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ORGANIZATIONAL AND OPERATIONAL MODEL OF LOGISTICS COMPANY INTERNATIONALIZATION IN HIGHLY REGULATED MARKETS: THE CASE OF ENTRY INTO THE U.S. MARKET

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ОРГАНІЗАЦІЙНО-ОПЕРАЦІЙНА МОДЕЛЬ ІНТЕРНАЦІОНАЛІЗАЦІЇ ЛОГІСТИЧНОЇ КОМПАНІЇ НА ВИСОКОРЕГУЛЬОВАНИХ РИНКАХ: ДОСВІД ВИХОДУ НА РИНОК США

The article examines the problem of internationalization for logistics companies operating in high-cost, highly regulated markets, with a particular focus on the United States. A structural gap has emerged between the growing demands for speed, flexibility, and transparency in logistics services and the limited capacity of traditional organizational models to achieve simultaneous cost efficiency and high service quality. A critical analysis of existing internationalization approaches reveals their limited capacity to explain the internal organizational and operational configurations of companies after market entry in the context of digitalization.

To address the identified gap, the study proposes the Dual Operating Logistics Model as a conceptual organizational and operational framework for logistics company functioning. The model involves a functional distribution of processes across geographically differentiated units: the front office (USA Core), the operational center (UA Operations Center), and the Digital Layer, which ensures their coordination. A key feature of the model is the integration of these elements into a unified system through process synchronization, data exchange, and embedded control mechanisms.

The study reveals the model's interaction logic through a system of interrelated flows that form a continuous operational cycle and substantiates the role of digital infrastructure as an integrative and control mechanism for real-time process management. The study demonstrates the importance of integrating HR and compliance functions into the operational architecture.

The authors assessed the economic feasibility of the model through testing using data from a Ukrainian logistics company. The results confirm a synergistic effect achieved through cost optimization, acceleration of operational processes, and digital integration. The calculations confirm the economic viability of the model, including a payback period of 14 to 24 months and a return on investment of 120 to 180 percent.

It is concluded that the proposed model is an effective internationalization tool for small- and medium-sized logistics companies operating in highly regulated markets.

У статті досліджено проблему інтернаціоналізації логістичних компаній у контексті функціонування на високовитратних та високорегульованих ринках, зокрема на прикладі США. Виявлено структурний розрив між зростаючими вимогами до швидкості, гнучкості та прозорості логістичних послуг і обмеженими можливостями традиційних організаційних моделей забезпечувати одночасно витратну ефективність та високий рівень сервісу. Критичний аналіз наявних підходів до інтернаціоналізації засвідчив їхню недостатню здатність пояснити внутрішню організаційно-операційну конфігурацію компаній після виходу на нові ринки в умовах цифровізації.

Для подолання виявленого розриву запропоновано авторську концептуальну Dual Operating Logistics Model як організаційно-операційну основу функціонування логістичної компанії. Модель передбачає функціональний розподіл процесів між географічно диференційованими підрозділами: фронт-офісом (USA Core),

операційним центром (UA Operations Center) та цифровим інтеграційним контуром (Digital layer), що забезпечує їхню координацію. Ключовою особливістю моделі є інтеграція зазначених елементів у єдину систему шляхом синхронізації процесів, обміну даними та використання вбудованих механізмів контролю.

Розкрито логіку функціонування моделі через систему взаємопов'язаних потоків, які формують безперервний операційний цикл, а також обґрунтовано роль цифрової інфраструктури як інтеграційного та контрольного механізму управління процесами в режимі реального часу. Показано значення інтеграції HR-функції та комплаєнсу як складових операційної архітектури.

Оцінювання економічної ефективності моделі здійснено на основі її апробації у діяльності української логістичної компанії. Результати засвідчили формування синергетичного ефекту завдяки оптимізації витрат, прискоренню операційних процесів та цифровій інтеграції. Розрахунки підтвердили економічну доцільність моделі, зокрема строк окупності 14–24 місяці та рівень рентабельності інвестицій у межах 120–180 %.

