

Assessing Port Logistics Performance and Determinants of Competitiveness: Evidence from the Port of Tangier Med

Ossama AOUANE, (PhD in management sciences)

*Laboratory for Marketing and Strategic Analysis of Organisations (LAMSO)
National School of Commerce and Management – Casablanca
Hassan II University – Casablanca, Morocco.*

Nadir EL BOUBKARI, (Full Professor)

*Department of Economics and Management
Multidisciplinary Faculty – Nador
Mohammed I University, Oujda, Morocco.*

Salim GHOUACH, (PhD Student)

*Laboratory for Interdisciplinary Studies and Research on Territory, Entrepreneurship and
Business Law
Multidisciplinary Faculty – Nador
Mohammed I University, Oujda, Morocco.*

Abdelilah CHAHID, (PhD in Computer sciences)

*Laboratory for Modelling and Simulation of Intelligent Industrial Systems
ENSET, Mohammedia
Hassan II University, Casablanca, Morocco*

Adresse de correspondance :	ENCG Casablanca Laboratoire de Recherche Prospective en Finance et Gestion Université Hassan II, Casablanca, Maroc (+212) 5 22 66 08 52
Déclaration de divulgation :	Les auteurs n'ont pas connaissance de quelconque financement qui pourrait affecter l'objectivité de cette étude. Ils assument l'entière responsabilité de tout éventuel plagiat, de l'usage de l'intelligence artificielle dans la rédaction, ainsi que des résultats présentés dans cet article.
Conflit d'intérêts :	Les auteurs ne signalent aucun conflit d'intérêts.
Citer cet article	AOUANE, O., EL BOUBKARI, N., GHOUACH, S., & CHAHID, A. (2026). Assessing Port Logistics Performance and Determinants of Competitiveness: Evidence from the Port of Tangier Med . <i>International Journal of Accounting, Finance, Auditing, Management and Economics</i> , 7(9), 754–767. https://doi.org/10.5281/zenodo.22070245
Licence	Cet article est publié en open Access sous licence CC BY-NC-ND

International Journal of Accounting, Finance, Auditing, Management and Economics - IJAFAME

ISSN: 2658-8455

Volume 7, Issue 09 (2026)

Assessing Port Logistics Performance and Determinants of Competitiveness: Evidence from the Port of Tangier Med

Abstract:

In today's competitive environment where the structure of supply chains are changing quickly, ports have become critical in the facilitation of global trade and thus, to remain competitive, must improve their logistical capabilities and integrate into global supply chains. As part of this objective, this study analyzes the relationship between SCM practices and logistics performance at the Port of Tangier Med. This paper also identifies the organizational, technological and cooperative factors that are associated with the logistics performance of the port and its level of competitiveness.

To achieve these objectives, the authors of this study used a methodological approach based on a mixed methodology. The first phase was an exploratory qualitative one and included the realization of interviews with the different stakeholders of the port. The second phase was quantitative and descriptive and consisted of a survey conducted between April and July 2026 among 188 companies that operate in the port's ecosystem. The mixed methodology allowed identifying and describing the most important SCM practices linked to the coordination and integration of the network of the actors involved in the operation of the port. The results of this study indicate that the logistics performance of the port is closely associated with the level of integration and coordination among the different stakeholders; supported by the use of ICT; the development of collaborative practices; and the existence of a good strategic plan. These elements are associated with improved operational flows and, consequently, with port competitiveness. The results of the study lead to several practical recommendations for the port managers and the policy makers, notably: strengthening the inter-organisations cooperation; investing in the human capital; accelerating the digital transformation; all these elements relevant to supporting the sustainable performance of the port studied.

Keywords: Port operations -Supply Chain Management-logistics performance-collaboration- ICT- strategic partnerships.

Classification JEL : L2, L25.

Paper type: Empirical Research

1.Introduction:

The world today is experiencing great uncertainty in its economy and competition, which is causing an enormous shift in the way countries do business through international trade. Logistics includes any activity related to transporting, storing and distributing goods whether they be land-based or maritime. Its goal is to make sure that goods are available when needed, where they are needed, and at the least expense possible. In this context, maritime logistics plays a strategic role in world trade, due to its ability to provide a low-cost method of international exchange for goods.

