



**Arab Academy**

for Science , Technology and Maritime Transport



“Towards Smart Green Blue Infrastructure”

The International Maritime Transport  
and Logistics Conference

**“MARLOG 13”**

# **The Role of Applying Advanced Cargo Information System on Improving the Performance of Alexandria Port**

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## Introduction


Advance Cargo Information (ACI) system is a system utilized in the maritime transportation and logistic sectors to facilitate cargo delivery procedures and enhance the quality of services provided.

This is achieved through pre-registration procedures, where the type, quantity of cargo, customs procedures, necessary inspections, as well as the mode of transportation and final destination are specified.

ACI system considered beneficial for all parties involved in maritime transportation and logistics, particularly importers, exporters, shipping companies, agents, and ports.



**A significant challenge has been faces the incomplete adoption of ACI system in Alexandria port, as customs continued using the old manual declaration process alongside the new system.**



# Main steps of ACI system



Importer makes registration on website



Exporter upload documents and add ACID number



Importer get his electronic signature



Exporter reviews documents electronically



Data goes to the risk management system to prevent any possible security threat



Cargo arrives to port



Importer upload documents and get his ACID number



Cargo left the port

# Literature Review, Research Gap and Contribution

## Previous studies

Previous studies focused on illustrating the importance of technology and aspects related to information systems and their use in ports to enhance their efficiency.

## Research Gap

No previous studies has analyzed the impact of implementing the different dimensions of the ACI system on the performance of Alexandria port.

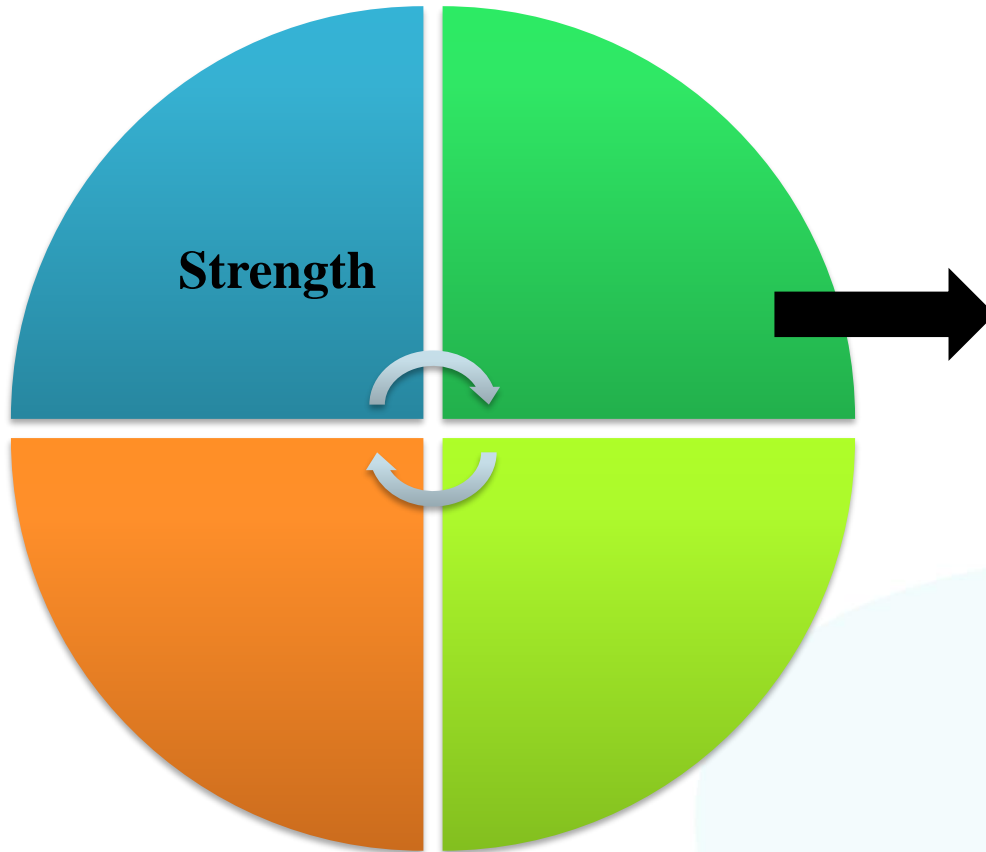
## Contribution

Contribution shows in assess the impact of the implementation of ACI system on the performance of Alexandria port; using SWOT analysis.

In addition, conducting questionnaire to assess the effectiveness of the ACI system in Alexandria port.



