

# Cargo Risk Management in International Transport and Logistics

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## 1.0 INTRODUCTION.

Cargo risk management is the identification, analysis and control of risk associated with cargo within transportation service, Logistics or supply chain network. The impact of a cargo loss in today's competitive business environment extends far beyond the amount that may be recoverable through an insurance claim. Effective and proactive cargo risk management therefore contributes significantly to a business's efficiency, reputation and results.

Knowledge and understanding of the multiple exposures experienced by cargo throughout the transit chain is converted into effective practical measures to reduce exposure to risk and to positively mitigate the occurrence of negative impact on International Transport and Logistics.

The risk management process is as much about analysis, co-ordination and culture as it is about practical surveys and fact finding. An effective risk management programme is both pro-active and interactive and depends upon successful development of teamwork, shared goals and accountability and a modern approach to the sharing of experience and knowledge.

Cargo risk management is a dynamic process that evolves with the changing needs and circumstances of the business, and continuously improves both risk exposure and risk awareness.

Traditional cargo risk exposures typically relate to

- an ocean voyage and the associated perils;
- poor handling;
- inadequate packing;
- Inadequate stowage;
- heavy weather;
- pilferage and
- non-delivery.

These exposures still exist today but have been overshadowed by modern cargo risk factors such as the steady escalation of commercial crime and the de-skilling or automation of many cargo handling functions.

The potential business impact of suffering a loss in today's volatile risk environment is intensified by the growing demands of the global consumer market and modern trade concepts such as "**just in time**".

Whilst the conventional insurance policy provides the necessary financial security to protect the balance sheet, there is an equally important commercial need to prevent loss and protect trade relationships.

Alongside the traditional association and interaction with insurance, the practical management of cargo and transportation risks is becoming a key component of **Corporate Governance** guidelines on risk management, and growing state legislation designed to protect the global supply chain from the threat of negative uncertainties are continuously evolving.

## 2.0 CARGO RISK MANAGEMENT PROCESS IN TRANSPORT AND LOGISTICS.

As earlier said, the risk management process is as much about analysis, co-ordination and culture as it is about practical surveys and investigation. Successful delivery and outcome is achieved by working with clients, their partners and other stakeholders to develop and implement business-impacting risk management programmes.

The key objective is to encourage, assist and work with clients to:

- Identify, analyse and improve the 'nature' of cargo risk.
- Create a new level of awareness and control.
- Develop and implement effective preventative strategies.
- Deliver tangible improvements / measurable results.
- Expand awareness and proven successful actions through the transit chain.
- Retain, share and utilise knowledge and experience
- Take ownership and control of the risk management process.

### 3.0 INSTITUTIONAL PLAYERS IN INTERNATIONAL CARGO RISK MANAGEMENT.



Transportation  
Security  
Administration

Operation Safe Commerce.



Customs-Trade Partnership Against Terrorism



Container Security Initiative



Maritime Transportation Security Act  
International Ship and Port Facility Security (ISPS) Code



- Maritime Transportation Anti-Terrorism Act 2002
- Customs-Trade Partnership Against Terrorism (C-TPAT)
- Container Security Initiative (CSI)
- Operation Safe Commerce (OSC)
- International Ship & Port Facility Security Code (ISPS)

### 4.0 OPERATIONAL STIPULATIONS FOR INTERNATIONAL CARGO RISK MANAGEMENT.

The bases of every cargo risk management adventure are to safeguard the integrity and value of cargo from the beginning of the transaction process for procurement to packing, handling, transportation through to delivery. These practical stages of cargo risk management include:

- Transaction processing
- Packing
- Handling
- Transportation
- Transport Security
- Storage
- Customs process
- Inland Transportation
- Delivery and
- Service credibility.

#### 4.1 PACKING RISK MANAGEMENT.

The quality, integral strength and overall robustness of packing is a primary risk factor for all goods being transported as cargo. Lack of commitment to the packing design process and inherent inefficiencies in the construction of packing units can lead to serial damages to cargo in transit and the potential of additional costs involved in redesign or other remedial actions.

