

**A STUDY EFFECTIVENESS OF CONTAINERIZATION WITH REFERENCE
TO DP WORLD, KOCHI.**

By

AKASH VICTOR

A dissertation submitted to Indian Maritime University in partial fulfillment of the
requirement for the award of the degree of
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DECLARATION

I, AKASH VICTOR (1905305006) student of School of Maritime Management, Indian Maritime University- Kochi Campus hereby declares that this project report titled A STUDY ON EFFECTIVENESS OF CONTAINERIZATION WITH REFERENCE TO DP WORLD, KOCHI submitted in partial fulfillment of the requirement for MASTERS OF BUSINESS ADMINISTRATION (International Transport and Logistics Management) is my original work carried under the guidance of my project guide. The information submitted is true and original to the best of my knowledge.

Place: KOCHI

Student's name: AKASH

VICTOR Signature:

Date:29th June.

Supervised by:

Dr. Sreejith U

Designation: Assistant
Professor, School of
Maritime
Management, Indian
Maritime University,
Kochi Campus.

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CHAPTER 1

INTRODUCTION (RESEARCH METHODOLOGY)

INTRODUCTION

TITLE OF THE STUDY

A study on the “effectiveness of containerisation” with special reference to DP World, Vallarpadam.

INTRODUCTION

Containerisation is the method or technique of distributing goods in unitized form to establish a system of intermodal transportation using containers. Their handling system is completely mechanized. It's simply the process of distributing and deploying goods in a portable and predictable way. Containers also called shipping containers and ISO containers are made of weathering steel and have standard dimensions. They can be loaded, stacked, transported efficiently over long distances, and transferred from one mode to another mode without being opened.

The system, developed after World War II, dramatically reduced the cost of transport, supported the post war boom in international trade, and was a major element in globalization. Containerization did away with the manual sorting of most shipments and the need for warehousing. It displaced many thousands of dockworkers who formerly handled break bulk cargo. Containerization also reduced congestion in ports, significantly shortened shipping time and reduced losses from damage and theft. Before containerization, goods were usually handled manually as break bulk cargo. Containerization has its origins in early coal mining regions in England beginning in the late 18th century.

ISO Standard for containers:

- Five common standard length: 20-ft, 40-ft, 45-ft, 48-ft and 53-ft
- Capacity is expressed in TEU – Twenty-feet Equivalent Unit
- Height is not considered for expression
- Maximum gross mass for 20ft is 24000 kgs and for 40ft is 30480 kgs.

STATEMENT OF THE PROBLEM

The main aim of this project is to study the effectiveness of Containerisation with special reference to DP World, Vallarpadam. Logistics organizations have found out that containerization has an immensely important role in reducing the cost, time and increases the efficiency of trade. It also plays an important role in globalization. Here in this study we are discussing about the strategies used in the containerization undertaken by the company, the process of containerization and how the customers analyze the company based on their experience.

SCOPE OF THE STUDY

The study which is carried out during the month of November 2018, at DP World, Vallarpadam, mainly focuses on the containerisation process of the company. It helps to understand and get a clear picture of the process of containerisation undertaken in the company, its importance and overall effectiveness. And as well as to know about the different types of containers used in DP World and identify the security measures taken to ensure the safety of the containers. The study covers the entire population of employees of the organization.

SIGNIFICANCE OF THE STUDY

Containerization is the process of distributing and deploying applications in a portable and predictable way. In simple words, it's a system of intermodal freight transport using containers made of weathering steel that can be loaded on container ships, railroad cars/trains and trucks and transported efficiently over a long distance. Their handling system is completely mechanized. All containers are numbered and tracked using computerized systems. To examine the major role played by containerization in the company in transportation of cargo in containers with standardized handling equipment's, and without rehandling the contents. This study will help the organization to improve their performance in containerisation as well as the customers will get a better understanding of the

containerisation process. And a researcher will be able to study various concepts and new terminologies implemented in the industry.

OBJECTIVES OF THE STUDY

GENERAL OBJECTIVE

To study the effectiveness of Containerization with special reference to DP World, Vallarpadam

SPECIFIC OBJECTIVES

- To study the process of containerization in DP World.
- To identify the different types of containers used in DP World.
- To analyse the safety measures implemented in containerization in DP World.

RESEARCH METHODOLOGY

The research design used in this study is Descriptive in nature.

METHODS OF DATA COLLECTION

➤ **PRIMARY DATA**

- Questionnaire
- Personal interview
- Observation

➤ **SECONDARY DATA**

- Published books
- Journals
- Articles
- Online sources.

SAMPLING DESIGN

POPULATION

The population for this study is the total number of employees of the company which is 320.

SAMPLE SIZE

Sample size of this study is 60.

SAMPLE TECHNIQUE

Convenience sampling technique is adopted.

TOOLS USED FOR DATA COLLECTION

- Questionnaire
- Interview

STATISTICAL TOOLS FOR DATA ANALYSIS

- Tables

STATISTICAL TOOLS FOR DATA PRESENTATION

- Pie charts

LIMITATION OF THE STUDY

- The study is limited to DP World, Vallarpadam.
- Sample size may not represent the whole employee population.
- Difficult to meet employees during their duty time.

CHAPTER 2

**INDUSTRIAL
&
COMPANY PROFILE**

INDUSTRY PROFILE

LOGISTICS INDUSTRY

Logistics is the process of planning, implementing, and controlling the efficient, effective flow and storage of goods, services, and related information from point of origin to point of consumption for the purpose of conforming to customer requirements. Logistics function includes planning, procurement, transportation, supply and maintenance. The resources managed in logistics can include physical items, such as food, materials, animals, equipment and liquids, as well as abstract items, such as time, information, particles, and energy. The logistics of physical items usually involves the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing and often security.

According to the Council of Logistics Management, logistics includes the integrated planning, control, realization, and monitoring of all internal and network-wide material, part, and product flow, including the necessary information flow , industrial and trading companies along the complete value-added chain (and product life cycle) for the purpose of conforming to customer requirements. The persons doing logistics are called logisticians. He is a professional logistics practitioner. One can either work in a pure logistics company , such as in a shipping line, airport, or freight forwarder or within the logistics department of a company .However as mentioned above , logistics is a broad field encompassing procurement, production, distribution and disposal activities. A new trend in the industry is the fourth party logistics (4PL), firms, consulting companies offering logistics services.

The services performed by logisticians in this industry are:

- Procurement logistics
- Distribution logistics
- After- sale logistics
- Disposal logistics
- Reverse logistics
- Green logistics

- Global logistics
- Domestic logistics
- Concierges logistics
- Reliability ,Availability and Maintainability (RAM) logistics
- Asset control logistics
- Point of sale (POS) material logistics
- Emergency logistics
- Production logistics

ELEMENTS OF LOGISTICS SYSTEM

- Nature of product
- Location of manufacturing plant.
- Availability of infrastructure facilities
- Availability of different mode of transportation
- Dealer/distributor network
- Government policy

MODES OF TRANSPORTATION

- Air
- Water
- Rail
- Road
- Pipeline

The sector plays a pivotal role in any nation's development by ensuring seamless movement of goods across the country and internationally in a cost-efficient manner, thereby enhancing a nation's global competitiveness. The domestic sector is currently in a transformation phase with game-changing trends like implementation of GST, increasing focus by foreign investors across the logistics value chain, growing demand for end-to-end solution providers and emergence of new avenues such as e-commerce, logistics parks, cold chains and new start-ups. The Government's¹³ thrust towards building multi-modal transportation infrastructure is also likely to have a significant influence on the

logistics industry over the longer-term. The logistics industry in India is likely to grow at a rate of 9-10% over the medium-term, supported by underlying structural positives, as per an ICRA note. While the key driving factor on the demand side would be the economic recovery, the trend towards outsourcing of non-core activities like logistics, warehousing and associated activities to integrated players is likely to drive the share of the organized segment.

Logistics is regarded as the backbone of the economy, providing efficient and cost effective flow of goods on which other commercial sectors depend. Logistic industry in India is evolving rapidly, it is the interplay of infrastructure, technology and new types of service providers, which defines whether the logistic industry is able to help its customers reduce their costs in logistic sector and provide effective services. Despite of the weak economic sentiments, the logistics industry continues to witness growth due to the growth in retail, e-commerce and manufacturing sectors. The Global Logistics sector was expected to grow 10-15% in the period 2013-14. Logistics industry is expected to reach over USD 2 billion by 2019. Rise of e-commerce logistics and increased domestic consumption will lead the way for the industry in the coming years. With a promise of growth and improvements, the service oriented logistics industry is ready to expand beyond the horizons in the latter half of this decade.

RECENT SENERIO

The recent Indian logistics sector comprises of inbound and outbound segments of the manufacturing and service supply chains. Of late, the logistics infrastructure has gained a lot of attention both from business industry as well as policy makers. The role of managing this infrastructure, to effectively compete has been slightly under-emphasized. Inadequate logistics infrastructure has an effect of creating bottlenecks in the growth of an economy. The logistics management regimen has the capability of overcoming the disadvantages of the infrastructure in the short run while providing cutting edge competitiveness in the long term. There exist several challenges and opportunities for logistics sector in the Indian economy.

CHALLENGES FACED BY THE RECENT LOGISTICS INDUSTRY IN INDIA

The most essential challenge faced by the industry today is insufficient integration of transport networks, information technology and warehousing & distribution facilities. Regulations exist at a number of different tiers, is imposed by national, regional and local authorities. However, the regulations differ from city to city, hindering the creation of national networks. Trained Manpower is essential for both the third party logistics sector as well as the manufacturing and retailing sectors, which is very weak at a practical level, i.e., IT, driving and warehouse as well as at a higher strategic level. The disorganized nature of the logistics sector in India, its perception as a manpower-heavy industry and lack of adequate training institutions has led to a shortfall in skilled management and client service personnel. There is a lack of IT standard, equipment and poor systems integration. Poor facilities and management are the reason for high levels of loss, damage and deterioration of stock, mainly in the perishables sector. Part of the problem is insufficient specialist equipment, i.e. proper refrigerated storage and containers, but it is also partly down to lack of training. The practitioners and the academicians are now aware of the importance of logistics and supply chain; however, the field is still under penetrated as far as research is concerned. It is essential to prioritize research and development so that the weaknesses in the industry can be taken care of and improved.