As logistics has become increasingly important as a competitive tool for businesses to reduce their operating expenses while increasing their response time to meet customer demands; supply chain management has been instrumental in making logistics more efficient by improving the flow of goods and increasing the coordination of those providing goods and services along the logistics supply chain.

Port plays a primordial role in the Maritime logistics and global Supply Chains with facilitating the movement of goods between maritime and terrestrial transport networks. Port's have historically been seen as nothing more than a provider of physical infrastructure to facilitate the movement of cargo from ship to shore. However, ports today are being asked to develop and implement integrated logistics strategies and internally optimise their operational efficiencies to increase their overall performance. Therefore, evaluating port performance requires a much broader scope than simply examining a port's physical infrastructure, but also including metrics such as the level of coordination with stakeholders and the extent to which the port has adopted digital technology.

This issue is particularly relevant to the Port of Tangier Med, which has become a major maritime and logistics Hub in the mediterranean and contributes significantly to international trade. In 2025 the Port of Tangier Med complex handled 11.106.164 Twenty-foot Equivalent unit, constituting an 8.4% increase compared with 2024 (Tanger Med Port Authority, 2026) while track traffic amounted to 535.200 units. These figures underscore the scale and continued growth of the port's activity, making it a relevant empirical context for examining the link between Supply Chain Management practices and logistics performance.

Therefore, it is imperative to understand the relationship between SCM practices and port performance specifically in terms of coordination of stakeholders and adoption of digital technologies. Accordingly, this study investigate the link between SCM and practices and logistics Performance at the Tangier Med Port focusing notably on stakeholder integration, coordination and the adoption of digital technologies. This study further explore the key technological, organizational and cooperative factors associated with port logistics performance and competitiveness. By exploring these dimensions, this research contributes to the growing literature on port-centric logistics in emerging economies. It provides empirical evidence on how modern digital tools, like Port Community Systems, streamline high-volume trade. Furthermore, the study highlights the challenges of aligning public and private stakeholders under one logistical goal, offering vital lessons for other transshipment hubs. From a managerial standpoint, these insights assist operators in optimising resource allocation while bridging the gap between SCM theory and the practical realities of sustaining regional port competitiveness. The paper is structured into four sections: Literature review, methodology, results and discussion, and finally, the conclusion.

2. Revue de littérature :

2.1 Research Problem and Question:

This study examines the Supply Chain Management (SCM) practices and logistics performance of the Port of Tangier Med. It seeks to answer the following main research question:

How are the Supply Chain Management (SCM) practices and logistics performance related in the port of Tangier Med, based on descriptive analysis of survey data?

Based on the central question above, the three sub-questions that have been identified include:

1. What role does data analysis play in identifying the attributes of stakeholders operating in the port logistics network?
2. How can the characteristics of firms, such as their structure and organisation, be described in relation to their perceptions of logistics service performance?
3. How may the results from these studies assist in determining the appropriate indicators for each dimension of port performance?

The study follows a structured format consisting of four parts. The first part will cover the theoretical model and literature survey; the second will describe the research methodology employed; the third will analyze the findings and discuss them; and the fourth part will provide an overall summary of the conclusions and potential areas of further research.

2.2 Conceptual Framework and Literature Review:

Ports are complex logistical "hubs" where a variety of different players such as Port Authorities, Shipping Agents, Logistics Providers, Carriers, and Shippers come together (Fredouet & Le Mestre, 2005). For ports to run efficiently, these various stakeholders need to work in a collaborative manner. This has been the case for many years with respect to the implementation of the National Port Strategy in Morocco. While the country has made significant progress in terms of improving the efficiency of its ports there remains a challenge with regards to engaging all of the stakeholders involved in a continuous process of improvement on a consistent basis. This research study examines the degree to which enhanced coordination between the various stakeholders and the implementation of collaborative supply chain management (SCM) strategies are associated with the enhancement of overall port logistics performance (Mattessich et al., 2001). Furthermore, this study will explore how the use of emerging technology - specifically Information Communication Technology (ICT) - can be used to enable and facilitate better collaboration and integration among stakeholders at the port level.