##### 4.11 Risk management strategy in Cargo Packing:

- . Establish cost effective and fit-for-purpose packaging approach
- . Ensure suitable packaging medium (type & strength) in relation to product

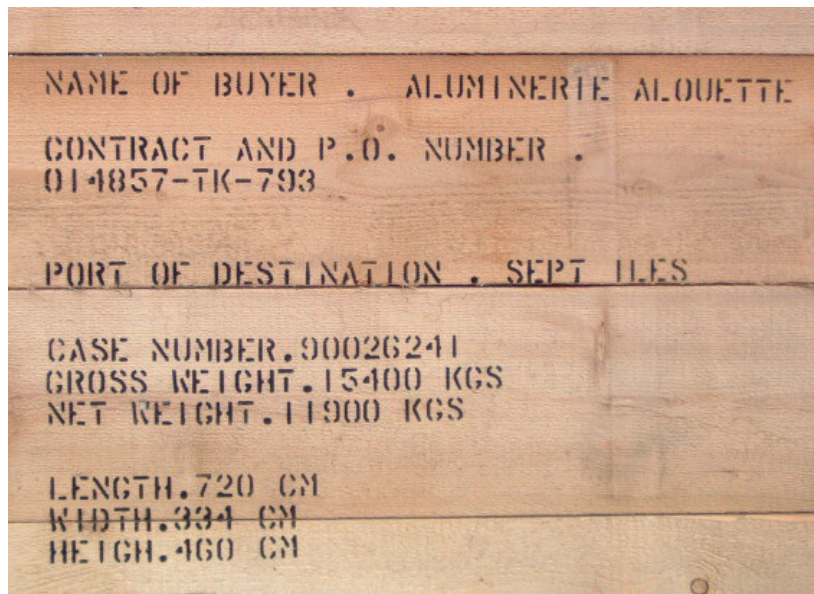
- . Establish appropriate sizing dimensions for effective unitisation
- . Evaluate impact of brand marking of shipping documents
- . Validate expertise, experience and track record of packing designers and manufacturers
- . Ensure appropriate packaging to withstand known or expected transit conditions



Well designed packaging can be rendered ineffective due to improper or careless assembly techniques and procedures. Poorly managed and monitored packing assembly, stuffing and closing processes can lead to inefficiency in the production line, an increase in unaccountable or inventory losses and an increase in the susceptibility of the goods to encounter even the most minor form of in-transit disturbances



Marks and numbers are intended to categorically identify a cargo throughout the transportation process. Inappropriate or poor marking can lead to shipments being badly handled, mis-routed or lost and can also alert cargo thieves to the contents of particular packages.



Standard marks needed on cargo parcels.



Typical markings and labelling.

Interruption to the packing supply chain process or the presence of anomalies/ faults in the chain, create operational pressures that can lead to the implementation of incorrect packing procedures. The efficient functioning of the packing supply chain and associated maintenance of quality and timescale requirements are integral to the delivery of an effective cargo risk management strategy.

## 4.2 SUPPLY CHAIN RISK MANAGEMENT.

Complete vigilance and management of risk in supply chain is today one of the most costly form of risk management. Because of the uniqueness and complexity of international supply chains, this usually emanates from industrial input-output flow and merchandise deliveries. Supply chain risks are necessarily aligned to all cargo vulnerabilities inherent in-between import processing and the consignment delivery/receivership network.

### 4.21 Risk management strategy in a Supply Chain Process

- Evaluate effectiveness of goods inward packing provided by raw material suppliers
- Review reception, integration and consolidation of pre-packed components
- Establish efficient integration between production line processes and packing activities
- Review post production consolidation processes for fully packed goods
- Establish effective contingency plans for packing resource failure (labour & materials)
- Consider packaging recycling options in line with corporate or legal requirements





Possible occurrences with poor packaging.

#### 4.3 RISK OF NON COMPLIANCE WITH REGULATIONS.

Correct identification of and compliance with all regulatory packing controls that apply to cargo during the intended transit is essential to avoid unnecessary delays and deviations, and the possibility of confiscation. Detention of goods in transit, not only causes delay but also may expose cargo to unplanned and potentially unsuitable handling and temporary storage conditions.