SOLUTIONS TO SOME OF THE CHALLENGES

Infrastructure is the backbone of every country's growth and prosperity and for the logistics, industry to flourish special emphasis has to be on building world-class road networks, integrated rail corridors, modern cargo facilities at airports and creation of logistics parks which need to be given a status equivalent to Special Economic Zones. It is necessary to realize that the benefits which can be bestly be practiced in logistics industry can be brought about by the companies by establishing training intuitions, so that there is improvement in the overall service quality of the sector. Good storage and Warehousing facilities are important for the growth of the logistics industry.

SHIPPING INDUSTRY

NATURE AND HISTORY OF SHIPPING

Commercial shipping probably began in the Mediterranean Sea where the merchants of Phoenicia owned ships and traded widely. Ancient Greece and the Roman Empire adopted many of their practices. Later, in the Middle Ages, the merchants of Venice carried on and further refined these practices. Even today, commercial shipping practices associated with marine insurance and the carriage of goods can still be traced to those early roots. From the 15th to the 18th centuries, deep-sea shipping was closely linked to colonial trade especially that of the Spanish Empire, the Portuguese Empire, the Dutch Empire, and the British Empire, and to the growth of the great enterprises like the Hudson's Bay Company and the East India Companies.

During the 19th century and until the middle of the 20th century, most of the world's merchant fleet operated under the British Flag or the Flag of one of the long established maritime nations like Norway, France, Germany, and Japan. Shipping truly throughout the world have a unilateral rules and regulations in Sea traffic, Port entry clearance, which was derived and developed by the British during their rule across the globe. However cargo movement restrictions vary from country to country depending upon their culture, Domestic Trade and their Government Policy.

NATURE OF SHIPPING INDUSTRY

Shipping is a mode of transport through sea for cargo as well as passenger transport around 90% of the international cargo transport is being done through sea. Shipping industry, Export, and Import are inter dependent. A country where Export and Import are flourishing, there the shipping business also be very active. Compared to air traffic, Sea traffic is safe and economical.

Apart from Cargo Transport, many of the European countries use passenger vessels, for human transport as it is economical compared to the Air Transport and it develops the Tourism in such countries.

INDIAN SHIPPING

The Indian shipping tonnage has developed fairly after independence. India now has a shipping fleet of 6 million gross register tonnages (GRT).

The Indian shipping industry is classified into two categories, like coastal shipping and overseas shipping. Indian shipping is a very long history and has its roots from the early centuries. There are 45 trade routes that emanated from the Indian continent. During the time of independence the British vessels dominate the coastal scene. So, the government of India declared a "Coal Reservation Policy" in 1950 in reference to coastal trade. Soon, the Indian ship owners formed, " Indian coastal Conference" in 1951. This agreement tried to regulate the business through various measures. But still, there were problems like under rating, rebated and other malpractices continued. However, by 1953, Shares of British shipping were reduced to nil. Indian shipping grew in quantum leaps. But the problems faced by the industry are very complex and complicated due to various reasons like increase in operational costs, railways penetrating the market, etc. Regarding, the overseas shipping, after 1850 Indian shipping industry began to deteriorate due to various reasons. By the end of the century it was practically nil. The British Government was keen on nursing its own interests and never made any attempts to retrieve the Indian industry.

In 1912 the Scandia steam Navigation Company was incorporated. It launched the first modern overseas services from Bombay to U.K. Later various companies, both from private and public sector came into existence. With the evaluation of new Government policies after independence, the shipping trade began to grow rapidly. Indian Government also signed various trade agreements for the benefit of the Indian shipping industry, like Indo- UAR, Indo-USSR, India - Romania Bulgaria and Indian polish. Shipping conference administer their own freight rates through their own tariffs. This is unlike the transporting sector where freight rates are determined through the market force of supply and demand, The administered freight rates are which member liner of conference caters to the requirements of shipper have often been a bone of contention between shippers and the concerned conference. As India's foreign trade become

modernized. The freight making policies of these shipping conferences also become much more complicated.

In most cases, the actual carriers of the Shipping lines never touch the Indian port. Instead, reaches the Colombo port the transshipment port for this port of Asia. The cargo from various Indian ports is transported to the Colombo port, Through the shuttle service operating between these ports and the Colombo port. From there, the cargo is transshipped to various destinations. This is done in order to reduce the time and cost involved in carrier touching all the ports in the same ports in the same region. The shuttle service will be more or less a regular one and it is known as the 'Feeder Service' and the actual carrier is known as the 'Mother Vessel

COMPANY PROFILE

BACKGROUND AND HISTORY

DP WORLD was formed in September 2005 with the integration of the terminal operations of the Dubai port of Rashid and Jebel Ali , and DP (Dubai Port International) Which had been set up to export these success. When it was first establish in 1999, DPI had initially applied its expertise to managing ports in the Middle East, India and Europe. It was first project was at Jeddah Islamic port (1999), where it collaborated with its local partner on the management and operations of south container terminal (SCT). In 2003 SCT was first terminal in kingdom of Saudi Arabia to exceed 1 million TEU (twenty foot equivalent container units) and volume in 2004 exceeded 1.3 million TEU. DPI then went on to develop successful operation at the port of Djibouti (2000) , VIZAG, INDIA 2000 and Constanta, Romania (2003).

In February 2005 , DP WORLD signed and agreement with the Cochin port trust (Copt) to construct , develop and operate and an international container transshipment terminal at Vallarpadam ,Kochi India International Container Transshipment Terminal (ICTT), is the first transshipment terminal in India and ATE in the first container Terminal to operate in a SEZ. DP WORLD set up a state – of-the art container terminal in Cochin to cater to the growing container trade in India. DP WORLD is the global leader of container terminal operations and has the large investment in ports along the Indian Coastline DP WORLD has developed ICTT , on a built operator and operator (BOT) agreement with the Cochin Port Trust(Copt) for a period of 30 years .

In March 2005, DP WORLD was awarded a 30 year concession to develop and operate the container terminal at the port of Fujairah, in the UAE. In November 2005 we also announced agreements to develop new container terminals at YARIMCA, TURKEY and QINGDAO, CHINA. DP world also has interest in logistics businesses in Hong Kong and China, notably ATL, the market leading logistics operator based at Kwan Chung, Hong Kong.They took another giant leap forward with the acquisition of P&O in March 2006, expanding our portfolio of terminals and adding P&O maritime services

to the group the combined container through put of both companies for 2005 was more than 35 million TEU across terminals from Americans to Asians. This grew to nearly 42 million TEU in 2006.this acquisition also brought with it and exciting pipeline of projects.

In 2012, DP world handled more than 56 million TEU(twenty foot equivalent container units)across its portfolio from the Americas to Asia with the pipeline of the expansion and development projects in key markets , including India , Africa, Europe and the middle east, capacity is expected to rise around 103 million TEU by 2020,in line with the market demand. The DP World run VALLARPADAM INTERNATIONAL CONTAINER TRANSSHIPMENT TERMINAL (ICTT) is providing doomsayers wrong International Container Transhipment Terminal (ICTT), is the first transhipment terminal in India and ATE in the first container Terminal to operate in a SEZ . DP WORLD set up a state – of-the art container terminal in Cochin to cater to the growing container trade in India. DP WORLD is the global leader of container terminal operations and has the large investment in ports along the Indian Coastline DP WORLD has developed ICTT, on a built operator and operator (BOT) agreement with the Cochin Port Trust(Copt) for a period of 30 years DP World is a leading enabler of global trade and an integral part of the supply chain. We operate multiple yet related businesses – from marine and inland terminals, maritime services, logistics and ancillary services to technology-driven trade solutions. We have a portfolio of 77 operating marine and inland terminals supported by over 50 related businesses in 40 countries across six continents with a significant presence in both high-growth and mature markets. We aim to be essential to the bright future of global trade, ensuring everything we do has a long-lasting positive impact on economies and society. Our dedicated team of over 37,000 employees from 110 countries cultivates long-standing relationships with governments, shipping lines, importers and exporters, communities, and many other important constituents of the global supply chain, to add value and provide quality services today and tomorrow. Container handling is the company's core business and generates more than three quarters of its revenue.

In 2015, DP World handled 61.7 million TEU (twenty-foot equivalent units) across our portfolio. With its committed pipeline of developments and expansions, the current gross capacity of 79.6

Million TEU is expected to rise to more than 100 million TEU by 2020, in line with market demand. By thinking ahead, foreseeing change and innovating we aim to create the most productive, efficient and safe trade solutions globally

MISSION

Their mission is to provide world class port services and to be a Global player in operating and managing ports. They will provide value for money, high quality services to their customers through motivated and innovative employees. Our people will be empowered to make optimum utilization of return on investments