3. Methodology

The two phases of this research design are both interrelated and also supplementary. First, there is an exploratory (qualitative) phase of SCM practice identification through semi-structured interviews to identify what the most prevalent SCM practices currently in use by ports are as well as the most critical factors that influence port performance. Second, there is a quantitative and descriptive phase where survey data are used to describe the characteristics of the stakeholders, SCM practices, and perceptions of port logistics performance.

The primary focus of the analysis is on two key aspects of the port logistics chain: (1) the level of collaboration among all parties in the chain, and (2) the effectiveness of the coordination tools employed to improve the overall performance of the chain.

3.1 Conceptual Model and Research Hypotheses

This study draws upon the SCM framework developed by Stadtler and Kilger (2000), which emphasises two fundamental pillars:

Network Integration

This refers to the strategic alignment and collaboration among port stakeholders, including partner selection, relationship management, and the coordination of inter-organizational operations. (Anisser, 2016; Cambon, 1994; Henesey, 2006; Heaver et al., 2001). Panayides and Song (2008) further highlight the importance of SCM integration for enhancing the performance of seaport container terminals.

Coordination

In addition to the application of advanced planning systems and process optimization methods, it is also necessary to apply the use of ICT in order to facilitate the synchronization of processes among the various organizations involved throughout the entire supply chain (Cambon, 1994; Chellaoui & Lahmouchi, 2019; El Bakkouri, 2021; Henesey, 2006; Chen, Yang, & Li, 2007; Taylor, 1911).

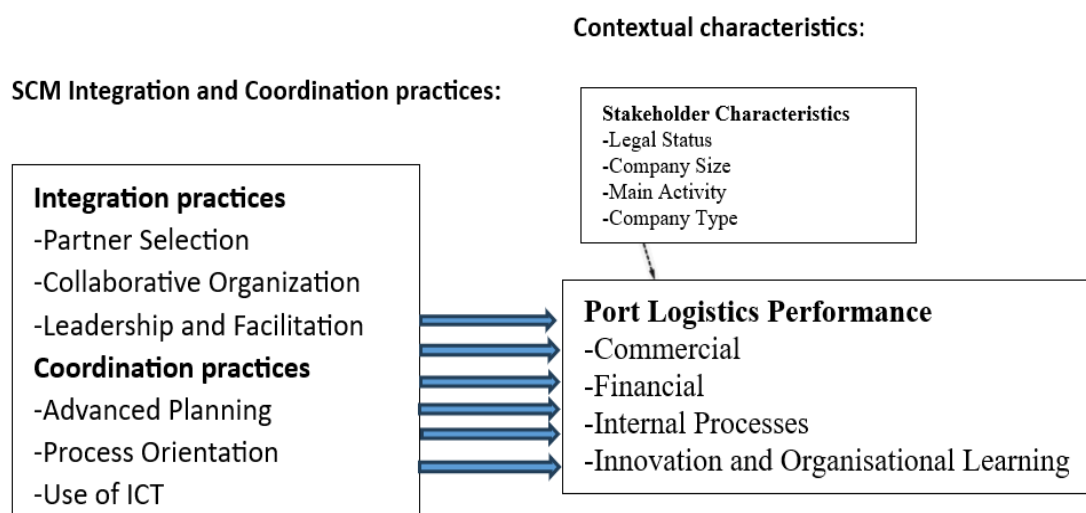
The present study uses the SCM-framework developed by Stadtler and Kilger (2000) as its theoretical basis; this framework is characterized by two main pillars. Supply Chain Management emphasises the integration of purchasing, logistics, and interorganisational activities (Cooper & Ellram, 1993).

Port Performance: A Multidimensional Concept

The port performance has multiple dimensions of evaluation which can be examined from the perspective of different related factors (Ha & Yang, 2017): Bichou & Gray (2004), similarly emphasis the importance of a logistics and SCM perspective in assessing port performance.

- Commercial dimension: This includes commercial performance including customer satisfaction, competitiveness, service delivery performance (Dohou-Renaud & Berlan, 2007; Grand & Rousseau, 2000; Salgado, 2013).
- Financial dimension: This includes financial performance such as profitability, cost control, financial well-being (Saulquin & Schier (2007).
- Dimension of innovation and learning: This examines the capacity of the port for the creation of new ideas or the capacity to evolve according to changes in its environment (Kaplan & Norton, 1996).
- Dimension of internal processes: This examines the port's internal operational functioning,

Fig. 1. Conceptual framework of SCM integration and coordination practices and port logistics performance



Source: Authors' elaboration

flow of logistics, optimization of operations (ASLOG, 2019; Supply Chain Council, 2010). In this study, these dimensions are applied to the multi stakeholders port to provide a broader perspective on port logistics performance.

