A study on the warehouse space management in st.john container freight station (c...

A STUDY ON THE WAREHOUSE SPACE MANAGEMENT IN ST. JOHN CONTAINER FREIGHT STATION (CFS) PARK A project work submitted to Madurai Kamaraj University in partial fulfillment of the requirements for the award of the degree of Master of Business Administration BY Mohammed Arief Shafras. A (Reg. no: A6900274) Under the guidance of Mr. RM. Somasundaram [pic] Thiagarajar School of Management Thiruparankundram Madurai ??? 625 009 January – February 2008 DECLARATION I hereby declare that this project titled " A PROJECT ON THE WAREHOUSE SPACE MANAGEMENT IN ST.

JOHN CONTAINER FREIGHT STATION (CFS) PARK" was conducted by me in partial fulfillment of the requirements for the award of the degree of Master of Business Administration; No part of this study is either published or submitted elsewhere for the award of any degree. MADURAI DATE: (Mohammed Arief Shafras. A) ACKNOWLEDGEMENT I put forth my heart and soul to thank The Almighty for being with me all through my achievements, success and failures. I express my sincere and whole hearted gratitude to the management of St. John Freight System Ltd, for giving me a opportunity to pursue a valuable project. I take privilege to thank Mrs.

Lakshmi. K Dean ??? MBA (Full Time), for the encouragement and facilities provided to complete this project work. I extend my deep sense of gratitude to Mr. David Raja, general manager, St. John Freight System Ltd, for his interest, valuable guidance and moral support for the project. I wish to thank my internal guide, TSM for his valuable suggestion and guidance throughout the project. It is with feelings of profound thankfulness and gratitude I acknowledge the valuable guidance rendered to me by those who

contributed directly or indirectly to this project by providing exactly the kind of help needed in shaping it.

I express my love and gratitude to all my family members and friends for motivating and guiding me in many ways during the course of the project. Mohammed Arief Shafras. A BONAFIDE CERTIFICATE This is to certify that the project work titled " A STUDY ON THE WAREHOUSE SPACE MANAGEMENT IN ST. JOHN CONTAINER FREIGHT STATION (CFS) PARK" is a bonafide work done by Mr. A. Mohammed Arief Shafras in partial fulfillment of the requirements for the award of the degree of Master of Business Administration of Madurai Kamaraj University under my guidance.

To the best of my knowledge this is his original effort. Dr. M. NAGARAJU Mr. Mr. RM. Somasundaram PRINCIPAL FACULTY GUIDE Lists of charts: | Chart No. | TITLE | Page No. | | 4. 1 | Chart representing the utilization bay floor space, number of columns in each which are more than and| 14 | | | less than height of 1. 90 meters. | | 4. 2 | Chart Representing the Number of Times the Bay ' A' Series has been Utilized on a Particular Day for | 16 | | | the Past Six Months on a Particular Day | | | 4. 3 | Chart Representing the Number of Times the Bay ' B' Series has been Utilized on a Particular Day for | 17 | | | the Past Six Months on a Particular Day | | | 4. | Chart Representing the Number of Times the Bay ' C' Series has been Utilized on a Particular Day for | 18 | | | the Past Six Months on a Particular Day | | | 4. 5 | Chart Representing the Number of Times the Bay' D' Series has been Utilized on a Particular Day for | 19 | | | the Past Six Months on a Particular Day | | | 4. | Chart Representing the Number of Times the Bay ' E' Series has been Utilized on a Particular Day for | 20 | | | the Past Six Months on a Particular Day | | | 4. 7 |

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Table representing the variety of container stuffed on the weekdays on the past six months | 38 | | 4. 7 | Table representing number of days, some packages stored on the warehouse, which are stuffed during | 39 | | | 03/01/2008 to 10/01/2008. | Chapter I Introduction 1. 1. Corporate Profile St. John Freight Systems Ltd, established as a firm in 1979, incorporated as a private limited company in 1991 and converted into a public limited company in 1996. Their major businesses are, ??? Customs Broking ??? Freight Forwarding ??? Container Yard ??? Container Freight Station ??? Stevedoring & Terminal Operations ??? Liner & Feeder Vessel Agency ??? Charting Agency ??? Fumigation Service. As a forwarder, St. John has handle over 45, 000 Teus of Exports, EX-India per annum to various Countries.