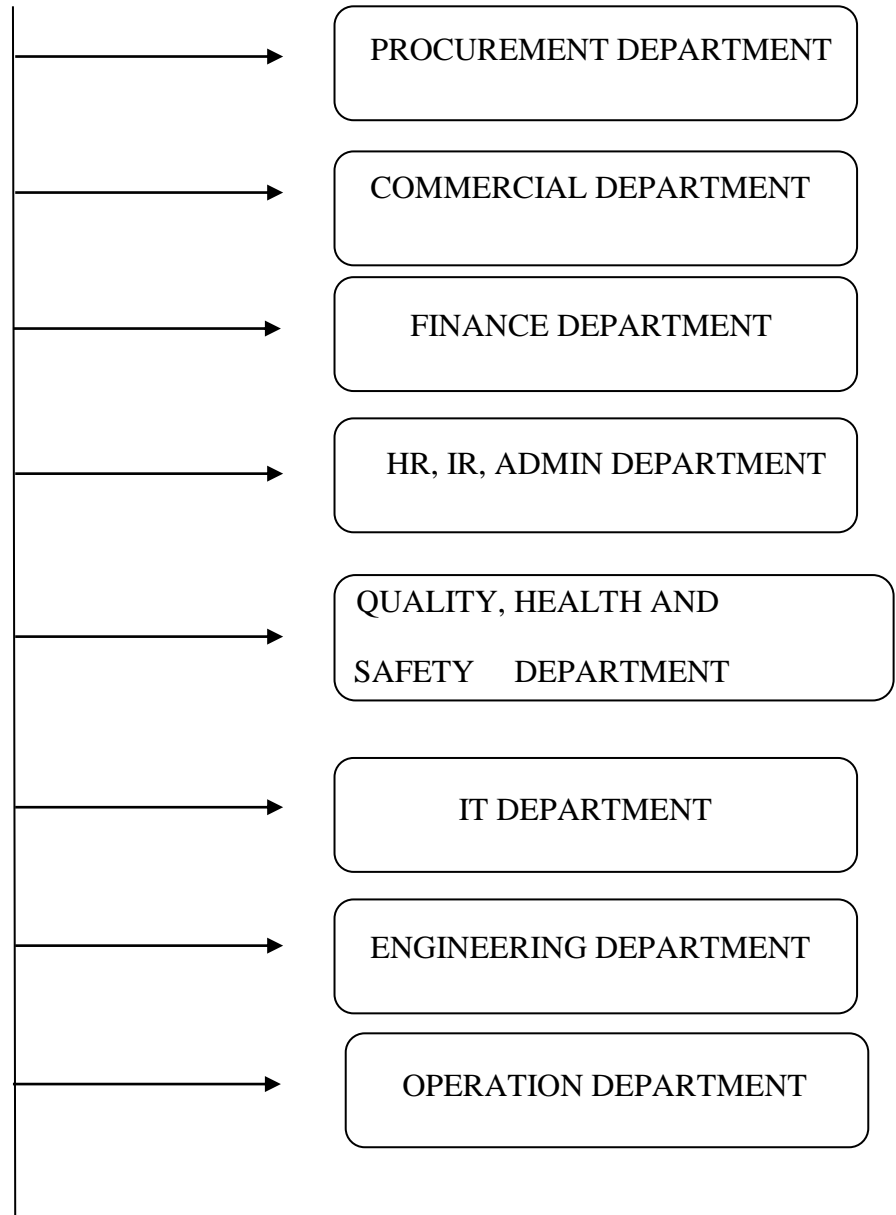
VISSION

Their vision is to be port of choice for our customers in each of our locations. To excel in operations, sales and customer services to our clients and to enhance the position off the local communities and countries in which they operate as gateways for global trade.

CORPORATE STRUCTURE

CHIEF EXECUTIVE

OFFICER



There are eight departments in ICTT .They are:

A) Procurement Department

Procurement department in the company is managed by two people they are manager procurement and officer procurement. The procedures carried out by procurement department are

- Requisition
- Bidding Process
- Evolution
- Comparative statement of different vendors
- Delegation of powers
- Releasing of purchase order

B) Commercial Department

This is the marketing department of the company .The areas which the department operates are as follows:

- Sales and Marketing
- Customer Service
- Branding and Communication
- Budgeting and forecasting
- MIS (Management Information System)
- Repairing

The department does a market analysis to know the market potential after knowing the market potential the company makes a sales call . The sales call is a direct one to one interaction with the customer. Apart from this the department is concerned with conducting trade meets and exhibitions where all the objective is to bring all the exporters , importers and vessel operators under one roof for promoting the operations of the terminal . There are also brochures, circulars, magazines and regular updates given to customers if anything new comes up .

C) Finance Department

Finance is essential because finance is said to be the life blood of business. Finance department meets the fund requirement of all the departments and issue

fund according to their needs. The finance department have some functions like liquidity management, financial management, cash management, and preparing budget of an organization. All thus functions shows the need and the important of finance department.

Activities

- Processing of financial transaction.
- Recording of financial transaction.
- Maintenance of internal control.
- To ensure accountability and economical development with the strong emphasis on share holders welfare through strong and full proof corporate government system

D) HR, IR and Admin Department

The HR, IR and Admin department in DP WORLD is one of the supporting department, the core department being operations .The Human Resource department along with administration and IR department functions as one .the core functions of hr department is as follows :

- Recruitment and Selection
- Time management function
- Statutory compliances

E) Quality , Health , Safety and Environment department

The department ensures the fulfilment of ISO certification. The integrated management system ensures the implementation of following certification.

- ISO 9001-QUALITY MANAGEMENT SYSTEM
- ISO 28000 – SUPPLY CHAIN MANAGEMENT
- ISO 14001 – ENVIRONMENTAL MANAGEMENT SYSTEM
- ISO 18001 - OCCUPATIONAL , HEALTH ,SAFETY MANAGEMENT SYSTEM

F) IT Department

The IT department Deals with the ~~2~~ implementation of various IT application software system. Networking include LAN , Wireless networks and vpn , fiber

optics connectivity between different locations , leased lines, radio data terminal, hardware, firewall, switches and routers internet and email connectivity, fire detection and alarm system , UPS system, backup devises , different types of services like mail server , domain server anti-virus server – for deploying centralized antivirus suit , file and print server , proxy server , HP-UX servers under clustering , etc within the stipulated time schedule .

G) Engineering Department

Engineering plays a key support function in the operational of the terminal. The primary function of engineering is the upkeep and maintenance of equipment and infrastructure in coordination with the other department. The following are the major equipments in engineering;

- Four QC'S and two MHC'S
- Fifteen RTGC'S
- Three Reach Stackers
- Two Empty Container Handler
- Twenty Five Spreaders and One Over Dimension Container Handler
- Four Fifty Reefer points
- Substations and Power Supply Network System
- Workshop and Auxiliary Equipment
- Fuel storage and Dispensing Browsers

H) Operations department

Being a terminal the core area is operations, so the core department is operations. Rest of the department performs supporting functions .operations consist of documentation centre bubble gate and planning.

CHAPTER 3

**THEORITICAL FRAMEWORK
&
LITERATURE REVIEW**

The container is what makes the world go round. The driver of intermodal transportation has undoubtedly been the container, which permits easy handling between modal systems. While intermodalism could take place without the container, it would be very inefficient and costly. At start, a distinction is necessary between containerization and the container. Container. A large standard size metal box into which cargo is packed for shipment aboard specially configured transport modes. It is designed to be moved with common handling equipment enabling high-speed intermodal transfers in economically large units between ships, railcars, truck chassis, and barges using a minimum of labor. The container, therefore, serves as the load unit rather than the cargo contained therein. The reference size is the 20 foot box of 20 feet long, 8'6" feet high and 8 feet wide, or 1 Twenty-foot Equivalent Unit (TEU). Since the great majority of containers are now forty foot long, the term Forty-foot Equivalent Unit (FEU) is also used, but less commonly. "Hi cube" containers are also common and they are one feet higher (9'6") than the standard. Containerization. Refers to the increasing and generalized use of the container as a support for freight transportation. It involves processes where the intermodal container is increasingly used because it either substitutes cargo from other conveyances, is adopted as a mode supporting freight distribution or is able to diffuse spatially as a growing number of transport systems are able to handle containers. The development of intermodal transportation and containerization are mutually inclusive, self strengthening and rely of a set of driving forces linked with technology, infrastructures and management. One of the initial issue concerned the different sizes and dimensions of containers used by shipping lines, which were a source of much confusion in compiling container shipping statistics. A lift could involve different volumes since different box sizes were involved. As a result, the term TEU (Twenty foot Equivalent Unit) was first used by Richard F. Gibney in 1969, who worked for the Shipbuilding & Shipping Record, as a comparative measure. Since then, the TEU remains the standard measure for containerized traffic. The usage of containers shows the complementarity between freight transportation modes by offering a higher fluidity to movements and a standardization of loads. The container has substantially contributed to the adoption and diffusion of intermodal²⁷ transportation which has led to profound mutations in the transport sector. Through reduction of handling time, labor

costs, and packing costs, container transportation allows considerable improvement in the efficiency of transportation. Thus, the relevance of containers is not what they are - simple boxes - but what they enable; intermodalism. Globalization could not have taken its current form without containerization. Intermodalism originated in maritime transportation, with the development of the container in the late 1960's and has since spread to integrate other modes. It is not surprising that the maritime sector should have been the first mode to pursue containerization. It was the mode most constrained by the time taken to load and unload the vessels. A conventional break bulk cargo ship could spend as much time in a port as it did at sea. Containerization permits the mechanized handling of cargoes of diverse types and dimensions that are placed into boxes of standard sizes. In this way goods that might have taken days to be loaded or unloaded from a ship can now be handled in a matter of minutes. Containers are either made of steel (the most common for maritime containers) or aluminum (particularly for domestic) and their structure confers flexibility and hardness. Another factor behind the diffusion of the container is that an agreement about its base dimensions and latching system was reached through the International Standards Organization (ISO) within 10 years of its introduction. From this standard, a wide variety of container sizes and specifications have been put in use. The most prevalent container size is however the 40 foot box, which in its 2,400 cubic feet which carry on average 22 tons of cargo. However, transporting cargo in a 20 foot container is usually 80% of the cost of transporting cargo in a 40 foot container because irrespective of the size a 20 foot container requires the same amount of intermodal movements even if it takes about half the space during transport and at terminals. There are five main types of containers:

- **Standard container.** Container designed to carry a wide variety general cargo. They are often labeled as dry containers because they carry dry goods either in break bulk (most common) or bulk (less common) form. Cargo is loaded and unloaded through a double door which marks the "back side" of the container.

· **Tank container.** Container designed to carry liquids (chemicals or foodstuff). It is composed of a tank surrounded by a structure making it the same size than a standard 20 foot containers, including its four latching points.

Open top container. A container with an open roof and designed to carry cargo that is too large to be loaded through standard container doors, such as machinery. The container is loaded from the top with a tarpaulin used to cover its contents.

· **Flat container.** Container having an open roof and sides designed to carry heavy and oversized cargo. The cargo transported is left exposed to outdoor conditions.

TYPES OF CONTAINERS

1) DOUBLE DOOR CONTAINER

They are kind of storage units that provided with double doors, making wider rooms for loading and unloading materials. Construction materials include steel, iron, etc. in standardized sizes of 20ft and 40ft.

2) REFRIGERATED ISO CONTAINERS

These are temperature regulated shipping containers that always have a carefully controlled low temperature. They are exclusively used for shipment of perishable substances like fruits and vegetables over long distances.

3) INSULATED OR THERMAL CONTAINER

There are the shipping storage containers that come with a regulated temperature control allowing them to maintain a higher temperature. The choice of material is so done to allow them long life without being damaged

by constant exposure to high temperature. They are most suitable for long distance transportation of products.

4) TANK

Container storage units used mostly for transportation of liquid materials, they are used by huge proportion of entire shipping industry. They are mostly made

of strong steel or other anti corrosive materials providing them with long protection to the materials.

5) HALF HEIGHT CONTAINER

Another kind of shipping containers includes half height containers. Made mostly of steel, these containers are half of fully sized containers Used especially for good coal, stones, etc. these containers are which need easy loading and unloading.

6) CARGO STORAGE ROLL CONTAINER

A foldable container, this is one of the specialized container units made for purpose of transporting sets or stacks of materials. They are made of thick and strong wire mesh along with rollers that allows their easy movement. Availability in a range of colored wire meshes makes these shipping container units a little more cheerful.