The above-mentioned dimensions are represented schematically in the conceptual model of port logistics chain performance (see Figure 1).

The conceptual model outlines the links examined between Supply Chain Management integration and coordination practices and the various dimensions of port logistics performance.

3.2 Empirical Methodology: Data Collection and Analysis

This section outlines the methodology used during the empirical phase, including technical details of the quantitative study, such as the research objectives, survey design, sampling approach, and data analysis strategy.

3.2.1 Study Objectives

The core objective of this research is to examine the relationship between SCM practices and logistics performance at the Port of Tangier Med. In other words, this study will seek to:

- Identify key characteristics of all the stakeholders in a port's logistics supply chain, as Determined from data collected.
- Determine how firm-specific characteristics relate to the way organisations perceive logistics performance and practice it.
- Identify which are the most important measures for determining performance within each dimension.
- Develop a conceptual model that relates SCM practices to measurable outputs in terms of port performance.

3.2.2 Sampling Framework

This study investigates the Port of Tangier Med, that is seen as a key inter-modal hub in the Moroccan ports network. The research is focused on four firm type categories: (1) port operators' firms, (2) shipping company firms, (3) shipping agency firms, and (4) freight forwarders firms. All four firm type categories have responsibility for two distinct roles/functions; each firm type category acts as a client of the port and contributes directly to the operational efficiency of the port logistics system. A Total of 406 stakeholders have been identified for this research through the use of both document-based research methods and direct contact with persons representing the sector.

3.2.3 Sample Profile

A total of 188 firms were sampled from this population based on two primary selection criteria:

- The use of a logistics performance measurement system by the firm.
- The effective implementation of Supply Chain Management (SCM) practices in the firm.

By employing a purposeful sampling method, we could ensure that all participants directly addressed logistics performance issues. The sample of 188 firms accounts for approximately 46,3% of the identified population of 406 stakeholders. However, given the exploratory and descriptive nature of this study, as well as the constraints in accessing the different categories of stakeholders within the port ecosystem, purposeful sampling was adopted to target actors directly involved in SCM practices and logistics performance. This non-probabilistic sampling approach may involve potential representativeness biases, and the results should be interpreted as exploratory and descriptive findings rather than as estimates generalisable to the entire population. In future research, a probabilistic sampling approach, particularly stratified sampling by stakeholder category, could be adopted to enhance the representativeness of the sample.

4. Results and Discussion:

4.1 Descriptive Analysis of the Sample

This section reports on the descriptive data collected through the survey. This section identifies and describes the distribution and variation of key categorical variables as well as offers an overview of the respondents' profiles.

4.1.1 Company Profiles

Survey data was obtained for 188 firms active at the Port of Tangier Med between April and July 2026. The sample includes key descriptive data about the sector of activity, legal status, work force size, turnover, and age of each firm.

4.1.2 Sector of Activity

Of the surveyed firms, 48.9% are freight forwarders or brokers; 30.9% are shipping agents; and 19.1% are terminal operators. Notable is the fact that 64% of these firms also provide complementary services as they seek to diversify their activities to maintain competitiveness. This diversity of stakeholders is consistent with the literature, which describes ports as complex logistical hubs involving different actors whose coordination and collaboration are essential to the functioning of the port logistics system (Cambon, 1994; Henesey, 2006).

Table 1: Distribution of companies by sector of activity

Type of Company	Percentage (%)
Freight Forwarders - Brokers	48.9%
Shipping Agents	30.9%
Terminal Operators	19.1%

Source : Authors' elaboration

4.1.3 Workforce Size

Company size varies widely: 26.6% have fewer than 3 employees, 15.4% have 4 to 10, 43.1% have 11 to 50, 13.8% have 51 to 100, and only 1.1% exceed 100 employees. This reflects the diversity of organizational scales among port stakeholders.