They have their Corporate Office at Tuticorin (India) and 22 branches and 35 offices in India and four overseas offices in Singapore, Felixstowe(U. K), New Jersey (USA) & Antwerp (Belgium). St. John is one of the prominent market leaders in the field of " Logistics Service Provider" & their Customers / Clients include leading & reputed corporate entities, Business & Industrial Houses / Multi National Companies (MNCs) in India & Overseas as well. Apart from these, St. John has many " Firsts" to its Credit, be it the First Private CFS to Bag the ISO Rating/ Recognition.

First CFS in India Certified to ISO 9002 standards by BVQI & later on ISO-9001-2000 Standards by DNV. St. JOHN CFS PARK The latest addition to St. John's impressive List of Strategic Business Units is the CFS, a " State of the Art" CFS Park, which is built as per & conforming to International Standards at Tuticorin, situated on the Harbour Express Way, within 8 km, distance leading to the Tuticorin Port, covering 156, 000 sq. ft of Warehouse space,

including " bonding" facility, sprawling over 60 acres (0. 0 hectares) including " Open-Bonding" facility, with fully ' automated" Electronic Data Interchange (EDI) Facility, supported by adequate infrastructure facilities, including Heavy Equipments, & fleet of Heavy Vehicles on 24 hours/ 7 day week service provision. The concept of Container Freight Station has been conceived with the view to de-congest the Port. The CFS is nothing but an extension of Port only. SPECIAL FEATURES OF ST. JOHN CFS PARK ??? Pioneer Private CFS Operator in the Tuticorin Port area and in existence since 1995, India's First CFS to be certified ISO 9002 ??? Standards by BVQI. A total covered warehouse space of 1, 56, 000 Sq. ft consisting of 95, 000 Sq. ft for exports, 45, 000 Sq. ft. for import warehousing & 16, 000 Sq. ft. for import bonded warehouse and built with American Kirby Pre-engineered materials. ??? All handling Equipments such as one Top Lifter, one Reach Stacker, three cranes, 51 Trailers with prime movers and nine Fork Lifts are owned and maintained by in house technicians and hence, reliability and safety of containers, cargo and personnel. In order to keep pace with International Norms/Standards, our Fork Lifts are Gas Driven to meet " Eco-Friendly & Pollution-free" standards. The 150, 000 Sq. ft area of container stacking yard is floored with interlocking blocks and hence, ample space for safe stacking and storage of Import containers. ??? Operations all 7 days and three shifts a day and hence, operations are undertaken on a round the clock basis. ??? On site processing of documents is done using the Indian Customs EDI Scheme. ??? A Custom made CFS System enables on line tracking of cargo details. ??? High quality International standard security arrangements ensure security of cargo. ??? Administrative block of about 12000 Sq. t which is exclusively marked for Customs, cafeteria, Business center, Bank,

Insurance Counter, CFS Customers and administrative office. ??? CFS located on the Harbour Express Road, distance of 8 kms from Port Green Gate and hence haulage cost is minimized. ??? Experienced and reputed surveyors. ??? Overall infrastructure created on an international standard. ??? Adequate Insurance coverage. ??? Faster delivery and hence, better vehicle turnaround time. Bay Layout in Export Warehouse of St. John CFS Park [pic] The Export Warehouse of St. John CFS Park contains 308 bays.

There are supervisor to manage and to take care of the packages stored in the bays. Each supervisor takes care of eight bays. These supervisors manage packages from about ten Custom House Agent/ Forwarder. Packages handled by the particular Custom House Agent/ Forwarder showed be unloaded on the particular bays through the entry point near the particular bay. The bay series ' A' and ' B' are allocated to store pallet packages. Apart from these bay there is an additional bay labeled as ' NEW'. Other than the bay ' NEW' all other bay has a minimum storage volume is 30 CBM (Container Base Measurement). CBM = Length * Breadth * Height * Total No. of Packages) 1. 2. About the topic Warehousing is an integral part of every logistics capability. The basic functions of warehouse are movement, storage, and information transfer. A major objective is to provide an ideal product flow and acceptable level of service between the producer and the customer by designated locations with varying inventory levels based on local demand. An Export and Import warehouse provide transit storage facilities for goods awaiting onward movement facilities for break bulk, packaging, inspection, marking etc.