# SWOT Analysis



- ❖ ACI saves time, cost and effort required for managing documents.
- ❖ ACI enhances public security and safety.
- ❖ ACI enables direct communication between suppliers and relevant government authorities





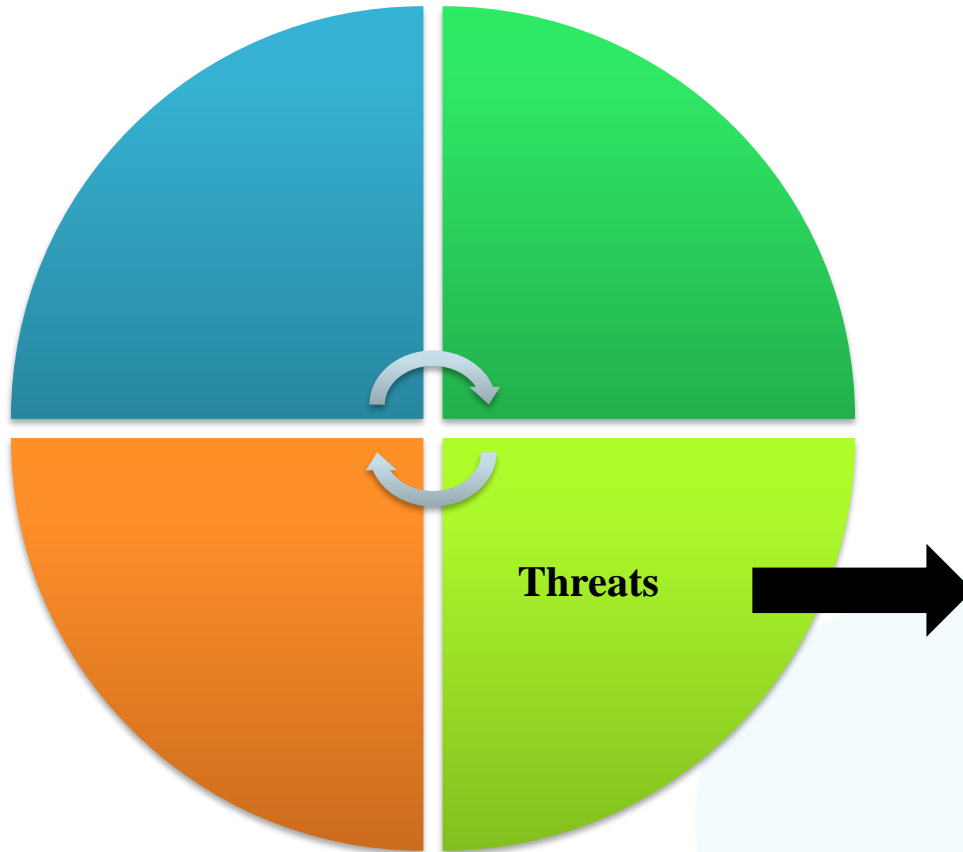
# SWOT Analysis



- ❖ Incomplete Adoption of ACI, leads to inefficiencies and errors.
- ❖ Outdated technological infrastructure.
- ❖ Difficulties in integrating the ACI system with other existing systems in Alexandria port.



## SWOT Analysis



- ❖ The pre-registration system for shipments may result in delays in customs procedures, inspection, and clearance, causing delays in delivering goods to importers, which can affect the reputation of importers and Alexandria port.
- ❖ The difficulties that faces importers when dealing with customs authority.