Table 2: Workforce distribution by company

Number of Employees	Number of Companies	Frequency
Between 1 and 3 employees	50	26.6%
Between 4 and 10 employees	29	15.4%
Between 11 and 50 employees	81	43.1%
Between 51 and 100 employees	26	13.8%
More than 100 employees	2	1.1%
TOTAL	188	100%

Source : Authors' elaboration

4.1.4 Annual Turnover

The annual turnover of the companies surveyed for the 2025 financial year was broken down as follows: 37.2% reported less than 3 million MAD, 48.9% between 3 and 10 million MAD, and 13.8% between 11 and 175 million MAD.

Table 3: Turnover classification of respondent companies

Turnover	Percentage (%)
Less than 3M DH	37.2%
3M to 10M DH	48.9%
11M to 175M DH	13.8%

Source : Authors' elaboration

4.1.5 Company Age

The surveyed firms show varying levels of operational maturity: 37.2% are less than 5 years old, 33.0% have been operating for 5 to 10 years, and 29.8% for more than 10 years, indicating a strong presence of relatively young companies within the Tangier Med port ecosystem.

Table 4: Age distribution of respondent firms

Company Age	Number of Companies	Frequency (%)
Less than five years	70	37.2%
Between five and ten years	62	33.0%
More than ten years	56	29.8%
TOTAL	188	100%

Source : Authors' elaboration

4.2. Descriptive Analysis of Supply Chain Management Practices

4.2.1 Integration Practices

Vertical Integration Strategy: Survey results indicate that: 56.39% of companies reported integrating new activities through collaboration with external partners, while 43.61% preferred internal integration strategies. This finding is consistent with the literature on network integration, which emphasises collaboration and coordination among port stakeholders as important elements of inter organisational integration (Anisser, 2016; Cambon, 1994; Hensey 2006).

Table 5: Strategies of vertical integration

Vertical Integration Strategy	Percentage (%)
Integration of new activities through collaboration	56.39%
Internal integration	43.61%

Source : Authors' elaboration

Strategic Partnership and Performance

In terms of how important it is to select the right strategic partners in order to enhance your organization's logistics performance, the survey results were as follows: 28.2% of participants (or respondents) indicated that they completely agree; 25.0% of participants indicated that they somewhat agree; 26.1% of participants indicated that they somewhat disagree; and 20.7% of participants (or respondents) indicated that they completely disagree. These results illustrate a variety of strategic orientations within the various stakeholder groups for ports. This finding is consistent with previous research emphasising the importance of inter organisational relationships and coordination among supply chain stakeholders (Cambon, 1994; Hanesey, 2006).

Table 6: Achieving better performance by choosing strategic partners.

Agreement Level	Number of Companies	Frequency (%)
Strongly disagree	39	20.7%
Somewhat disagree	49	26.1%
Somewhat agree	47	25.0%
Strongly agree	53	28.2%
TOTAL	188	100%

Source : Authors' elaboration

Information Sharing

The results regarding this dimension are detailed in Table 7. The respondents had stronger views when asked to provide their opinions in regards to the use of information exchanged by stakeholders to enhance the performance of an organisation. Fifty percent (50%) of the respondents stated they agree with the idea that the exchange of information would positively

affect the performance of an organization; twenty-three point four percent (23.4%) of the respondents agreed somewhat with this notion; and a relatively small percentage of respondents indicated some form of disagreement with this statement. This finding is consistent with the literature emphasising the role of information sharing and ICT in facilitating coordination among supply chain stakeholders (Cambon, 1994; Chellaoui & Lahmouchi, 2019; El bakkouri, 2021; Henesey 2006).

Table 7: Importance of information sharing in logistics coordination

Statement	Number of Companies	Frequency
Strongly Disagree	20	10.6%
Disagree	30	16%
Agree	44	23.4%
Strongly Agree	94	50.0%
TOTAL	188	100%

Source : Authors' elaboration

Customer Relationships

Concerning this second dimension, the findings are illustrated in Table 8. When asked whether or not they believe maintaining close client relationships is important for the success of a company, twenty-seven point seven percent (27.7%) of the respondents strongly agreed with this concept; another twenty-seven point seven percent (27.7%) of the respondents agreed somewhat with this idea; twenty point seven percent (20.7%) of the respondents indicated some degree of disagreement with this concept; and twenty-three point nine percent (23.9%) of the respondents strongly disagreed with this idea; indicating that there was a significant division among the respondents as to the strategic importance **of managing customer relationships**.