A significant share of international containers are either owned by shipping lines that tend to use them has a tool to help fill up their ships or by leasing companies using containerized assets for revenue generation. In the United States, a large amount of domestic containers of 53 foot are also used. Doublestacking of containers on railways (COFC: Containers On Flat Cars) has doubled the capacity of trains to haul freight with minimal cost increases, thereby improving the competitive position of the railways with regards to trucking for long-haul shipments. While it is true that the maritime container has become the work horse of international trade, other types of containers are found in certain modes, most notably in the airline industry. High labor costs and the slowness of loading planes, that require a very rapid turnaround, made the industry very receptive to the concept of a loading unit of standard dimensions designed to fit the specific shape of the bellyhold. The maritime container was too heavy and did not fit the rounded configuration of a plane's fuselage, and thus a box specific to the needs of the airlines was required. The major breakthrough came with the introduction of wide-bodied aircraft in the late 1970s. Lightweight aluminum boxes, called unit load devices, could be

filled with passenger's baggage or parcels and freight, and loaded into the holds of the planes using tracking that requires little human assistance. Containerization represents a revolution in the freight transport industry, facilitating both economies of scale and improvements in handling speed and throughput, with containerized traffic has surged since the 1990s. This underlines the adoption of the container as a privileged mean to ship products on international and national markets, particularly for non-bulk commodities where the container accounts for about 90% of all movements. Containerization leans on growth factors mainly related to globalization, substitution from break bulk and more recently the setting of intermediate transshipment hubs. Although containerization initially superimposed itself over existing transportation systems, as it became a dominant mean of freight transportation it created its own unique system of exclusive modes and terminals. Globalization and containerization as closely interrelated. According to UNCTAD, between 1970 and 1990 trade facilitation measures accounted for 45% of the growth in global trade while membership to global trade organization such as GATT/WTO accounted for another 285%. The container accounted for an additional 790%, exceeding all the other trade growth factors put together. The diffusion and adaptation of transport modes to containerization is an on-going process which will eventually reach a level of saturation. Containers have thus become the most important component for rail and maritime intermodal transportation. The challenge remains about the choice of modes in an intermodal transport chain as well as minimizing the costs and delays related to moving containers between modes. Advantages and Challenges of Containerization. Among the numerous advantages related to the success of containers in international transport,

· **Standard transport product.** A container can be manipulated anywhere in the world as its dimensions are an ISO standard. Indeed, transfer infrastructures allow all elements (vehicles) of a transport chain to handle it with relative ease. Standardization is a prevalent benefit of containerization as it conveys a ubiquity to access the distribution system and reduces the risks of capital investment in modes and terminals. The rapid diffusion of containerization was facilitated by the fact that its initiator,³¹ Malcolm McLean, purposely did not patent his invention. Consequently all segments of the industry, competitors

alike, had access to the standard. It necessitated the construction of specialized ships and of lifting equipment, but in several instances existing transport modes can be converted to container transportation.

- **Flexibility of usage.** It can transport a wide variety of goods ranging from raw materials (coal, wheat), manufactured goods, and cars to frozen products. There are specialized containers for transporting liquids (oil and chemical products) and perishable food items in refrigerated containers (called "reefers" which now account for 50% of all refrigerated cargo being transported). About 1.6 million TEUs of reefers were being used by 2009. In many developing countries, discarded containers are often used as storage, housing, office and retail structures.

- **Management.** The container, as an indivisible unit, carries a unique identification number and a size type code enabling transport management not in terms of loads, but in terms of unit. This identification number is also used to insure that it is carried by an authorized agent of the cargo owner and is verified at terminal gates. Computerized management enables to reduce waiting times considerably and to know the location of containers (or batches of containers) at any time. It enables to assign containers according to the priority, the destination and the available transport capacities. Transport companies book slots in maritime or railway convoys that they use to distribute containers under their responsibility. As such, the container has become a production, transport and distribution unit.

- **Economies of scale.** Relatively to bulk, container transportation reduces transport costs considerably, about 20 times less. While before containerization maritime transport costs could account between 5 and 10% of the retail price, this share has been reduced to about 1.5%, depending on the goods being transported. The main factors behind costs reductions reside in the speed and flexibility incurred by containerization. Similar to other transportation modes, container shipping is benefiting from economies of scale with the usage of larger containerships (The 6,000 TEUs³² landmark was surpassed in 1996 with the

Regina Maersk and in 2006 the Emma Maersk surpassed the 14,000 TEU landmark). A 5,000 TEU containership has operating costs per container 50% lower than a 2,500 TEU vessel. Moving from 4,000 TEU to 12,000 TEU reduces operating costs per container by a factor of 20%, which is very significant considering the additional volume involved. System-wide the outcome has been costs reductions of about 35% by the use of containerization.

- **Speed.** Transshipment operations are minimal and rapid, which increase the utilization level of the modal assets and port productivity. A modern container ship has a monthly capacity of 3 to 6 times more than a conventional cargo ship. This is notably attributable to gains in transshipment time as a crane can handle roughly 30 movements (loading or unloading) per hour. Port turnaround times have thus been reduced from an average of 3 weeks in the 1960s to less than 24 hours, since it is uncommon for a ship to be fully loaded

or unloaded along regular container shipping routes. It takes on average between 10 and 20 hours to unload 1,000 TEUs compared to between 70 and 100 hours for a similar quantity of bulk freight. With larger containerships, more cranes can be allocated to transshipment; 3 to 4 cranes can service a 5,000 TEU containership, while ships of 10,000 TEUs can be serviced by 5 to 6 cranes. This implies that larger ship sizes do not have much differences in loading or unloading time. A regular freighter can spend between half and two-third of its useful life in ports. With less time in ports, containerships can spend more time at sea. Since a ship generates revenue while at sea, containerships are more profitable. Further, containerships are on average 35% faster than regular freighter ships (19 knots versus 14 knots). Put all together, it is estimated that containerization has reduced travel time for freight by a factor of 80%.

- **Warehousing.** The container limits damage risks for the goods it carries because it is resistant to shocks and weather conditions. The packaging of goods it contains is therefore simpler, less expensive and can occupy less volume. This reduces insurance costs since cargo is less prone to be damaged during transport. Besides, containers fit

together permitting stacking on ships, trains (doublestacking) and on the ground. It is possible to superimpose three loaded and six empty containers on the ground. The container is consequently its own warehouse.

- **Security.** The contents of the container are anonymous to outsiders as it can only be opened at the origin, at customs and at the destination. Thefts, especially those of valuable commodities, are therefore considerably reduced, which results in lower insurance premiums. Theft was a serious issue at ports before containerization as longshoremen had ready access to cargo.

In spite of numerous advantages in the usage of containers, some challenges are also evident.

- **Site constraints.** Containerization implies a large consumption of terminal space. A containership of 5,000 TEU requires a minimum of 12 hectares of unloading space, while unloading entirely its containers would require the equivalent of about 7 double-stack trains of 400 containers each. Conventional port areas are often not adequate for the location of container transshipment infrastructures, particularly because of draft issues as well as required space for terminal operations. Many container vessels require a draft of at least 14 meters (45 feet). A similar challenge applies to container rail terminals, many being relocated at the periphery of metropolitan areas. Consequently, major container handling facilities have modified the local geography of container by forcing relocation to new sites at the periphery.

- **Infrastructure costs.** Container handling infrastructures, such as gantry cranes, yard equipment, road and rail access, represent important investments for port authorities and load centers. For instance, the costs of a modern container crane (portainer) are in the range of 4 to 10 million \$US depending on the size. Several developing countries cannot afford these infrastructures with local capital and so have difficulties to participate effectively in international trade as efficient load centers unless concession agreements are reached with terminal operators.

· **Stacking.** The arrangement of containers, both at terminals and on modes (containerships and double-stack trains) is a complex problem. At the time of loading, it becomes imperative to make sure that containers that must be taken out first are not below the pile. Further, containerships must be loaded in a way to avoid any restacking along its numerous port calls where containers are loaded and unloaded.

· **Thefts and losses.** While many theft issues have been addressed because of the freight anonymity a container confers, it remains an issue for movements outside terminals where the contents of the container can be assessed based upon its final destination. It is estimated that about 10,000 containers per year (27 per day) are lost at sea when they fall overboard containerships. Rough weather is the major cause, but improper container stacking also plays a role (distribution of heavy containers). Yet, the loss rate remains very low since 5 to 6 million containers are being transported at any given time.

Empty travel. Maritime shippers need containers to maintain their operations along the port networks they service. The same number of containers brought into a market must thus eventually be relocated, regardless if they are full or empty. On average containers will spend about 56% of their 10 to 15 years lifespan idle or being repositioned empty, which is not generating any income but convey a cost that must be assumed in one way or the other. Either full or empty, a container takes the same amount of space on the ship or in a storage yard and takes the same amount of time to be transshipped. Due to a divergence between production and consumption, it is uncommon to see an equilibrium in the distribution of containers. About 2.5 million TEUs of empty containers are stored in yards and depots around the world, underlining the issue of the movement and accumulation of empty containers. They represent about 20% of the global container port throughput and of the volume carried by maritime shipping lines. Most container trade is imbalanced, and thus containers "accumulate" in some places and must be shipped back to locations where there have deficits (mostly locations having a strong export function). This is particularly the case for American³⁵ container shipping. As a result, shipping

lines waste substantial amounts of time and money in repositioning empty containers.

· **Illicit trade.** By its confidential character, the container is a common instrument used in the illicit trade of drug and weapons, as well as for illegal immigrants. Concerns have also been raised about containers being used for terrorism. These fears have given rise to an increasing number of regulations aimed at counteracting illegal use of containers. In 2003, following US inspection requirements the International Maritime Organization (IMO) introduced regulations regarding the security of port sites and the vetting of workers in the shipping industry. The US, itself established a 24 hour rule, requiring all shipments destined for the US to receive clearance from US authorities 24 hours prior to the departure of the vessel. In 2008, the US Congress has passed a regulation requiring all US-bound containers to be electronically scanned at the foreign port of loading, prior to departure.

Needless to say, these measures incur additional costs and delays that many in the industry oppose.

