater long-term cost stability, and lower B2B client integration expenses. For Indotrans to fully realize its digital transformation objectives, leadership must address several strategic imperatives. First, regarding organizational awareness, DT must be understood not only as a technological investment but as a comprehensive shift in workforce mindset, requiring exemplary leadership engagement. Second, in terms of human capital, there must be an informed appreciation of DT's strategic role to guide resource

allocation, especially through enhanced managerial education for technically proficient logistics personnel. Finally, concerning financial investment, DT demands considerable expenditure and technological autonomy to mitigate the risk of obsolescence and financial loss—necessitating a staged and well-structured investment roadmap over time.

5. Conclusion

The impact of the COVID-19 pandemic has catalyzed new consumer awareness, behavioral trends, and business models, creating opportunities for market realignment, value chain restructuring, and the formation of new partnerships. It has presented a critical juncture for Vietnamese enterprises to reassess their operational capacity, resilience, and adaptability in the face of market disruptions, while enabling them to restructure more sustainably and effectively. McKinsey & Company—an international management consulting firm—has noted that "Corporate leaders worldwide are increasingly shifting toward ecosystem-based business models to achieve top priorities such as scaling core enterprises, generating revenue from new products and services, and creating novel value pools." Building ecosystems is thus not only the responsibility of industry-leading firms but also a strategic pathway for exponential growth, enabled by resilient platforms that optimize operational costs and enhance profitability. Moreover, a successful ecosystem allows a firm to expand its domestic influence while simultaneously meeting international standards and partner expectations.

In alignment with this perspective, the leadership at Indotrans has also affirmed that developing a logistics ecosystem is the strategic destination for major enterprises seeking to establish a robust foundation, delivering greater customer value, and advancing sector-wide progress. Accordingly, ITL will continue to pursue its strategy of constructing an integrated ecosystem of supply chain management and logistics solutions. This ecosystem—centered on technological platform development—serves as the digital foundation for connecting diverse logistics business models currently operated by the company. It also aims to amplify ITL's influence within the logistics sector, improve the Logistics Performance Index (LPI) for domestic firms, and bolster Vietnam's competitiveness against regional leaders such as Thailand, Malaysia, and Singapore. Drawing from this analysis, the article proposes a set of strategic recommendations to guide Indotrans' digital transformation efforts during the 2022–2025 period, with a long-term vision toward 2030.

First, the solution involves workforce development. In pursuit of a digitally integrated business model, ITL requires a substantial digital workforce. Building a core transformation team drawn from functional departments and IT units is a top priority, especially equipping mid-level managers with digital skills and mindsets to serve as structural anchors. Simultaneously, the enterprise must proactively secure a reliable talent pool to prevent disruptions to its transformation roadmap. Specific measures include leveraging corporate reputation to attract prospective candidates from universities and expert panels; offering internships to logistics students to develop a recruitment pipeline; assigning clear KPIs to management for mentoring successors; launching talent programs for outstanding employees and young leaders with dedicated investment from senior executives; developing competency frameworks for technical roles directly involved in building, testing, and operating digital systems; and utilizing internal e-learning platforms to assess professional competencies, thereby informing training, capacity development, and tailored incentives.

Second, the communication solution emphasizes both internal and external engagement. Internal communication serves as the critical "touchpoint" between the enterprise and its workforce, shaping and reinforcing corporate values and culture. ITL has effectively promoted a "Ownership Spirit" during the initial phase of its digital transformation. In the next stage, internal communications should be enhanced to promote clarity, transparency, and multidimensional messaging—ensuring employees understand objectives and act with greater agency. Communication must also cultivate unity, reinforce organizational cohesion, and support recruitment and retention by projecting a positive and aspirational work environment. External communications play a vital role in capturing market attention, shaping brand perception, and fostering long-term customer trust. ITL's communications team has actively conveyed the organization's digital agenda and improved brand positioning. Moving forward, it is essential to maintain momentum in public outreach, align messaging with strategic objectives, and coordinate closely with executive leadership to ensure consistency across all channels.

Third, innovation is essential. In a fast-paced, highly competitive market, fostering innovation is a key strategic differentiator and a source of long-term advantage. To cultivate a culture of innovation, efforts must be properly guided and institutionalized. Employees, being closest to daily operations, have unique insights and are well-positioned to propose meaningful product improvements. ITL can encourage cross-functional innovation by hosting periodic contests focused on management applications, allowing departments to submit enhancement ideas. These proposals often identify specific areas for improvement, leading to greater product utility and performance. Moreover, this approach reinforces a culture that continuously generates and implements new ideas—an intangible assets of high value for the organization.

In conclusion, ITL's digital transformation journey underscores its pioneering efforts in independently developing technology platforms tailored to digitalizing logistics processes. These initiatives have demonstrated clear benefits in optimizing operations, managing costs, and enhancing productivity, while receiving positive feedback for their applicability and growth potential. By establishing a solid foundation for an integrated logistics ecosystem, ITL has reinforced its competitive advantage in emerging markets and positioned itself as a leader in the sector.