Зроблено висновок, що запропонована модель може розглядатися як ефективний інструмент інтернаціоналізації логістичних компаній малого та середнього масштабу в умовах високорегульованих ринків.

Keywords: *logistics company internationalization; highly regulated markets; operations management; digital integration; compliance; supply chain management; logistics operations.*

Ключові слова: *інтернаціоналізація логістичних компаній; високорегульовані ринки; операційне управління; цифрова інтеграція; комплаєнс; управління ланцюгами постачання; логістичні операції.*

Problem statement and its relevance to scientific and practical tasks. Global logistics is undergoing a profound transformation driven by digitalization, the reconfiguration of global supply chains, and intensifying competition. According to industry estimates, the U.S. logistics market reached USD 455.4 billion in 2024 and is projected to grow to USD 671.2 billion by 2030, with a compound annual growth rate of 6.9% [25]. Road freight transport accounts for more than 72% of domestic cargo movement, with an annual volume exceeding USD 940 billion [12]. These factors position the U.S. market as one of the most attractive destinations for international logistics operators.

At the same time, entry into this market is associated with systemic barriers. The Federal Motor Carrier Safety Administration (FMCSA) establishes a multi-level regulatory framework covering carrier and broker licensing, insurance requirements, driver hours-of-service monitoring through ELD devices, and technical standards for transportation [24]. In the segment of oversized and heavy-haul transport, regulatory pressure is even higher, as each state imposes its own limits on dimensions and weight, escort requirements, and route approval procedures. Non-compliance may result in fines, operational suspension, and repeated inspections.

Another structural constraint is the high operational cost. Ryley and Belzer show that driver compensation directly affects both operational efficiency and safety [20]. According to the American Trucking Associations, the driver shortage has become systemic, reaching approximately 80,000 drivers in 2021 and potentially doubling by 2030 [12]. This trend increases operating costs and complicates planning. Companies entering the U.S. market must balance regulatory compliance, cost control, and operational agility.

Existing studies largely address general internationalization strategies, offering limited insight into practical operational models for small- and medium-sized logistics firms entering the U.S. market. Rodrigues et al. demonstrate that traditional logistics models remain insufficiently integrated and fail to maintain efficiency as market complexity grows [19]. The limited integration of

traditional logistics models and their declining efficiency under increasing market complexity highlight a clear research gap: effective operational models tailored to the market entry of small and medium-sized logistics operators remain underexplored in the academic literature.

Analysis of recent studies and publications. Three core approaches shape the theoretical foundation of logistics firms' internationalization. The Uppsala model conceptualizes internationalization as a gradual process of experience accumulation and uncertainty reduction [21; 11]. In logistics, this is reflected in a transition from partnerships with foreign carriers to the development of proprietary operational networks. Kochergin S. confirms this pattern using evidence from Ukrainian companies [2].

The OLI paradigm (Ownership–Location–Internalization) explains the choice of international presence through three groups of advantages: ownership-specific advantages, including proprietary logistics technologies, digital platforms, and expertise in managing multimodal transport; location-specific advantages, such as access to ports and transport corridors, as well as favorable customs and tax regimes; and internalization advantages, reflecting the intention to reduce transaction costs through internal control over critical supply chain components. This framework clarifies why some operators establish subsidiaries, while others rely on partnerships with 3PL/4PL providers.

The entry modes concept classifies market entry strategies based on investment level, control, and risk, distinguishing agency models, partnerships, subsidiary establishment, and digital market entry [19; 14].

Among Ukrainian scholars, Alkema V. H. conceptualizes logistics management as the systemic integration of material, information, and financial flows [1]. Matviienko-Biliaieva H. L. defines logistics system efficiency through its capacity to adapt to changes in the external environment [5]. Reznik N., Lialina N., Khmarska I., and co-authors examine integrated logistics systems as a key driver of competitiveness in international markets [8; 4; 10]. Pukhalska Ya. P., Repich T. A., and Diachkova T. O. emphasize the role of rational

logistics network design as a mechanism for cost reduction [7; 9], while Lysiuk V. M. identifies space, time, and information as strategic resources in logistics [3].