# SWOT Analysis

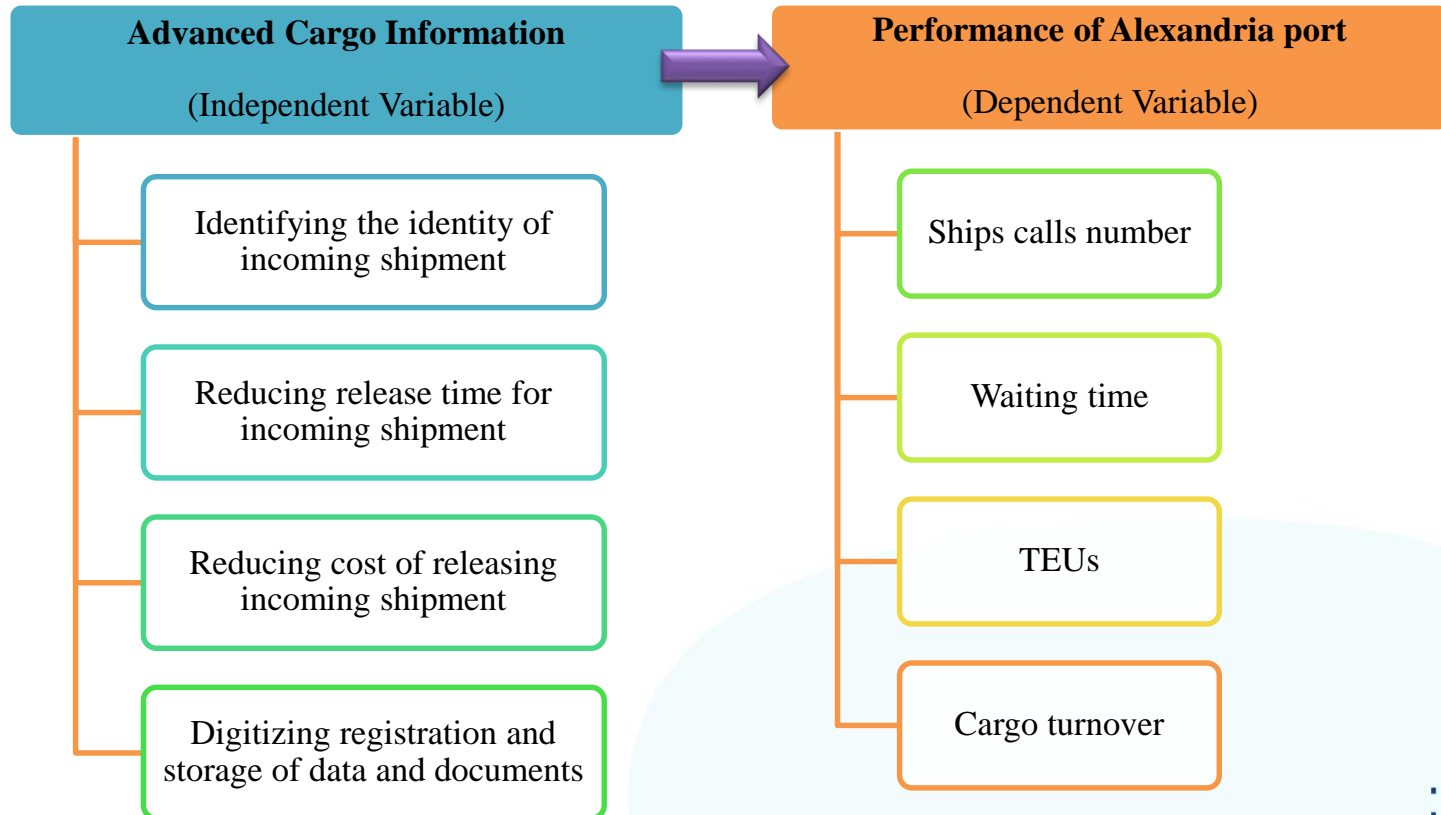


- ❖ Enhancing operation efficiency, accuracy inspection and clearance.
- ❖ Reduce waiting times; increasing ships calls number and TEUs.
- ❖ Enhancing transparency in Alexandria port.
- ❖ Increasing Alexandria port profit.





# Research Variables



					والتطور المستدام في عدد السفن وحركة البضائع وخفض وقت الانتظار	
					يعتبر معدل حركة تداول البضائع بالميناء من مؤشرات الاداء المؤسسي المرتفع في الموانئ البحرية	5

خالص الشكر والتقدير على اهتمامكم بإبداء الرأي ..

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# Empirical Analysis

Variable		Reliability	Stability (reliability)
ACI system	Identifying the identity of incoming shipment	0.73	0.85
	Reducing release time for incoming shipment	0.82	0.91
	Reducing cost of releasing incoming shipment	0.88	0.94
	Digitizing registration and storage of data and documents	0.74	0.86
Alexandria port Performance	Ships calls number	0.77	0.88
	Waiting time	0.89	0.94
	TEUs	0.70	0.83
	Cargo turnover	0.87	0.93

- It's often desired for both validity and reliability coefficients to be at least **0.7** or higher.
- In this research, a validity and reliability coefficient **greater than 0.7**; which means that the measure is reasonably reliable and valid.

# Recommendations



Area of development	Objectives	Duration
Alexandria Port	Training courses for employees.	1 year
	Developing an automated notification system and enhancing electronic payment services.	
	Developing information security and protection programs.	
Ministry of Transportation	Enhancing communication between ports, relevant government and private entities.	From 1 to 5 years
	Enhancing cooperation with government entities and relevant organizations.	
	Developing port's infrastructure and expanding its capacity.	
	Applying multimodal transport system.	
	Enhancing international cooperation with global ports.	
Ministry of Finance	Establish legislation and laws to promote and facilitate trade between importers and exporters.	1 to 2 years
	Enact legislation and laws related to the implementation of the concept of pre-registration of shipments for all types of imported cargo.	
	Create laws related to the development of infrastructure to fully implement the concept of digital transformation of the Egyptian ports.	



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**Thank You**