##### 4.31 Risk management strategy for compliance to regulations

- Identify restrictive legislation relating to packaging in transitional & destination countries and ensure compliance
- Ensure that packaging materials meet the legal requirements of the destination country
- Consider max / min parameters (weight & dimension) for key modes of transport
- Ensure adherence to international transportation requirements for hazardous cargoes
- Establish effective methodology for disposal of spent inbound packing materials

The movement of dangerous or hazardous substances frequently calls for highly specialized transport operations, special packing, marking & labeling. Failure to comply with stringent regulations affecting documentation and stowage can lead to very severe penalties and endanger the safety of ships, aircraft, passengers & crew.

Before the movement of any dangerous substance the shipper is responsible for:

Commodity Identification	Accurate description of the article or substance – not trade or brand names
Consultation	With core reference manuals for the particular mode transport i.e. IMDG, IATA, CFR 49, etc
Classification	Through allocation of the appropriate Class number and UN number.

Compliance with regulations covering packing, marking, labeling and Completion of the appropriate Dangerous Goods Declaration.

The carriage of dangerous goods is a highly specialized subject and detailed advice must be sought where appropriate

#### 4.4 RISK ASSOCIATED WITH HANDLING / STEVEDORE SERVICES

The manual handling of cargo continues to be common practise throughout the transportation process. Many manufactured and consumer goods are at least handled manually or mechanically by stevedores at the beginning and end of the transit chain. Stevedores are responsible for ensuring that cargoes are handled safely and for maintaining security of information - particularly for high value shipments



The Forklift: most common unitized cargo handler.



Automated stuffing and unstuffing equipment.





Heavy cargo handling.

#### 4.5 UNITIZED CARGO HANDLING RISKS.

Due to their easy and rapid manipulation, palletized cargoes are often subjected to high-speed mechanical handling and the associated impact of sudden acceleration and deceleration in both the vertical and horizontal axis. The global variance in quality of mechanised handling equipment (normally fork-lift trucks) and competency of operators, exposes palletized cargoes to numerous physical contacts during the normal transportation process.

##### 4.51 Risk management strategy for Unitized Cargo Handling

- Ensure pallet quality (materials & construction) meets operational requirements
- Establish effective selection procedure for correct pallet type
- Review pallet sourcing strategy - cost, quality & availability
- Ensure selection of correct pallet size for maximisation of cargo space with reference to mode(s) of transportation
- Establish effective methods of cargo consolidation to pallet



Not too perfect stowage

The most common method of ocean transit, around 7 million containers transited the US annually, ocean containers, in their various forms offer convenient benefits such as standardization and intermodal capabilities. Knowledge of dynamic forces affecting any particular mode of transport will allow shippers to anticipate cargo movement and plan securing arrangements.

## **5.0 ESSENCE OF PROPER CARGO DOCUMENTATION IN TRANSPORTATION AND LOGISTICS.**

Documentation and the information that it contains represent very real security considerations for all shipments of consumer goods and particularly for high value consignments. As the flow of electronic information increases, the need for enhanced awareness should be considered as carefully as the demand for increased operational efficiency.

### **5.11 Risk management strategy for Cargo Documentation**

- Analyse the information chain to validate access control and security procedures
- Establish secure and efficient authority and approval levels for key documentation
- Review document processes, office of issue and method of issuance
- Review existing document authentication methods
- Identify secure and acceptable cargo descriptions for use on all documentation

Avoid surplus documentation and unnecessary multiple access to information

## **6.0 TRANSPORTATION SECURITY – TRANSIT STORAGE**

At many times before, after and during transit, goods and commodities maybe stored (or staged) for lengthy periods. Due consideration should be directed towards the safety and security arrangements at these numerous storage depots and sites.

### **6.11 Risk management strategy for Cargo security on transit**

- Evaluate location, environment and hazards
- Establish availability of local support services such as fire and police protection at storage points.
- Review, analyse and validate external physical and procedural controls
- Review, analyse and validate internal physical and procedural controls
- Ensure adequate access controls

## **7.0 CARGO SECURITY PERSONEL.**

A transportation security and asset protection program may be adversely affected by exclusive decision making processes such as, poor communication, lack of employee awareness, and internal management conflicts. People involved in cargo security are key in every respect.

### **7.1 Risk management strategy for Cargo security personnel**

- Formalize procedures, plans, accountabilities, contingencies and budgets.
- Seek management capture and executive support
- Promote interdependencies through shared responsibilities and procedure manuals
- Encourage employee participation through skill enhancement and training
- Conduct compliance monitoring and auditing.