Among international studies, Dubey R., Gunasekaran A., and Papadopoulos T. demonstrate the role of digital technologies in enhancing logistics system performance [15]. Pekarčíková M. and co-authors frame the shift toward digital logistics as the creation of an integrated information environment [18]. Susitha N., Jayarathna D., and Herath H. show that supply chain competitiveness depends on the combined effects of flexibility, digitalization, and responsiveness [23].

At the same time, classical approaches exhibit significant limitations. The Uppsala model and the OLI paradigm were developed before large-scale digitalization and do not account for the coordination of geographically distributed teams. The entry modes concept describes forms of market presence but does not address the internal operational configuration required after entry. Outsourcing is typically treated as the transfer of functions to external providers without integration into a unified operational architecture. Rodrigues et al. confirm that traditional models remain insufficiently integrated as market complexity increases [19]. This gap underscores the need for a new organizational and operational configuration.

Research objectives. The article aims to develop an organizational and operational model for the internationalization of a logistics company entering the U.S. market, ensuring cost optimization, rapid operational responsiveness, and regulatory compliance within a high-cost, compliance-intensive environment.

To achieve this objective, the study addresses the following tasks: to identify the structural limitations of traditional internationalization models in the context of U.S. market entry; to substantiate the conceptual foundations of the Dual Operating Logistics Model as a dual-layer organizational and operational system; to explain the interaction logic of the model’s structural elements

through functional flows and digital integration; and to assess its economic performance based on implementation using data from a real enterprise.

Main body of the study. The growing mismatch between market demand for service speed and the cost structures of traditional operators is driving the emergence of new organizational and operational models in logistics. Alkema V. H. notes that modern logistics is evolving from a functional to an integrated management approach, aligning material, information, and financial flows within a unified system [1]. Matviienko-Biliaieva H. L. defines logistics system efficiency through its capacity to adapt to external environmental changes, which is critical in competitive settings [5].

This challenge becomes particularly pronounced in markets characterized by high operating costs, stringent regulatory requirements, and elevated customer expectations regarding service speed and transparency.

The U.S. logistics market is among the most complex and regulated, combining strict safety standards, advanced technological infrastructure, and substantial regulatory oversight. According to the U.S. Department of Transportation, the transport system operates under multi-level regulatory oversight, including licensing, driver working-time monitoring, and technical compliance requirements [24]. This environment significantly increases compliance-related costs and constrains operational flexibility.

An additional factor is the cost structure of logistics operators. Belzer, Michael H., and Ryley (2024) demonstrate that driver compensation directly affects both transport safety and firm performance [20]. According to the American Trucking Associations, the driver shortage in the U.S. has become systemic, increasing costs and complicating operational planning [12]. As a result, cost pressures emerge as a primary constraint on logistics firms' development. Companies operating in the U.S. must simultaneously ensure regulatory compliance, maintain cost control, and respond quickly to operational demands, rendering traditional organizational approaches insufficient.

Rising customer expectations for speed, reliability, and service transparency are shaping the competitive environment. According to Michael Porter's theory of competitive forces, intensified rivalry and increased buyer power push firms to seek new sources of competitive advantage [6]. In this context, digitalization and the integration of logistics processes become critical. Dubey Rameshwar, Gunasekaran Angappa, and Papadopoulos Thanos highlight the role of digital technologies and artificial intelligence in improving logistics performance [15]. At the same time, Pekarčíková Michaela and co-authors identify the shift toward digital logistics as a key direction of industry transformation [18].