Table 8: Close relationships between supply chain actors and their customers

Statement	Number of Companies	Frequency
Strongly Disagree	45	23.9%
Disagree	39	20.7%
Agree	52	27.7%
Strongly Agree	52	27.7%
TOTAL	188	100%

Source : Authors' elaboration

4.2.2 Coordination component

Table 9. Coordination using advanced planning tools

Statement	Number of Companies	Frequency
Strongly Disagree	38	20 %
Disagree	36	19 %
Agree	48	26%
Strongly Agree	66	35 %
TOTAL	188	100%

Source: Authors' elaboration

On the coordination of supply chain activities using advanced planning tools, 35 % strongly agreed, 26 % agreed, 19 % disagreed, and 20 % strongly disagreed, indicating a moderate and uneven level of digital maturity among respondents.

ICT for Coordination

Regarding the use of ICT for supply chain coordination, 48.9% strongly agreed on its importance, 22.7% agreed, while 17.2% disagreed and 11.2% strongly disagreed, reflecting broad recognition of ICT as an important facilitator of collaboration and efficiency. This finding

is consistent with the literature emphasising the role of ICT in facilitating coordination among supply chain stakeholders (Cambon, 1994; Chellaoui & Lahmouchi, 2019; El bakkouri, 2021; Henesey 2006).

Table 10: ICT adoption for coordination among stakeholders

Statement	Number of Companies	Frequency
Strongly Disagree	21	11.2%
Disagree	32	17 %
Agree	43	22.8%
Strongly Agree	92	49 %
TOTAL	188	100%

Source : Authors' elaboration

Training and Skill Development

Opinions on the role of training and professional development in enhancing coordination were divided: 29.3% agreed, 21.8% strongly agreed, while 21.8% disagreed and 27.1% strongly disagreed. This disparity may reflect differences in investment capacity or organizational culture among firms

Table 11: Perceived value of training in coordination

Statement	Number of Companies	Frequency
Strongly Disagree	51	27.1%
Disagree	41	21.8%
Agree	55	29.3%
Strongly Agree	41	21.8%
TOTAL	188	100%

Source : Authors' elaboration

Process Orientation

Finally, regarding process-based coordination:

- 22.50 % strongly agreed with its importance.
- 26 % strongly disagreed

Table 12: Role of process orientation in improving coordination

Statement	Number of Companies	Frequency
Strongly Disagree	49	26 %
Disagree	42	22.50 %
Agree	55	29 %
Strongly Agree	42	22.50 %
TOTAL	188	100 %

Source : Authors' elaboration

Concerning H1 and H2, the descriptive results show patterns generally in line with the proposed hypotheses; nevertheless, these hypotheses cannot be rejected or confirmed given that no inferential statistical tests were conducted.

4.3 Performance Indicators Analysis

4.3.1 Commercial Performance

Commercial performance indicators highlight a variety of indicators for the commercial success of ports; among them are: waiting time at docks before unloading, as well as the number of shipping lines that are connected to the port, the diversity of the port's maritime trade, transportation and warehousing costs, the level of satisfaction with the customer, and a wide variety of additional services for both cargo and vessel traffic. These are seen as critical to the attraction of customers and long-term viability of the port by its stakeholders. These findings

are consistent with previous research on commercial port Performance (Grand & Rousseau, 2000; Salgado, 2013).

Table 13: Evaluation of commercial performance

Criterion	Important (%)	Not Important (%)
Traffic Diversity	92.6	7.4
Number of Ships Docking	93.6	6.4
Number of Operators Represented in the Port	95.2	4.8
Waiting Time Before Docking	94.7	5.3
Number of Shipping Lines Connected to the Port	94.1	5.9
Customer Satisfaction Rate	93.6	6.4
Range of Services for Cargo and Ships	88.8	11.2
Rail / Truck / Storage Costs	89.4	10.6
Docking, Piloting, Tugging Costs	86.7	13.3
Connectivity / Operability with Rail / Truck	97.3	2.7
Port Authorities' Responsiveness to Special Requests	97.9	2.1
Choice of Rail / Truck / Warehouse Companies	81.9	18.1
Provision of Adequate and Timely Information	91.5	8.5
Duration of Container Immobilization per Day	85.6	14.4
Accuracy of Ship / Container Positions	97.3	2.7

Source : Authors' elaboration

4.3.2 Financial Performance

Descriptive results on financial performance indicate that stakeholders place high importance on total traffic volume, handling revenue per TEU, berth occupancy revenue, financial equilibrium of both port authorities and operators, and labor-related costs. These factors reflect the overall economic health and operational efficiency of the port. These findings are consistent with previous research on financial performance (Saulquin & Schier, 2007).