## **8.0 TRANSIT SECURITY RISK MANAGEMENT.**

The process of transporting cargo from the point of origin to destination can be a complex procedure involving, multiple modes of transport, staging areas, warehouse and port facilities, and national jurisdictions. Cargo in transit is exposed to risk through, improper handling, misplaced routing, theft and physical damage. While the efficiency of the supply chain has improved considerably, transit security requires improvement.

### **8.1 Risk management strategy for Cargo on Transit**

- Develop minimum security standards for cargo trucks.
- Develop minimum security procedures and pre-alert systems for high value goods
- Develop written plans to cover contingencies such as breakdown and hijacking.
- Agree minimum security standards and SOP's with subcontractors.
- Monitor compliance.

## **9.0 DISCUSSION.**

The focus of the analytical discussion on this subject was centred on identified risks and crimes that poses challenges to cargo risk management in Nigerian sea-borne cargo freight, handling and delivery.

### **9.1 CHALLENGES OF NIGERIA'S CARGO RISK MANAGEMENT.**

Cargo crime in Nigeria generally take the following formats.

- Theft, pilferage and non-delivery;
- Falsification of cargo documents;
- Concealment of non-manifest cargo;



- Under declaration of cargo values;
- Hi-jacking of entire loads;
- Theft by deception OR
- Organised and opportunistic theft.

### 9.2 The negative impact of Cargo crime.

#### **Financial impact**

- Interruption to cash flow
- Loss of market
- Loss of sales
- Potential increase in insurance premium
- Increased administrative costs

#### **Operational impact**

- Interruption to supply chain
- Damage to reputation (with customers and within the industry)
- Tension in relationships with customers and suppliers
- Staff frustration and loss of morale
- Loss of brand image

### 9.3 Cargo crime – current trends and facts

- Accurate records on cargo theft are almost impossible to find.
- Current industry and specialist observer estimates place the loss through cargo theft at between \$25 billion and \$120 billion a year
- 85% of all merchandise business security losses are attributed to the loss of product in transit.
- Between 80% and 85% of cargo thefts involve insider information.
- The high profit potential of high-tech cargo thefts is attracting more sophisticated international criminals.

## 10.0 **CONCLUSION.**

The trend in cargo risk management and cargo crime control is still evolutionary just like the causative factors for International Transport Cargo Risks continue to change by the day. Greater majority of risks are traceable to Bills of Lading transactions, Packing/consolidation of Cargo, Freight agreements, Cargo handling and storage security, customs documentation and clearance/release processes and the process of Cargo Delivery at the end of freight. Overall and particularly in the Nigerian scenario, International Transport Cargo Risks stems largely from

- Import/export processing and documentation faults;
- Quality and legality of import/export merchandise;
- Choice of freight service provider;
- Handling and storage of cargo at the ports;
- Documentation, examination and settlement of dues, duties, tariffs and applicable port charges on cargo;
- Skill and competence of local personnel and Authorities marshalling cargo services.

## 11.0 **RECOMMENDATIONS.**

Some important measures that could contain these Cargo Risk factors are:

- The use of Smart technology based on cargo tracking will eventually start to have a more measurable impact on certain types of cargo crime.
- Police forces around the world will be increasingly challenged to find time and resources to tackle cargo crime.
- The international drive to improve protection of the supply chain against the threat of global terrorism will improve measures to curb cargo crime risks.
- Increased collaboration between state security forces will improve international criminal intelligence and facilitate quicker action.
- Commitment (of money and resources), corporate culture and a programme of continued security diligence will remain the most effective deterrent.
- Legislation of enforceable laws against cargo crimes and fraud.

Finally the changing shape of risk management will require every hand to be on deck to tackle the vulnerability of international transport cargo by reappraising our sense of **Responsibility:**

#### **Through-**

- insurer or insured
- change of driving force

- Impact of legislation
- **Improve our Competence:**
- **Through**
  - technical capability
  - experience
  - network and communication
- **Appropriate the Cost of risk management:**
- **through**
  - Who should pay?
  - cost control
  - tangibility and
  - Specifying what is the benchmark?
- **Initiate Future evolution:**
- **through**
  - technical training & resourcing,
  - practical IT solutions,
  - competitive cooperation,
  - multi-line approach and so on.

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