Rodrigues V. et al. show that traditional logistics operating models remain insufficiently integrated and fail to sustain adequate performance as market complexity increases [19]. Susitha N. et al. demonstrate that the competitiveness of modern supply chains depends on the combined effects of flexibility, digitalization, and responsiveness - capabilities that cannot be achieved within conventional frameworks [23].

The limitations of these models create a structural gap between rising market requirements for speed, flexibility, and operational efficiency and the capabilities of traditional logistics systems. Existing organizational approaches are structurally insufficient to simultaneously ensure cost efficiency, rapid operational response, and consistent regulatory compliance. This gap necessitates a new organizational and operational configuration that integrates the spatial distribution of functions with digital coordination within a unified logistics system.

To address the identified research–practice gap, the study proposes the Dual Operating Logistics Model. This conceptual organizational and operational framework distributes functions between geographically separated centers (front office and back office) and integrates them through a unified digital management infrastructure. The model aims to enhance logistics performance by

optimally allocating operational functions across jurisdictions and ensuring their coordinated interaction through digital technologies.

Its scientific contribution lies in combining a geographically distributed operating structure with digitally integrated logistics management, enabling simultaneous cost optimization and high service speed and quality. The model is particularly suited to small and medium-sized firms entering highly regulated markets with limited resources to establish a fully localized operational infrastructure.

Classical internationalization frameworks - Uppsala, OLI, and entry modes do not account for the potential of digital coordination across distributed teams [21; 11; 19]. Outsourcing models, in turn, rely on transferring functions to external providers. The proposed model differs from both approaches by establishing an integrated dual-layer management system in which geographic distribution is embedded within a unified operational architecture.

The model comprises three interrelated components - USA Core, UA Operations Center, and the Digital layer - that function as a single system through role differentiation and digital coordination. Its structural architecture is grounded in the principle of functional decomposition of logistics activities, followed by the integration of these components within a unified digital environment. This approach aligns with contemporary views of logistics systems as integrated flow management frameworks, where the coordination of material, information, and managerial processes is central [1; 5].

The USA Core performs the model's front-office function and ensures its institutional integration into the market environment. Its functional role is to manage the system’s external interactions, including customer relationship development, market operations coordination, and regulatory compliance.

Consistent with the theoretical framework proposed by Matviienko-Biliaieva H. L., the USA Core enables the external adaptation of the logistics system, aligning it with specific market conditions and shaping its competitive position in the external environment [5].

The UA Operations Center serves as the back-office component and constitutes the operational and analytical core of the logistics system. Its role is to execute and optimize operational processes, provide analytical support, and facilitate managerial decision-making. In practice, it encompasses dispatching, trip monitoring, document processing, and coordination of processes within an extended operational cycle.

Dubey R., Gunasekaran A., and Papadopoulos T. define logistics system performance in the context of digital transformation through the ability to allocate functions efficiently and leverage global resources [15]. In this sense, the UA Operations Center serves as a mechanism to enhance operational efficiency by consolidating process and analytical functions in a resource-optimized environment.

The system-forming component of the model is the Digital layer, which includes platforms for customer relationship management (CRM) and transport management (TMS).

Within the Dual Operating Logistics Model, the digital layer performs a central rather than supportive role, enabling coordination, integration, and synchronization across all system components. It transforms geographically distributed units from a set of isolated functions into a unified operational mechanism. Without digital integration, the model would inevitably become fragmented, leading to significant transaction losses. Pekarčíková M. et al. define digital logistics as the creation of a unified information environment that integrates all stages of the logistics process [18]. Susitha E. et al. argue that digital technologies are a key driver of flexibility and adaptability in logistics systems [23].

Within the proposed model, the Digital layer performs a system integration function, transforming separate structural elements into a unified, managed system through continuous data exchange, operational transparency, and real-time control.

Accordingly, the structural components of the Dual Operating Logistics Model form an integrated system: the USA Core ensures external market interaction, the UA Operations Center delivers and optimizes operational processes, and the Digital layer provides coordination, synchronization, and functional cohesion.