Yet, the advantages of containerization have far outweighed its drawbacks, transforming the global freight transport system and along with it the global economy. 5. Intermodal Transport Costs There is a relationship between transport costs, distance and modal choice that has for long been observed. It enables to understand why road transport is usually used for short distances (from 500 to 750 km), railway transport for average distances and maritime transport for long distances (about 750 km). Variations of modal choice according to the geographical setting are observed but these figures tend to show a growth of the range of trucking. However, intermodalism offers the opportunity to combine modes and find a less costly alternative than an unimodal solution. It is also linked with a higher average value of the cargo being carried since intermodal transportation is linked with more complex and sophisticated commodity chains. As a result, the efficiency of contemporary transport systems rests as much on their capacity to route freight than on their capacity to tranship it, but each of these functions have a cost that must be

reduced. The intermodal transportation cost implies the consideration of several types of transportation costs for the routing of freight from its origin to its destination, which involves a variety of shipment, transshipment and warehousing activities. It considers a logistic according to which are organized transport chains where production and consumption systems are linked to transport systems. Numerous technical improvements, such as river / sea shipping and better rail/road integration, have been established to reduce interchange costs, but containerization remains the most significant achievement so far. The concept of economies of scale applies particularly well to container shipping. However, container shipping is also affected by diseconomies involving maritime and inland transport systems as well as transshipment. While maritime container shipping companies have been pressing for larger ships, transshipment and inland distribution systems have tried to cope with increased quantities of containers. Thus, in spite of a significant reduction in maritime transport costs, land transport costs remain significant. Between half and two-third of total transport costs for a TEU is accounted by land transport. Public policy is also playing a role through concerns over the dominant position of road transport in modal competition and the resultant concerns over congestion, safety and environmental degradation. In Europe, policies have been introduced to induce a shift of freight and passengers from the roads to modes that are environmentally more efficient. Intermodal transport is seen as a solution that could work in certain situations. In Switzerland, for example, laws stipulate that all freight crossing through the country must be placed on the railways in order to try to reduce air pollution in alpine valleys. The European Union is trying to promote intermodal alternatives by subsidizing rail, and shipping infrastructure and increasing road user costs. Since intermodal transportation is mostly the outcome of private initiatives seeking to capture market opportunities it remains to be seen to what extent public strategies can be reconciled with a global intermodal transport system which is flexible and footloose. While economies of scale enabled to reduce the unit costs of maritime, inland intermodal transportation costs account to about 50% of the total costs if terminal costs are included. With the deregulation and privatization trends that began in the 1980's, containerization, which was already³⁷ well established in the maritime sector, could spread inland. The shipping lines were among the first to exploit the

intermodal opportunities that deregulation permitted. They could offer door-to-door rates to customers by integrating rail services and local truck pickup and delivery in a seamless network. To achieve this they leased trains, managed rail terminals, and in some cases purchased trucking firms. In this way they could serve customers across the country by offering door-to-door service from suppliers located around the world. The move inland also led to some significant developments, most notably the double-stacking of containers on rail cars. This produced important competitive advantages for intermodal rail transport and favored the development of inland terminals. It also required various forms of transloading between maritime and domestic container units.

Container Type	Description
Dry/dry ventilate	<ul style="list-style-type: none"> • Used for general cargo
Reefer	<ul style="list-style-type: none"> • Integral • Porthole-fitted with ship's refrigeration unit in a reefer hatch or with a marine specific clip-on deck • Frozen • Chilled
Fantailed	<ul style="list-style-type: none"> • Dry container with electric fan fitted to circulate air
Tank (Tanktainer)	<ul style="list-style-type: none"> • Used to transport liquid or gas • May be container within a rigid frame. • Can only be lifted as a straight lift when then tank itself forms the structural integrity.
Bolster	<ul style="list-style-type: none"> • Flat • Flat-rack usually collapsible ends.
Over-width/over-height/over-length	<ul style="list-style-type: none"> • Used on flat racks
Open-top	<ul style="list-style-type: none"> • Fitted with tarpaulin that can be removed or

Half-height	adjusted. <ul style="list-style-type: none">• Used for steel, ingots etc.• May be collapsible ends.
Crib	<ul style="list-style-type: none">• Used for storing and transport of refrigeration clip-on units

CHAPTER-4

DATA ANALYSIS & INTERPRETATION

TABLE 4.1

**TABLE SHOWING WHAT ARE THE BENEFITS THAT
CONTAINERISATION HAS MADE IN DP WORLD**

Particulars	No. of respondents	Percentage
Enhanced productivity	26	43
Increased profitability	14	23
Improved security	8	13
All of the above	12	20
Total	60	100

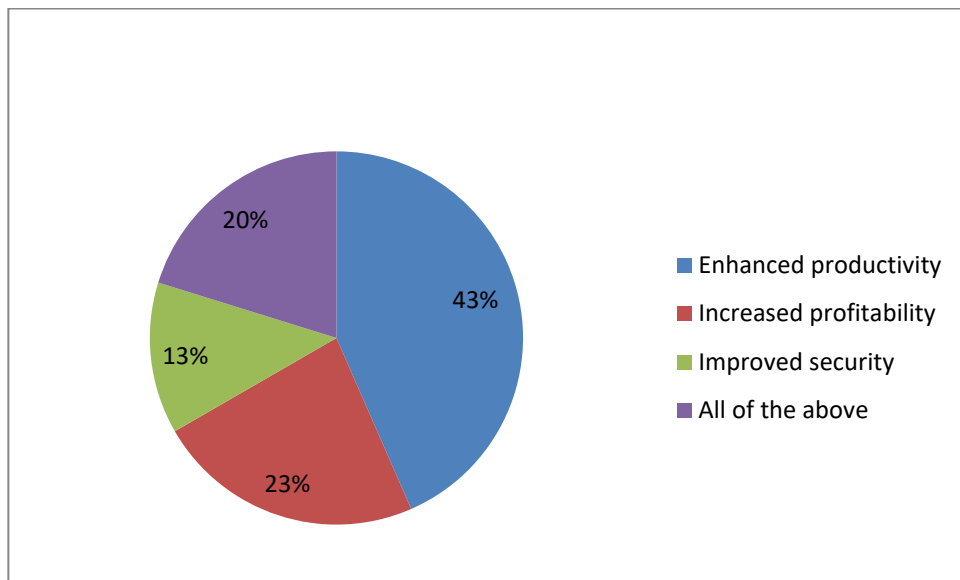


DIAGRAM 4.1

**DIAGRAM SHOWING THE BENEFIT THAT
CONTAINERISATION HAS MADE IN DP WORLD**

INTERPRETATION

The above results show that 43% of employees are saying that containerisation has benefited in enhanced productivity, 23% say increased profitability, 13% say improved security and about 20% say it has resulted in all of them.

TABLE 4.2

TABLE SHOWING WHICH IS THE MOST COMMONLY USED CONTAINER HANDLING EQUIPMENT

Particulars	No. Of respondents	Percentage
RTGC	38	63
QC	16	27
Stacker	5	8
ECH	1	2
Total	60	100

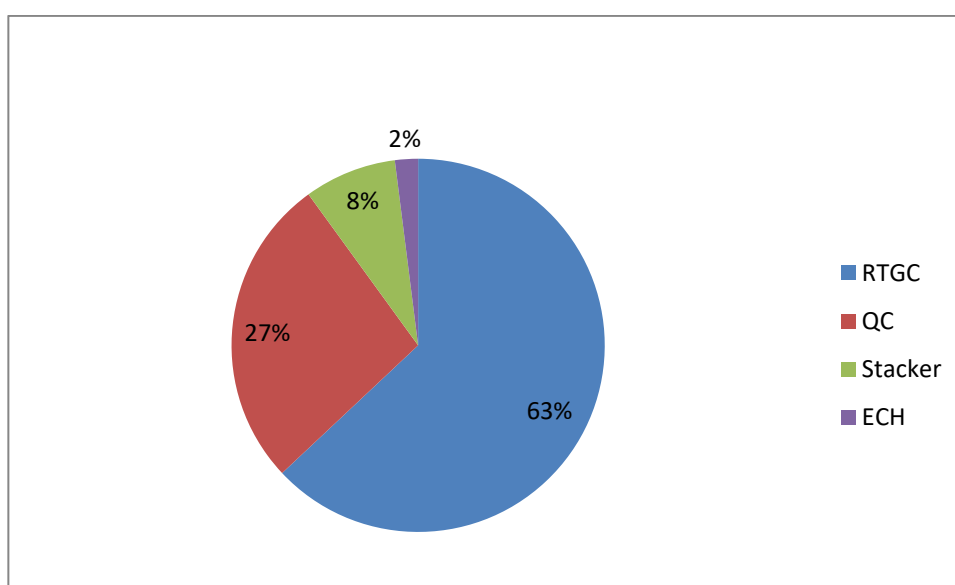


DIAGRAM 4.2

DIAGRAM SHOWING THE MOST COMMONLY USED CONTAINER HANDLING EQUIPMENT

INTERPRETATION

The above results show that 63% employees are saying that RTGC is the most commonly used container handling equipment, 27% say its QC, 8% say its Stacker and the remaining 2% say its ECH.

TABLE 4.3

TABLE SHOWING WHAT ALL ARE THE PROCESSES TO BE COMPLETED FOR THE MOVEMENT OF CONTAINERS

Particulars	No. Of respondents	Percentage
Documentation	18	30
Customs clearance	13	22
Scanning and seal	9	15
All of the above	20	33
Total	60	100