Import warehouse also provide customs bonding facilities of deferred payment of duty. Many function of this type of warehouse is storage of goods which are awaiting onward movements, for such kind of warehouse efficient utilization of the floor space is more important. As our Indian economy is booming which results in higher mobilization of goods will be higher with rest of the world. Therefore there will be a higher inflow and outflow of goods. This high traffic of goods could be managed only by the efficient utilization of the floor space. . 3. Implication of the Study This project will help the company to know, how efficient the floor space of the warehouse is utilized. This project will help the company to identify the reasons for the inefficient usage of floor space, if there is an inefficient usage of the floor space has been found. This study also helps the company to know about the pattern of package inflow, stuffing and the usage of bays on weekdays. 1. 4. Scope of the study This study is carried out on St. JOHN CFS PARK of St. John Freight Systems Ltd.

The scope of the study covers the storage warehouse which used to store export goods. This study does not include the Custom House Agent/ Forwarder. 1. 4. Need for the study The Indian Export/Import sector is riding high on the booming Indian economy. Optimum utilization of the available infrastructure, which aides the export/import sector is the need of the hour. Warehouse Space Management has a crucial role to play. There is a limited space available in the warehouse; hence the efficient usage of the available floor space was the need of the hour for the company.

Chapter II LITERATURE REVIEW 1. Logistical Management ??? The Integrated Supply Chain Process", Donal J. Bowersox and David J. Closs Warehouse

Management Warehouse is typically viewed as a place to store inventory. However, in many logistics system designs, the role of the warehouse is more properly viewed as a switching facility as contrasted to a storage facility. Storage has always been an important aspect of economic development. In the early stages of its expansion, the United Sates consisted of individual households that functioned as self-sufficient economic units.

Consumers performed storage and accepted the attendant risks. Meats were kept in smokehouses, and perishable products were protected in underground food cellars. As transportation capability developed, it became possible to engage in economic specialization. Product storage was shifted from households to retailers, wholesalers, and manufacturers. In the earlier era firms seeking to operate effectively between points of procurement, manufacturing and consumption gave little attention to internal warehouse operations.

The establishment of warehouses was essential for survival, but little emphasis was placed on improving storage and handling effectiveness. Engineering efforts were centered on manufacturing problems. Operation of early warehouses illustrated the lack of concern with material-handling principles. The typical warehouse received merchandise by railcar or truck. The items were moved manually to a storage area within the warehouse and hand-piled in stacks on the floor. When different product was stored in the same warehouse merchandise were continually lost.

Stock rotation was handled poorly. When customer orders were received, products were handpicked for placement on wagons. The wagons or carts

were then pushed to the shipping area where the merchandise was reassembled and hand-loaded onto delivery trucks. Following the World War II, managerial attention shifted toward increasing warehouse efficiency. Management began to question the need for so many warehouses. In the distributive industries such as wholesaling and retailing, it was not unusual for every sales territory to have a dedicated warehouse and inventory.

As forecasting and production scheduling techniques improved, the need for extensive inventory buildup was reduced. Production became more coordinated as a time delays during the manufacturing process decreased. Seasonal production still required warehousing, but overall need for storage to support manufacturing was reduced. Changing requirement of the retail environment resulted in a need to utilize warehouses to provide timely and economical inventory assortments to retailers. At the wholesale level of the channel of distribution, the warehouse became a support unit for retailing.

Progressive wholesalers and integrated retailers developed state-of-the-art warehouse systems capable of providing necessary retail support. Improvements in wholesale warehousing efficiency related to retailing soon were adopted in manufacturing. Warehouse became an integral part of JIT and stockless production strategies. Using consolidation shipments, products are purchased and transported to the supply warehouse and the distributed to manufacturing plants as needed. When fully integrated, the warehouse is a vital extension of manufacturing.

On the outbound side of manufacturing, warehouses created the possibility of direct customer shipment of mixed products. The capability to provide

factory direct mixed product shipments appealed to marketers because it enhanced service capability. For the customer, direct mixed shipments have two specific advantages. ??? Logistic cost reduced because full product assortment can be delivered while also taking advantages of the benefits to consolidated transportation ??? Inventory of the slow moving products can be reduced because they can be received in small qualities as part of consolidation.

As the level of competition in the market place increases manufactures capable of rapidly providing direct mixed shipments gain a competitive advantage. During the 1960's and 1970's emphasis in warehousing focused on application of new technology. Technology based improvements affected almost every area of warehouse operation created new and better techniques and procedure to perform storage and handling activities. In 1980's the central focus was on improved configuration of warehouse system and handling technologies During the 1990's the primary focus of warehousing is flexibility and effective use of technology.