The integration of these components enables systemic efficiency, allowing the model to reduce costs while maintaining high service speed and quality simultaneously.

The performance of the Dual Operating Logistics Model depends not only on its structural architecture but, more importantly, on the interaction logic of its components, which ensures system integrity and effectiveness. This interaction emerges through the integration of functional allocation, information flows, and control mechanisms within a unified digital management environment [1; 5].

A key feature of the model lies in the clear separation of front-office and back-office functions, followed by their synchronization. The USA Core initiates and externally coordinates logistics processes, while the UA Operations Center ensures their operational and analytical execution. This approach aligns with contemporary views of logistics systems as integrated structures, with functions coordinated within a unified management framework [1; 5].

Interaction between the structural components is mediated through the Digital layer, which enables the circulation and alignment of information flows within CRM and TMS systems. The digital layer functions not only as a data transmission channel but also as a mechanism for coordinating managerial decisions, consistent with digital logistics approaches outlined by Pekarčíková M. et al. [18], as well as with frameworks emphasizing transparency and efficiency in supply chain management proposed by Dubey R., Gunasekaran A., and Papadopoulos T. [15].

The operating logic of the model can be conceptualized as a system of interrelated flows forming a unified operational cycle:

- *initiation flow (front office)* – generation and initial validation of the customer request within the USA Core;
- *information flow (digital layer)* – transmission, alignment, and updating of data within CRM/TMS as a unified management environment;
- *operational execution flow (back office)* – managerial decision-making related to planning, optimization, and support of logistics processes within the UA Operations Center;
- *feedback information flow* – transmission of updated data on process execution to the USA Core to ensure effective customer communication;
- *control and compliance flow* – monitoring of process execution and ensuring alignment with regulatory and compliance requirements.

In this configuration, the model shifts from linear execution of discrete functions to cyclical management of logistics operations driven by continuous information updates. The Digital layer performs a system-forming role by integrating all flows into a unified control loop. Susitha E., Jayarathna A., and Herath R. confirm that digital integration is a key enabler of flexibility and adaptability in logistics systems operating in dynamic environments [23].

The interaction logic within the Dual Operating Logistics Model establishes a coherent operating mechanism in which functional distribution, digital integration, and control mechanisms ensure process alignment and systemic efficiency.

The integration of structural components and their interaction logic allows the Dual Operating Logistics Model to be represented as a conceptual framework of distributed logistics management. Figure 1 illustrates the interconnection between the front-office, back-office, and digital layers of the system.

Figure 1 illustrates the functioning of a distributed logistics system built on the principles of integration, digitalization, and process-oriented management. The model reflects current trends in the evolution of logistics

systems, which are increasingly transforming into networked structures with a high level of information interaction [1; 8].

The model comprises three structural layers. The first is the front office (USA Core), responsible for customer interaction, order generation, and contract management.