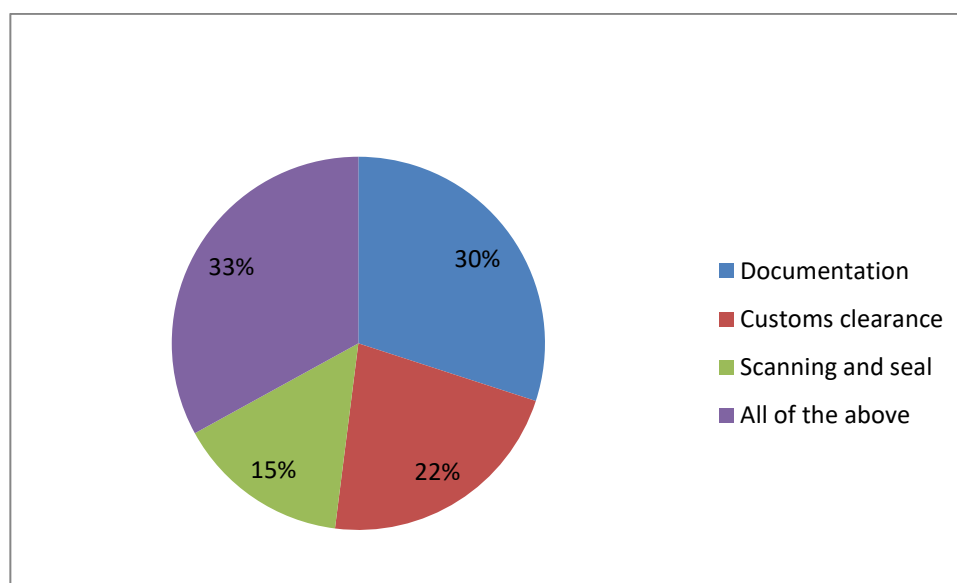


DIAGRAM 4.3

DIAGRAM SHOWING THE PROCESSES TO BE COMPLETED FOR THE MOVEMENT OF CONTAINERS

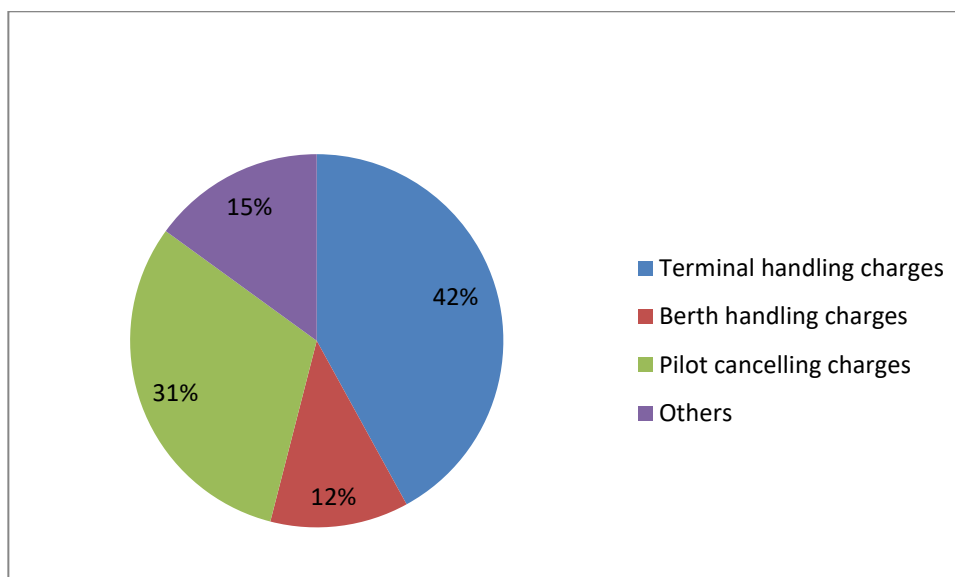
INTERPRETATION

The above results show that 30% of employees are saying that documentation has to be completed for the movement of goods, 22% say its customs clearance, 15% say scanning and sealing and 33% of them say they've to go through all of these processes.

TABLE 4.4

TABLE SHOWING WHICH IS THE MOST COMMON CHARGE IMPOSED ON CONTAINERS

Particulars	No. Of respondents	Percentage
Terminal handling charges	25	42
Berth handling charges	7	12
Pilot cancelling charges	19	31
Others	9	15
Total	60	100



DIAGARM 4.4

DIAGRAM SHOWING THE MOST COMMON CHARGE IMPOSED ON CONTAINERS

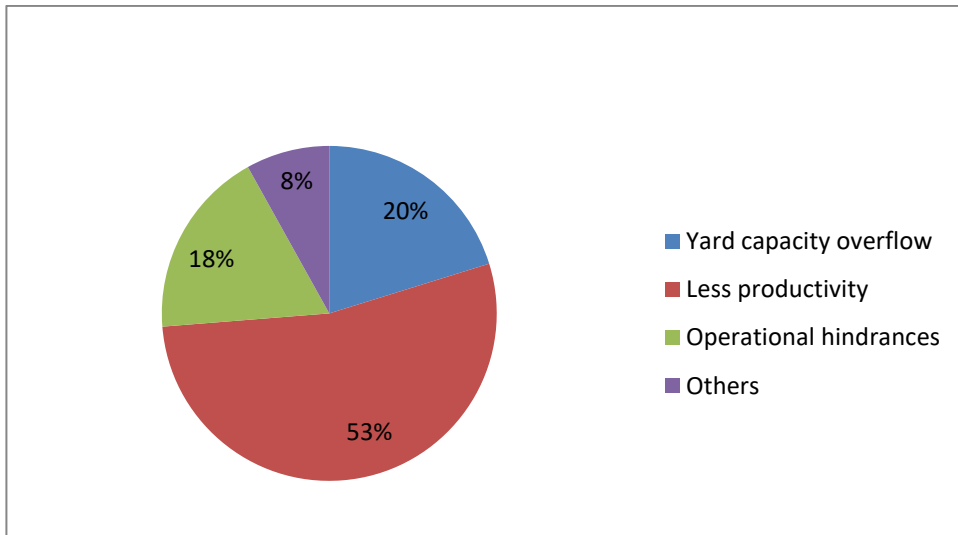
INTERPRETATION

The above results show that 42% of the employees say that terminal handling charge is the most common charge imposed on containers, 31% say pilot cancellation charge, 12% say berth handling charges and 15% say its other charges.

TABLE 4.5

**TABLE SHOWING WHAT ARE THE IMPACT ON
CONTAINERISATION AT DP WORLD DUE TO TRADE
UNION STRIKES**

Particulars	No. Of respondents	Percentage
Yard capacity overflow	12	20
Less productivity	32	53
Operational hindrances	11	18
Others	5	8
Total	60	100



DIAGARM 4.5

**DIAGRAM SHOWING THE IMPACT ON
CONTAINERISATION AT DP WORLD DUE TO TRADE
UNION STRIKES**

INTERPRETATION

The above results show that 53% of the employees say that trade union strikes leads to less productivity as one of the major impact on containerisation at DP World, 20% say yard capacity overflow, 18% say operational hindrances and 8% say others.

TABLE 4.6

TABLE SHOWING WHICH IS THE TERMINAL OPERATING SYSTEM USED IN DP WORLD

Particulars	No. Of respondents	Percentage
ZODIAC	43	72
SPARCS	6	10
RFID	10	17
EXPRESS	1	1
Total	60	100

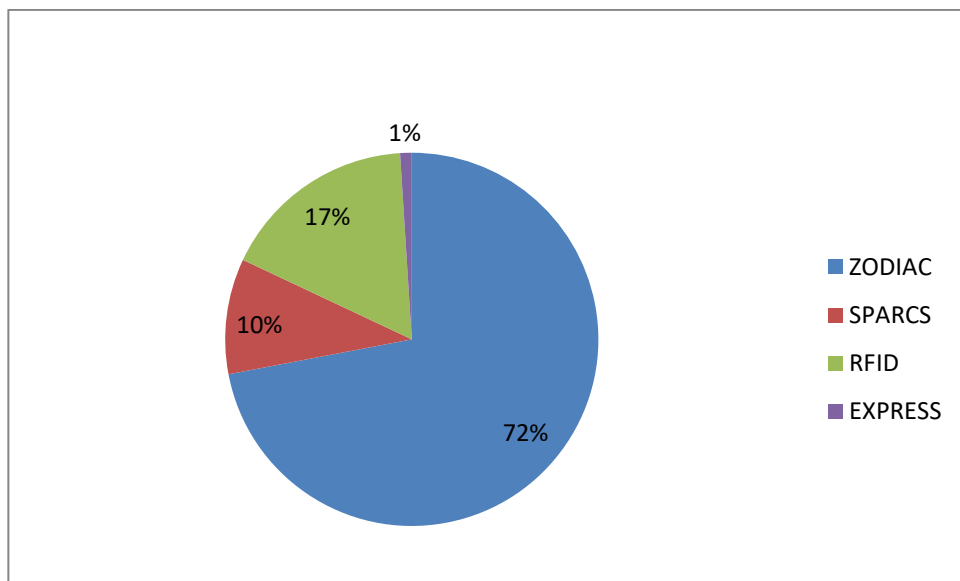


DIAGRAM 4.6

DIAGRAM SHOWING THE TERMINAL OPERATING SYSTEM USED IN DP WORLD

INTERPRETATION

The above results show that 43% of employees are saying that ZODIAC is the most commonly used terminal operating system used, 13% say RFID, 17% say SPARKS and only 1% say EXPRESS.

TABLE 4.7

TABLE SHOWING DOES DP WORLD HAVE THEIR OWN CFS

Particulars	No of respondents	Percentage
Yes	0	0
No	19	32
Soon to be implemented	41	68
Total	60	100

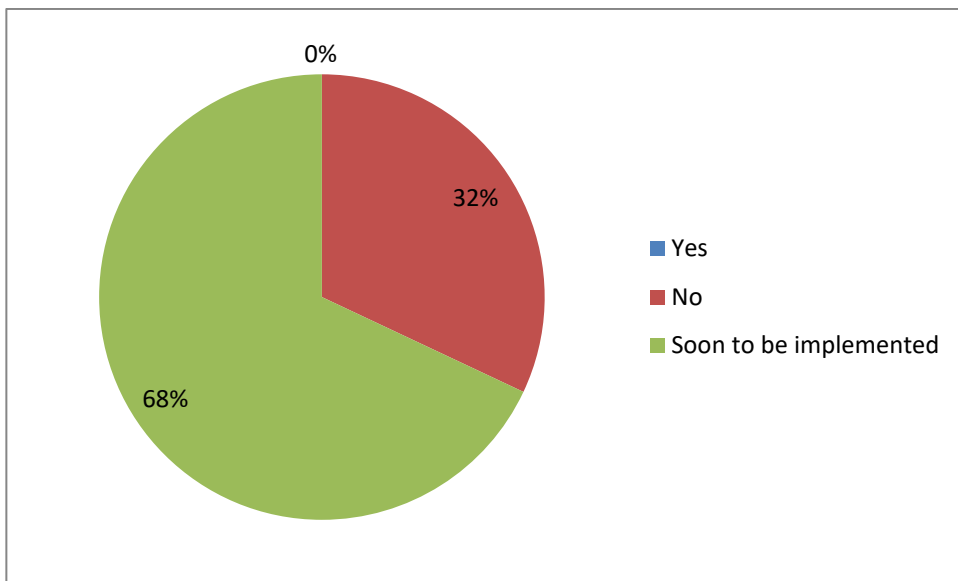


DIAGRAM 4.7

DIAGRAM SHOWING WHETHER DP WORLD OWNS CFS

INTERPRETATION

The above results show that 68% of the employees said that DP World will be soon setting up their own CFS and 32% said that the company doesn't own any CFS.