The case of Indotrans is particularly relevant to the logistics industry in emerging countries, where systemic challenges such as limited financial capacity, outdated infrastructure, and workforce skill deficits often hinder digital transformation efforts. ITL's ability to overcome these barriers through strategic investments in proprietary technology platforms and ecosystem development provides a replicable model for other enterprises in similar contexts. Furthermore, its success highlights the critical role of managerial leadership, tailored technological solutions, and innovation-driven strategies in enabling logistics firms to compete effectively in global markets while addressing the unique constraints of emerging economies. Strengthening both internal and external communication strategies will be crucial for fostering organizational cohesion, enhancing employee engagement,

and amplifying corporate branding. Additionally, structured initiatives such as innovation competitions can serve as a strategic tool to encourage cross-functional collaboration, generate creative solutions, and build a valuable repository of internal intellectual assets that drive continuous improvement and innovation.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Cichosz, M., Wallenburg, C. M., & Knemeyer, A. M. (2020). Digital transformation at logistics service providers: Barriers, success factors and leading practices. *The International Journal of Logistics Management, 31*(2), 209–238. https://doi.org/10.1108/IJLM-08-2019-0213

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research, 18*(3), 382–388. https://doi.org/10.1177/002224378101800313

Google, Temasek, & Bain & Company. (2023). *E-conomy SEA 2023.* https://economysea.withgoogle.com

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*(1), 59–82. https://doi.org/10.1177/1525822X05279903

Ivanov, D., Dolgui, A., & Sokolov, B. (2019). The impact of digital technology and Industry 4.0 on the ripple effect and supply chain risk analytics. *International Journal of Production Research, 57*(3), 829–846. https://doi.org/10.1080/00207543.2018.1488086

Jović, M., Tijan, E., & Vidmar, D. (2022). Factors of digital transformation in the maritime transport sector. *Sustainability, 14*(15), 9776. https://doi.org/10.3390/su14159776

Le Viet, H., & Dang Quoc, H. (2023). The factors affecting digital transformation in Vietnam logistics enterprises. *Electronics, 12*, 1825. https://doi.org/10.3390/electronics12081825

Luong, N. M., Tan, N. N., Toan, D. V., Thao, T. D., Huyen, N. T., & Hoài, N. T. (2024). Digital transformation in Vietnam: A case study of Hanoi SMEs. *International Journal of Advanced and Applied Sciences, 11*(4), 1–14. https://doi.org/10.21833/ijaas.2024.04.001

Mai Anh Thi Nguyen, Dao, N. T., Nguyen, N. A., Le, H. G., Nguyen, D. C., & Do, N. Q. (2025). The impact of digital transformation in supply chain on firm performance: An empirical research in Vietnam. *International Journal of Research and Review, 12*(5), 306–320.

Ministry of Industry and Trade. (2023). *Vietnam logistics report 2023: Digital transformation in logistics.* Industry and Trade Publishing House.

Ministry of Information and Communications. (2023). *National digital transformation report 2022.* https://dx.gov.vn

Ministry of Information and Communications. (2024). *National digital transformation report 2023.* https://dx.gov.vn

Nadkarni, S., & Prügl, R. (2021). Digital transformation: A review, synthesis and opportunities for future research. *Management Review Quarterly, 71*, 233–341. https://doi.org/10.1007/s11301-020-00185-7

Nga Thanh Nguyen, Tran, H. T., Ta, L. V., & Nguyen, P. V. (2024). Key determinants of digital transformation stages in Vietnam logistics industry. *Journal of Infrastructure, Policy and Development, 8*(11), 8024. https://doi.org/10.24294/jipd.v8i11.8024

Ngo, T. H. T. (2024). Digital transformation in Vietnam logistics enterprises. *International Journal of Engineering Inventions, 13*(6), 117–122.

Nguyen, T. H. (2024). Digital transformation in Vietnam – Trends and solutions in the coming time. *International Journal of Advanced Multidisciplinary Research Studies, 4*(3), 407–415.

Nguyen, T., & Dang, L. T. T. (2024). Evaluating digital transformation preparedness among Vietnamese enterprises. *HCMCOUJS-Economics and Business Administration, 15*(3), 21–43. https://doi.org/10.46223/hcmcoujs.econ.en.15.3.2505.2024

Nguyen, T. K. A., & Nguyen, T. X. N. (2022). Factors affecting digital transformation of businesses: Case study in Binh Dinh. *Journal of Economics and Development, 304*(2), 65–74.

Nguyen Canh Thao. (2024). E-logistic development in the context of digital transformation in Vietnam. *International Journal of Advanced Multidisciplinary Research Studies, 4*(5), 566–578.

PwC. (2021, March). *Vietnam digital readiness report.* https://www.pwc.com/vn/en/publications/digital-readiness-report.html

Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation.* Lexington Books.

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems, 28*(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Vu, P. T., Nguyen, H. X., Pham, Q. T. T., & Nguyen, P. V. (2025). Unpacking the enablers and barriers to digital transformation in Vietnamese logistics companies: A qualitative analysis. *International Journal of Innovative Research and Scientific Studies, 8*(2), 4210–4218. https://doi.org/10.53894/ijirss.v8i2.3091

Westerman, G., Bonnet, D., & McAfee, A. (2014). *Leading digital: Turning technology into business transformation.* Harvard Business Press.