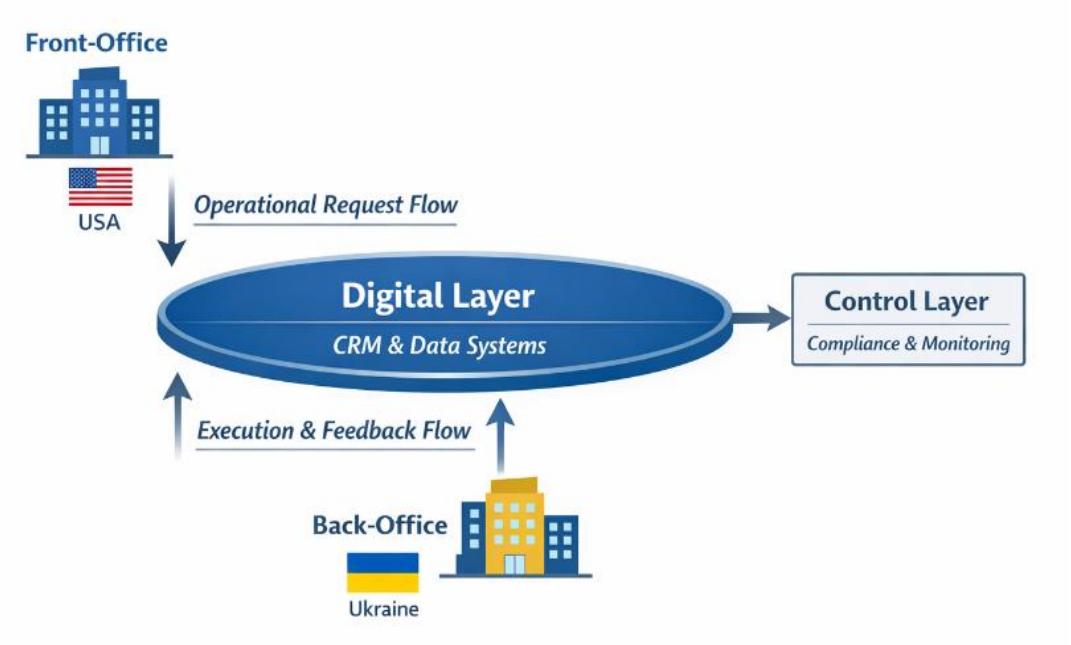

Figure 1. Conceptual model of distributed logistics operations management (USA–Ukraine configuration)

Source: developed by the authors based on [1; 8; 18; 22; 14; 15]

The second is the operational center (UA Operations Center), which performs back-office functions, including transport planning, dispatching, documentation processing, and operational support. This functional distribution is consistent with established approaches to designing efficient enterprise logistics systems [5; 13].

The third layer is the digital integration layer, implemented through CRM and TMS platforms. It enables the coordination of information flows, synchronization of operations, and process transparency. The adoption of integrated information systems is widely recognized as a key driver of improved supply chain management efficiency [18; 22; 14].

Interaction within the model is organized through two information flows: the Operational Request Flow, generated by the front office and transmitted to

the operations center via the digital platform, and the Execution & Feedback Flow, which transfers results, execution statuses, and analytical insights. This structure aligns with the principles of process-oriented management and integrated logistics systems [15; 17].

An additional component of the model is the Compliance & Performance Control Layer, which ensures performance monitoring, evaluation against key performance indicators (KPIs), and compliance with regulatory requirements. This control mechanism is consistent with contemporary approaches to assessing logistics system performance and managing risks [10; 26].

The proposed model reflects the transformation of logistics systems from traditional hierarchical structures to digitally integrated network-based systems, enabling greater flexibility, faster decision-making, and enhanced competitiveness in the global market.

Cost optimization within the model is achieved not only through the geographical relocation of back-office functions but also through a transformation of the cost structure, specifically by reducing the share of high-cost administrative activities in the U.S. environment. Transferring operational support to Ukraine lowers personnel costs due to differences in labor costs while maintaining the required quality of logistics processes. This approach is consistent with current trends in logistics system development, which emphasize improving economic efficiency through business process rationalization [5; 13].

Operational continuity is achieved through the overlap of time zones between the two centers, reducing the overall duration of the operational cycle without the need to establish a full night shift within a single market. Some processes are performed outside the front office's standard working hours, which shortens order processing time and increases responsiveness to customer requests [1; 8].

Model scalability is achieved not through headcount expansion but through platform-based coordination of processes via CRM/TMS, allowing activity volumes to increase without proportional cost growth. Integrated

information systems serve as a key driver of management efficiency in the context of logistics digitalization [22].

Operational efficiency improves through the clear specialization of the model's structural components. The separation of customer-facing and operational-analytical functions reduces process duplication, accelerates the transfer of managerial decisions, and enhances system controllability. A unified digital environment ensures process alignment, transparency of logistics operations, and the quality of managerial decision-making [1; 22].