Table 14: Financial performance assessment

Criterion	Important (%)	Not Important (%)
Total Traffic Volume	85.1	14.9
Financial Balance of the Stakeholders	86.2	13.8
Financial Balance of the Port Authority	2.7	97.3
Total Amount of Investments Made	6.4	93.6
Revenue from Docking Occupancy per TEU	92.6	7.4
Cargo Handling Revenue per TEU	99.5	0.5
Labor Expenses	95.2	4.8
Capital Expenditures per Ton of Freight	4.8	95.2

Source : Authors' elaboration

4.3.3 Innovation and Organisational Learning

Table 15: Innovation and organizational learning performance

Criterion	Important (%)	Not Important (%)
Management Training Rate	85.6	14.4
Number of Social Conflicts	2.7	97.3
Management of Social Conflicts	14.9	85.1
Training Costs / Employees	86.2	13.8
Management Rate (Percentage of Senior Managers / Total Employees)	2.7	97.3
Working Conditions	93.6	6.4
Turnover Percentage	52.7	47.3

Source : Authors' elaboration

Innovation and learning capacity are increasingly seen as key drivers of performance, with the most relevant indicators being the rate of executive training, training expenditure per employee,

and working conditions. In contrast, factors like management structure ratios and the frequency of social conflict are viewed as less influential. These findings are consistent with Kaplan and Norton (1996), who emphasise innovation and organisational learning as dimensions of performance.

4.3.4 Internal Process Performance

Surveyed firms highlighted key indicators of internal logistics process performance, including the quality of port infrastructure, efficiency of customs procedures, safety standards, equipment management, and customs clearance lead times. These factors are seen as crucial for streamlining operations and ensuring fluidity across the port logistics chain. These findings are consistent with previous research on internal Processes and operational performance (ASLOG, 2019; Supply Chain Council, 2010).

Table 16: Evaluation of internal logistics processes

Criterion	Important (%)	Not Important (%)
Quality of Port Infrastructure	96.3	3.7
Customs Procedures Burden	93.1	6.9
Security / Safety	96.3	3.7
Proportion of Customs Declarations Cleared in Less than 7 Days	54	46
Percentage of Files Released with Simple Documentary Control	3.8	96.2
Container Dwell Time for Physically Inspected Containers	92.6	7.4
Equipment Management	93.6	6.4

Source : Authors' elaboration

5. Conclusion

This paper evaluates the performance of the logistics of the Port of Tangier Med through empirical study of 188 logistics providers; as such, it finds many important aspects for both the overall competitiveness of the port and effective operation of the port.

The results emphasise the importance of stakeholder integration and coordination through all of the supply chain of the port; however, the results also show the improvement of the above aspects by the use of information communication technologies (ICT) and the development of cooperative practices and the introduction of new partners through the strategic planning process.

The findings also emphasise, the importance attributed to key performance indicators, notably the number of ships docking, the number of operators represented in the port and traffic diversity.

Strategic planning and investment in employee training and human capital together with improved coordination will increase the efficiency of port logistics and subsequently provide a significant contribution to the commercial viability, financial stability and innovative capacity of the port. In this context, the descriptive result are broadly consistent with the proposed H1 and H2; nevertheless, these hypotheses cannot be confirmed statistically or rejected, given that no inferential statistical tests were conducted.

As such, this research identifies how the nature of port logistics is changing in Morocco and provides practical recommendations on how to improve the performance of the Port of Tangier Med and other Moroccan national ports; accordingly, the most suitable method to obtain sustainable competitive advantage in the maritime logistics sector is to develop inter-organisation cooperation and utilize modern technology. However, the findings ought to be interpreted as descriptive and exploratory, given the use of purposive non-probability sampling and the descriptive nature of the analysis. Future study could therefore use probabilistic

sampling, particularly stratified sampling, along with appropriate inferential statistical methods to further examine and validate these results.