TABLE 4.8

**TABLE SHOWING IN WHICH SECTOR DOES
CONTAINERISATION PLAY A MAJOR ROLE IN DP
WORLD**

Particulars	No. Of respondents	Percentage
Gate	29	48
Vessel	25	42
Rail	6	10
Total	60	100

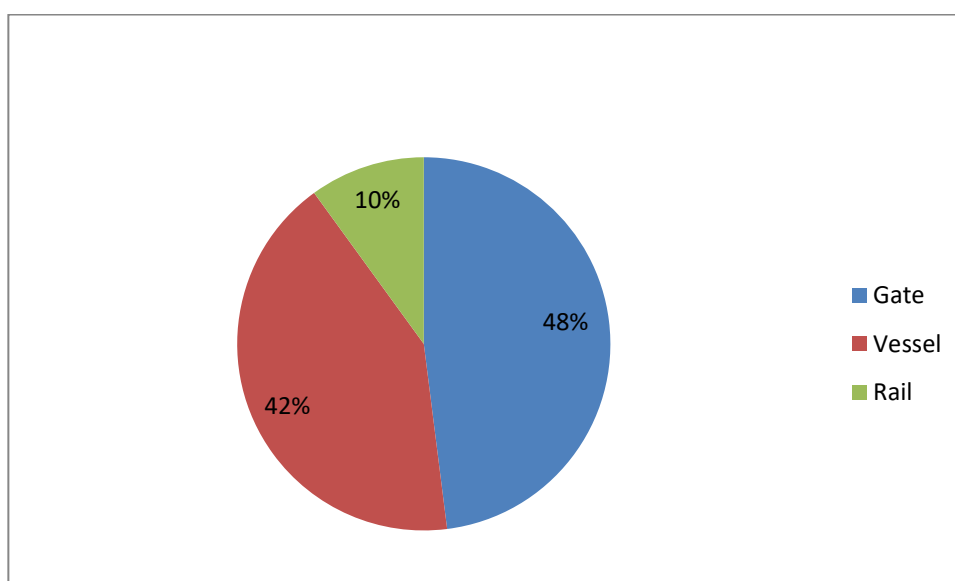


DIAGRAM 4.8

**DIAGRAM SHOWING THE SECTOR IN WHICH
CONTAINERISATION PLAY A MAJOR ROLE IN DP
WORLD**

INTERPRETATION

The above results show that 48% of employees are saying that DP World plays a major role in the gate sector, 42% say its vessel and 10% say rail.

TABLE 4.9

**TABLE SHOWING DOES DP WORLD HAVE THEIR OWNS
CONATINERS**

Particulars	No. Of respondents	Total
Yes	0	0
No	60	100
Total	60	100

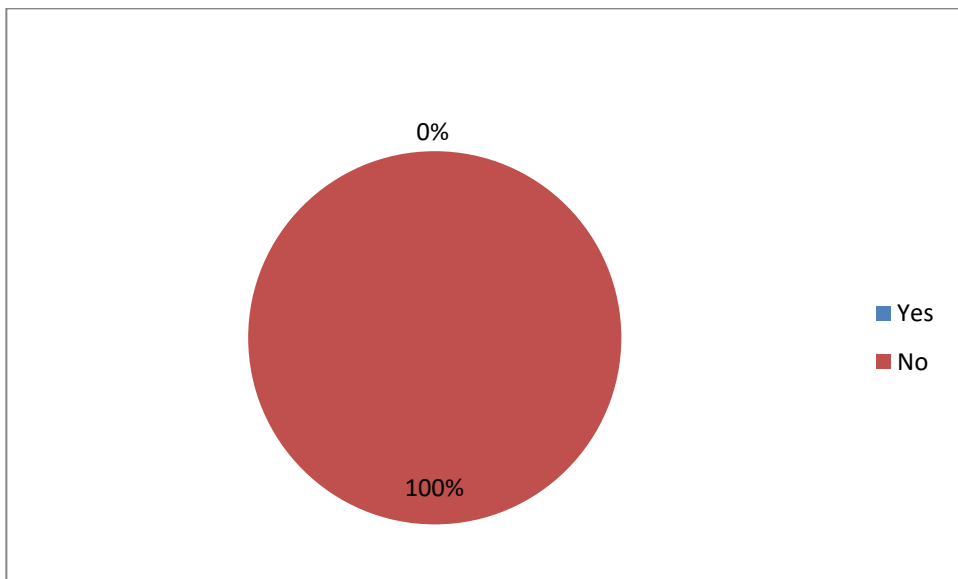


DIAGRAM 4.9

**DIAGARM SHOWING WHETHER DP WORLD OWNS
CONTAINERS**

INTERPRETATION

The above results show that 100% of the employees have said that DP World doesn't own any containers.

TABLE 4.10

**TABLE SHOWING WHAT ARE THE VARIOUS
OUTSOURCINGS DONE IN DP WORLD FOR THE
CONTAINERISATION PROCESS**

Particulars	No. Of respondents	Percentage
ITV	29	48
CFS	10	17
Employees	21	35
Total	60	100

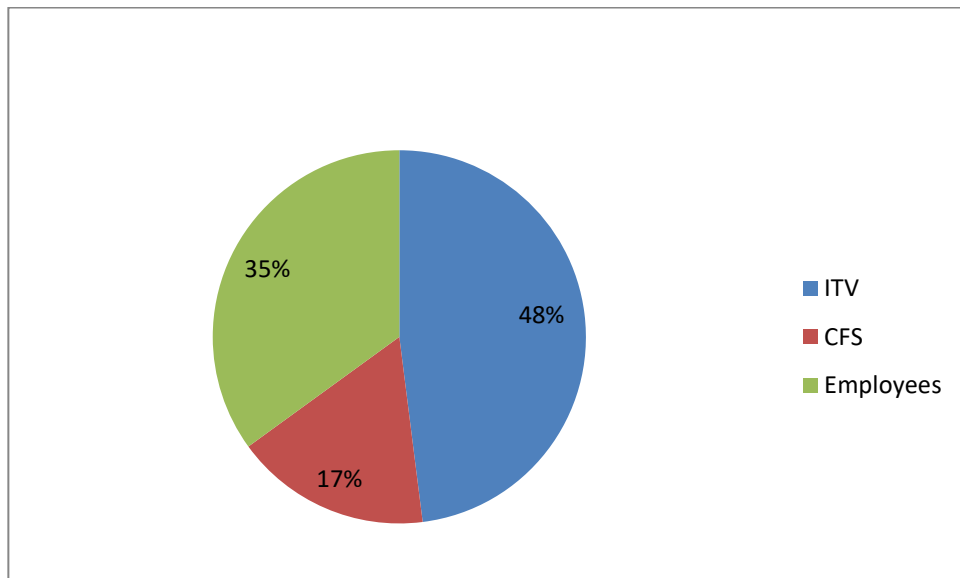


DIAGRAM 4.10

**DIAGARM SHOWING THE VARIOUS OUTSOURCING
DONE IN DP WORLD FOR THE CONTAINERISATION
PROCESS**

INTERPRETATION

The above results show that 48% of employees are saying that more outsourcing for the containerisation process in DP World is for ITV, 35% say its for employees and 17% say its CFS.

TABLE 4.11

**TABLE SHOWING WHO ALL ARE THE MAJOR CLIENTS
OF DP WORLD**

Particulars	No. Of respondents	Percentage
MAERSK	22	37
MSC	18	30
EVERGREEN	11	18
TIS	9	15
Total	60	100

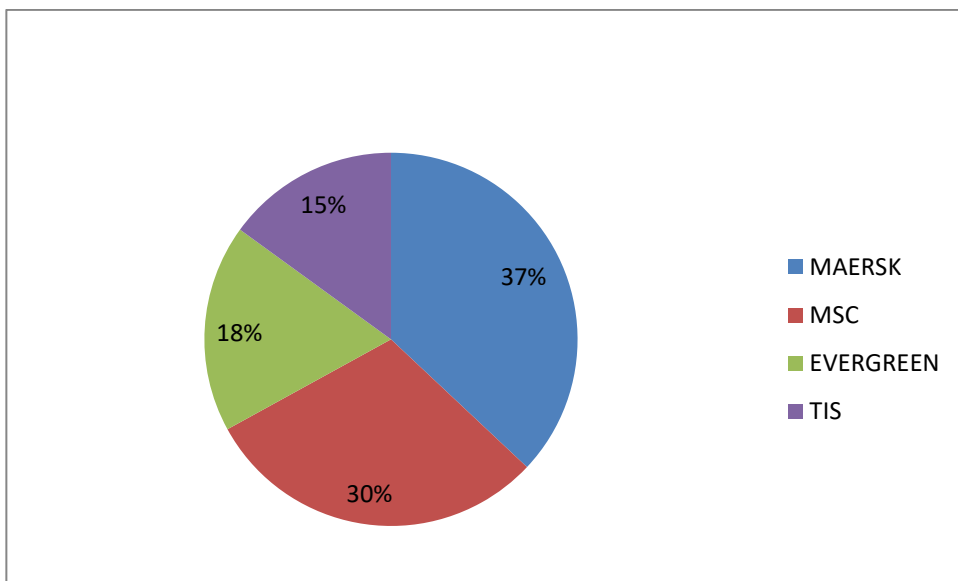


DIAGRAM 4.11

**DIAGARM SHOWING THE MAJOR CLIENTS OF DP
WORLD**

INTERPRETATION

The above results show that 37% of the employees are saying that MAERSK is one of the major clients of DP World, 30% say MSC, 18% say EVERGREEN and 15% say TIS.