The proposed model produces a combined effect: it reduces costs, increases service speed, supports business scalability, and improves logistics management efficiency. It can therefore be considered an effective tool for enhancing enterprise competitiveness in the context of digital economic transformation [8]. However, its implementation requires a high level of process coordination and digital maturity, which may limit its effectiveness at early stages.

Within the Dual Operating Logistics Model, HR and compliance are not auxiliary functions but embedded components of the operational framework. The model ensures alignment between human factors, digital infrastructure, and regulatory requirements, which is critical for the effective functioning of a distributed logistics system [1; 8].

A central element of the HR component is the training of dispatchers as the core operational unit of the back office. Their role involves real-time management of logistics processes, requiring not only professional expertise in transport and logistics but also digital competencies, the ability to work with CRM/TMS systems, and the ability to make rapid decisions. The HR function is responsible for developing target competency profiles, organizing training, and evaluating personnel performance [5; 22]. In this model, dispatcher training is not merely an HR task but a mechanism for ensuring the system's operational resilience.

The model's effectiveness also depends on managing cross-cultural interaction between the U.S.-based front office and the Ukraine-based back office. Differences in communication styles, decision-making approaches, and business culture may affect both the speed and quality of operations. The HR function, therefore, includes developing cross-cultural competencies, standardizing communication procedures, and implementing unified interaction protocols [8].

FMCSA requirements function not only as external regulatory constraints but also as drivers shaping the internal architecture of business processes, including safety standards, documentation procedures, and transport control [24]. Compliance thus becomes part of the operational logic rather than a standalone function. In particular, ELD (Electronic Logging Device) requirements and Hours of Service regulations directly define key parameters of the dispatch cycle within the UA Operations Center, including driver time windows, documentation structure, and trip verification protocols [16]. These requirements also increase formalization of processes, digital traceability, and embedded control, thereby directly influencing the model's architecture and operating parameters.

HR and compliance are integrated through the digital platform (CRM/TMS), which connects personnel, operational processes, and control systems. Within this environment, actions are recorded, performance indicators (KPIs) are tracked, regulatory compliance is monitored, and operational outcomes are analyzed. The model thereby establishes a closed-loop management system in which human factors, technologies, and regulatory requirements operate as a unified whole [22].

HR and compliance in the proposed model serve an integrative function, ensuring not only operational efficiency but also the system's resilience against risks arising from human factors and regulatory constraints. Their role justifies treating them as critical elements in building competitive advantage in international logistics.

The model's economic efficiency arises from the interaction among its structural, process, and digital components. Financial outcomes are not driven by isolated decisions but by the overall configuration of the model: structure → processes → operational changes → financial results.

The first level of impact is generated through structural optimization, specifically the relocation of back-office functions to a dedicated operations center. Relocating back-office functions shifts the cost structure by reducing the share of administrative personnel costs while maintaining or increasing operational capacity. As a result, the model directly affects the cost of logistics services by optimizing process resource allocation [5; 13].

The second level relates to process efficiency, achieved through the organization of a continuous operational cycle. Distributed operations reduce the duration of logistics processes, minimize idle time, and increase order processing speed, allowing productivity to grow without a proportional increase in costs [1; 8].

The digital integration of processes drives the third level. CRM/TMS as a unified information environment eliminates information gaps between units, reduces errors, and enhances operational transparency. As a result, indirect costs associated with misalignment and function duplication are reduced [18; 22].

The overall economic outcome is assessed using indicators such as return on investment (ROI), payback period, and total economic effect. The model does not require substantial capital investment; its implementation relies primarily on organizational changes and the adoption of digital tools, ensuring rapid payback [22].

The economic effect emerges not from a single factor but from the combined impact of cost reduction, process acceleration, digitalization, and structural specialization. This combination enables a sustained improvement in logistics performance and strengthens competitive advantage [8].

The practical relevance of this approach was tested using data from TAD LLC, a Ukrainian company specializing in international heavy haul

transportation. The model was applied in the context of the company's entry into the U.S. market, using financial and economic modeling to assess changes in key performance indicators under the new organizational configuration.