References :

- (1). Anisser, N. (2016). *Contribution à l'analyse de la compétitivité du port à conteneur : Cas du port Tanger Med* (Thèse de doctorat en sciences de gestion, Université Abdelmalek Assaâdi, Faculté des Sciences Juridiques, Économiques et Sociales de Tanger).
- (2). ASLOG. (2019). Panorama des acteurs de la logistique, du transport et de la supply chain. <https://supplychain-village.com/wp-content/uploads/2019/06/ASLOG-Panorama-desacteurs-2019.pdf>
- (3). Bichou, K., & Gray, R. (2004). A logistics and supply chain management approach to port performance measurement. *Maritime Policy & Management*, 31(1), 47–67.
- (4). Cambon, J. (1994, décembre). Politique portuaire et développement. *Journal de la Marine Marchande*.
- (5). Chellaoui, E., & Lahmouchi, M. (2019). *Management de la chaine logistique du commerce international* (1re éd.). Rabat Net.
- (6). Chen, M. C., Yang, T., & Li, H. C. (2007). Evaluating the supply chain performance of IT-based interenterprise collaboration. *Information & Management*, 44, 524–534.
- (7). Cooper, M. C., & Ellram, L. M. (1993). Characteristics of supply chain management and the implications for purchasing and logistics strategy. *International Journal of Logistics Management*, 4(2), 13-24.
- (8). Dohou-Renaud, A., & Berland, N. (2007). *Mesure de la performance globale des entreprises*. 28e Congrès de l'Association Francophone de Comptabilité (AFC), Poitiers.
- (9). El Bakkouri, A. (2021). Revue de littérature du concept « Performance logistique » : Un essai de synthèse. *European Scientific Journal*, 17(23), 210-228.
- (10). Fredouet, C. H., & Le Mestre, P. (2005). La construction d'un outil de mesure de la performance des réseaux inter-organisationnels : Une étude des réseaux d'acteurs portuaires. *Finance Contrôle Stratégie*, 8(4), 5–32.
- (11). Grand, P., & Rousseau, P. (2000). *Les nouvelles approches de la gestion des organisations*. Economica.
- (12). Ha, M.-H., & Yang, Z. (2017). Comparative analysis of port performance indicators: Independency and interdependency. *Transportation Research Part A: Policy and Practice*, 103, 264–278.
- (13). Heaven, T., Meersman, H., & van de Voorde, E. (2001). Cooperation and competition in international container transport: Strategies for ports. *Maritime Policy & Management*, 28(3), 293–305.
- (14). Henesey (2006). *Multi-agent systems for container terminal management*. (Doctoral dissertation, Blekinge Institute of Technology).
- (15). Kaplan, R. S., & Norton, D. P. (1996). *The balanced scorecard: Translating strategy into action*. Harvard Business School Press.
- (16). Mattessich, P. W., Murray-Close, M., & Monsey, B. R. (2001). *Collaboration: What Makes It Work* (2nd ed.). Amherst H. Wilder Foundation.
- (17). Panayides, P. M., & Song, D.-W. (2008). Evaluating the integration of seaport container terminals in supply chains. *International Journal of Physical Distribution & Logistics Management*, 38(7), 562–584.
- (18). Salgado, M. (2013). *La performance : Une dimension fondamentale pour l'évaluation des entreprises et des organisations*. HAL.

- (19). Saulquin, J.-Y., & Schier, G. (2007). Responsabilité sociale des entreprises et performance : complémentarité ou substituabilité ? *La Revue des Sciences de Gestion*, 223, 57–65. <https://doi.org/10.3917/rsg.223.0057>
- (20). Stadtler, H., & Kilger, C. (2000). *Supply chain management and advanced planning: Concepts, models, software and case studies*. Springer.
- (21). Supply Chain Council. (2010). *Supply chain operations reference-model (SCOR®): Version 10.0*.
- (22). Tanger Med Port Authority. (2026). *Port activity report in 2025*. Tanger Med.
- (23). Taylor, F. W. (1911). *La direction scientifique des entreprises*. Bibliothèque Marabout.