TABLE 4.12

TABLE SHOWING DOES DP WORLD ENSURE SECURITY TO THE CONTAINERS

Particulars	No. Of respondents	Percentage
Yes	37	62
No	23	38
Total	60	100

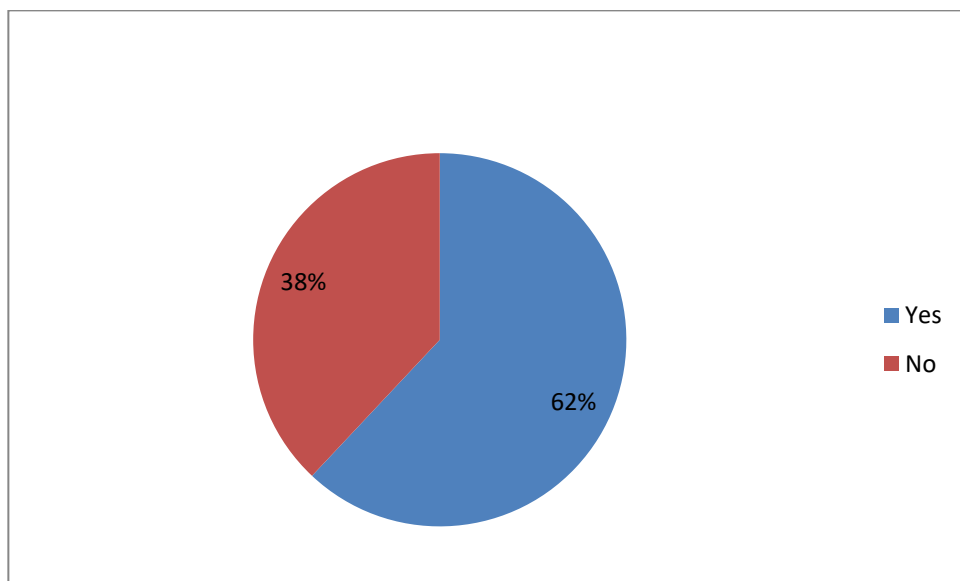


DIAGRAM 4.12

DIAGRAM SHOWING THE SECURITY ENSURED TO CONTAINERS AT DP WORLD

INTERPRETATION

The above result show that 62% of the employees said that DP World ensures security to containers and 38% disagree.

TABLE 4.13

**TABLE SHOWING WHICH IS THE MOST COMMON TYPE
OF CONTAINERS HANDLED AT DP WORLD**

Particulars	No. Of respondents	Percentage
Dry containers	33	55
Reefer containers	16	27
Tanker	7	12
Other	4	6
Total	60	100

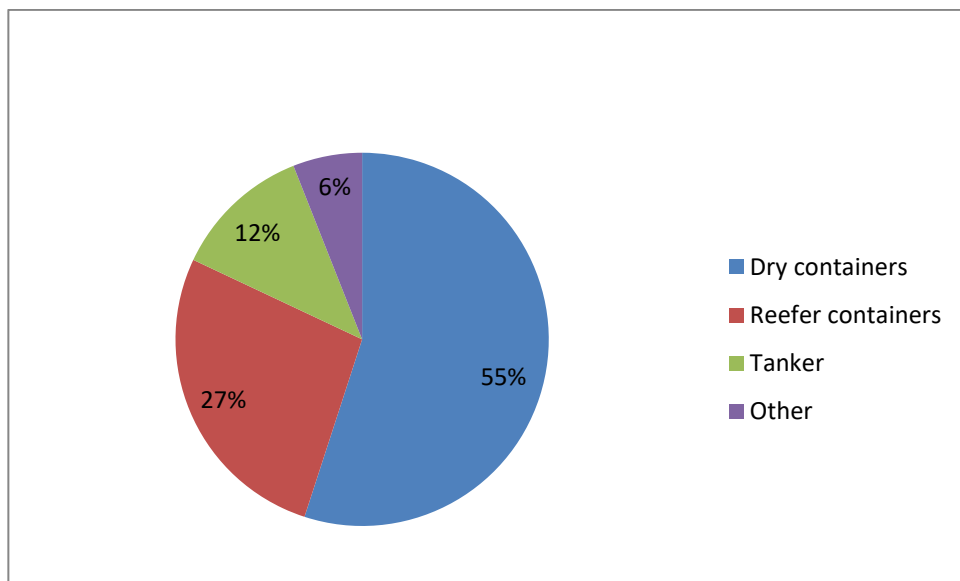


DIAGRAM 4.13

**DIAGARM SHOWING THE MOST COMMON TYPE OF
CONTAINER HANDLES AT DP WORLD**

INTERPRETATION

The above results show that 55% of employees say that dry containers are the most commonly handled container at DP World, 27% say reefer, 12% say tanker and 6% say others.

TABLE 4.14

TABLE SHOWING WHAT ABOUT THE CONTAINER STANDARDS THAT ARE MOST COMMONLY DEALT BY THE COMPANY

Particulars	No. Of respondents	Percentage
40ft	28	47
45ft	14	23
20ft	12	20
50ft	6	10
Total	60	100

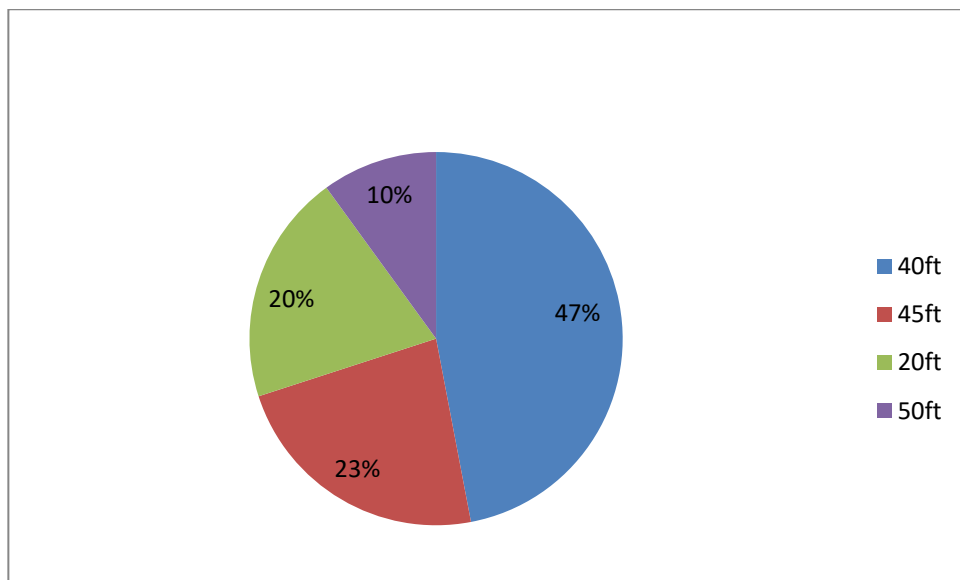


DIAGRAM 4.14

DIAGRAM SHOWING THE MOST COMMONLY DEALT CONTAINER STANDARDS AT DP WORLD

INTERPREATION

Above results show that 47% of the employees are saying that 40ft is the most commonly dealt with container standard at DP World, 23% say 45ft, 20% say 20ft and 10% say 50ft.

TABLE 4.15

**TABLE SHOWING IS THERE PROPER YARD
MANAGEMENT FOR CONTAINERS AT DP WORLD**

Particulars	No. Of respondents	Percentage
Yes	41	68
No	19	32
Total	60	100

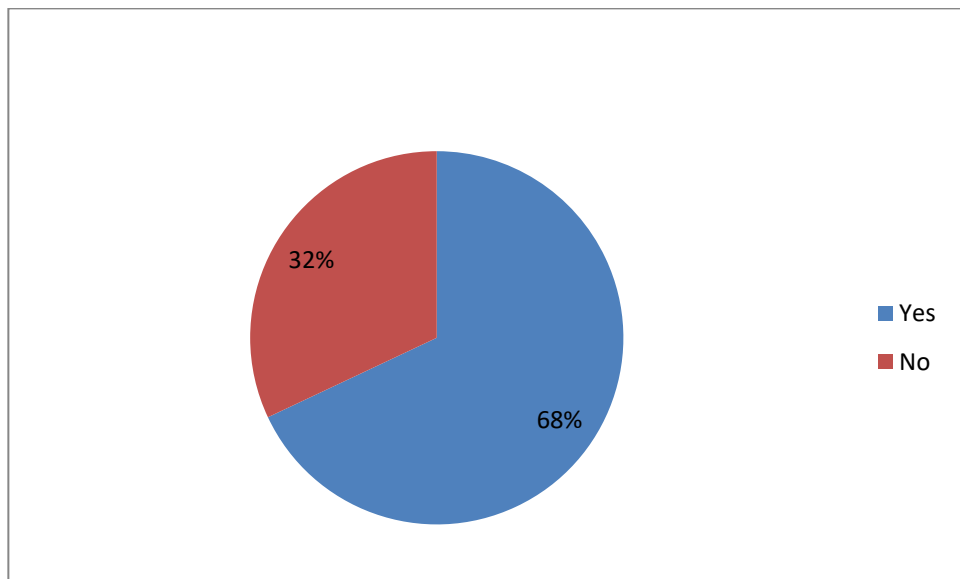


DIAGRAM 4.15

**DIAGRAM SHOWING PROPER YARD MANAGEMENT
FOR CONTAINERS AT DP WORLD**

INTERPRETATION

The above results show that 68% of the employees say there is proper yard management at DP World and 32% say there is no proper o

CHAPTER-5

FINDINGS, SUGGESTIONS & CONCLUSION

FINDINGS

- Containerisation helped DP World to enhance their productivity.
- DP World does not have their own containers.
- There is proper yard management for containers in DP World.
- They don't have their own CFS.
- Cross verification of outsiders are done in a strict manner.
- Class 1 and Class 7 goods are not handled at DP World.
- All processes are done in systematic manner.
- They are providing more importance to safety.
- They have a separate engineering department to take care of their equipments.
- Gate pass is compulsory for entering inside the company.
- Adequate facility for handling all types of containers.
- The geographical location is useful in the transshipment.

SUGGESTIONS

- Proper RFID system needs to be implemented.
- Company's website should be made more dynamic.
- Company should establish their own CFS.
- Make arrangement for scanning the container physically.
- Advertisements play vital role in every industry. So, the company should make advertisement with the changing preferences of the customers.
- The management should focus on social works, so that the company get good support from the public.
- Company should place one explosive detector in the main gate.
- Company should use the railway as a mode of transportation for its containers which would reduce the overall logistic cost.

CONCLUSIONS

This study conducted at India Gateway Terminal PVT. Ltd. (DP World, Cochin) was an attempt to study about the “EFFECTIVENESS OF CONTAINERIZATION & ALSO ABOUT IGTPL”. Possible suggestions have been made. The data with regarded to the study collected from the Indian Gateway Terminal PVT. LTD. Helped me to understand more about CONTAINERIZATION. The study gave the information about procedures, documents, operations, organizational structure of the company, departmental functions and gives good knowledge about the company. The co-operation and interaction extended by the employees and management of India Gateway Terminal Pvt. Ltd. have made it possible for a good organizational study which would be useful in my future.

DP World to **“LEAD THE FUTURE WORLD TRADE”**

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