The assessment included implementing a "Broker + Compliance Carrier Authority" format, optimizing the distribution of functions between front-office and back-office operations, and using digital tools to coordinate logistics processes. Evaluation was conducted using metrics such as investment volume, operating cash flow, payback period, and return on investment.

The results of the model application allow for the assessment of its expected financial impact within a specific operational launch configuration, rather than its abstract potential. The key calculation results are summarized in Table 1.

Table 1. Economic efficiency assessment of the model (based on the application results for TAD LLC)

Indicator	Value	Comment
Initial investment (I_0)	\$99,200 – \$178,300	Establishment of the operational base and compliance with U.S. market requirements
Average operating margin (monthly)	\$5,000 – \$12,000	Depends on utilization level and market segment
Margin, conservative scenario	\$6,000 – \$8,000	Minimum baseline estimate for market entry
Margin, realistic scenario	\$8,000 – \$12,000	Base scenario after reaching stable operations
Annual cash flow (CF)	\$72,000 – \$96,000	Calculated under the conservative scenario (\$6,000–\$8,000/month); under the realistic scenario, CF reaches \$96,000–\$144,000
Payback period (PP)	14 – 24 months	Depends on the pace of scaling
ROI (over 2 years)	120% – 180%	Investment is doubled within the period

Source: developed by the authors based on financial and economic modeling of TAD LLC's entry into the U.S. market.

The annual cash flow was calculated under a conservative scenario, with an initial monthly margin of \$6,000–\$8,000. Under a realistic scenario, reflecting stable operational performance after reaching full utilization, annual cash flow amounts to \$96,000–\$144,000, reducing the payback period to the lower bound of the estimated range.

The results confirm that the model generates economic value through the combined effects of three mechanisms: cost optimization, accelerated operational cycles, and digital coordination of processes. Even under the conservative scenario, the model provides an economically viable market-entry configuration, with a reasonable payback period and an ROI of 120–180%, indicating that profits in the first two years exceed the initial investment by more than twofold.

The results of the application require interpretation in light of several limitations, including the regulatory complexity of the U.S. market, the pace of customer base growth, variability in brokerage margins, and the quality of coordination between the front and back offices. These factors do not undermine the economic viability of the model but influence the timing of achieving the projected outcomes. With appropriate organizational preparation and a phased scaling of operations, the model maintains its economic feasibility and scalability potential.

The application using data from TAD LLC confirms that the Dual Operating Logistics Model represents an economically grounded and practically applicable approach to the internationalization of logistics businesses in a high-cost, compliance-intensive U.S. market environment.

Conclusions. The article develops the Dual Operating Logistics Model, a conceptual organizational and operational framework for the internationalization of a logistics company in the U.S. market. The model is based on the distribution of functions between geographically separated centers (front office in the United States and back office in Ukraine), integrated through a unified digital management infrastructure (CRM/TMS). The model contributes to the development of internationalization theory by extending traditional frameworks toward operational architecture design.

The model differs from classical internationalization approaches - Uppsala, OLI, and entry modes - by focusing not only on the form of market presence but also on the company's internal operational architecture

after entry. Unlike outsourcing models, which involve transferring functions to external providers, the proposed approach establishes an integrated dual-layer system in which geographic distribution is embedded within a unified operational logic. The digital layer performs a system-forming role, integrating all flows into a single coordinated framework.

The application using TAD LLC data confirms the model's economic viability. The return on investment over two years reaches 120–180%, with a payback period of 14–24 months, which remains acceptable even under a conservative scenario. The model is particularly relevant for small and medium-sized companies entering highly regulated markets with high operating costs and limited resources to establish a fully localized infrastructure.

Future research should focus on adapting the model to other geographic configurations, particularly in the EU and Canada, as well as on developing quantitative methods to assess the effectiveness of digital integration in distributed logistics systems. An additional direction is to examine how operational scaling affects model parameters across different regulatory environments.

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