Flexibility is necessary to respond to expanding the customer demand in terms of products and shipment profiles. Advanced information technology offers some of this flexibility by allowing warehouse operators to quickly react to changes and measure performance under wide range of conditions. 2. " BIM and Facilities Management"- AUTODESK?? REVIT?? BUILDING INFORMATION MODELING DWF-based Space Management DWF is a technology platform developed by Autodesk to distribute and communicate design information, without losing critical data and without the recipient needing to know or even have the native design software.

In that framework, Autodesk FMDesktop reads DWFs published from Revit and automatically interprets space and room data, without the FMDesktop user needing to know or even have Revit software. The benefits of using BIM (Building Information Modeling) during building design have been well-publicized and are fueling its adoption rate amongst architects worldwide – transforming their drawing-based processes to model-based processes. The benefits of using information from a building model for facilities management are likewise ompelling – fueling the discussion surrounding building lifecycle management and nudging facilities management towards model-based processes. 3. " BENCHMARKING WAREHOUSE PERFORMANCE STUDY"- Summary of Results for Data Collected through April 2006 for Internet-based Data Envelopment Analysis for Warehousing-Leon F. McGinnis, Andrew Johnson & Monica Villarreal. iDEAs-W is a tool developed to help warehouse managers understand and benchmark the performance of their warehouses. The iDEAs tool is a free service provided by the Keck Virtual Factory Lab at the Georgia Institute of Technology, and is accessed by pointing a browser to http://www2. sye. gatech. edu/ideas/. The tool is based on a generic performance model of warehousing developed by Hackman et al. (2001) and produces a system efficiency estimate considering several warehouse resources and several warehouse services. The tool uses a mathematical technique called data envelopment analysis to determine a relative efficiency by comparing a single warehouse to the best possible performance estimated from a set of peer warehouses. By April 2006, there were 390 warehouses that had complete input and output data. After completing outlier detection, 216 warehouses were used to complete this study.

However, not all the 216 warehouses answered every question about practices and attributes. The results of this study should be read with the understanding the presence or absence of a few data points can influence the conclusions for a particular analysis. Chapter III Methodology 1. Objectives 1. Primary Objectives ??? To Study the Space Management System Followed in the Export warehouse of St. John Container Freight Station (CFS) Park. ??? To find out the utilization of the floor space of bay in the warehouse. 2. Secondary Objective ??? To study the pattern of packages inflow on weekdays. To study the pattern of stuffing of packages on weekdays. ??? To study the usage of bays on weekdays. 3. 2. Research Design Research Design is a master plan specifying the methods and procedures for collecting and analyzing the needed information. Research Design followed in this study is Exploratory Research. 3. 2. 1 Sampling Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population. 3. 2. 1. 1 Sample Size: ??? Measurement of packages stored in 21 bays. Carting Order has been taken for the period of six months from August 2007. ??? Container Inwards has been taken for the period of six months from August 2007. ??? Gate Pass for container has been taken for the period of January 3rd to January 10th 2007. 3. 2. 1. 2 Sampling Method: The method of sampling used for the study is Judgment Sampling. Judgment Sampling is a non-probability sampling technique in which an experienced individual to select the sample based upon his/her judgment about some appropriate characteristic required of the sample members.

Characteristic of the sample taken: The bay which are full of packages and no more packages could placed are take as samples. 3. 2. 2 Data collection: 3. 2. 2. 1 Primary Data: Primary Data are data gathered and assembled specifically for the study at hand. In this research, Direct Observation is used in this study to collect the measurement of packages. 3. 2. 2. 2 Secondary Data: Data that are collected from published or unpublished sources are known as Secondary data. To study the Space Management in the Warehouse of St. John CFS Park researcher have collected the secondary data from the company database. . 2. 3. Tools for Analysis: The tools used for analysis are, ??? Bar chart. ??? Pie Char. ??? Cross tabulation. ??? Percentage chart. 3. 2. 4. Limitation of the Study: Temporal: Study is limited to the period of 45 days. Specific: ??? The study is limited to Export storage warehouse in St. John CFS Park. ??? This study does not include the Export storage warehouse used to store Tyres. Chapter IV Analysis and Interpretation: 4. 1. Analysis and Interpretation of the primary data collected for the Study on Warehouse Space Management in St. John CFS Park. 4. 1. 1. Chart representing he utilization bay floor space, number of columns in each which are more than and less than height of 1. 90 meters. Chart No. : 4. 1 [pic] 4. 1. 2. Table representing the unused bay floor space, number of columns in each which are more than and less than height of 1. 90 meters and the total number of the columns in each bay. Table No. : 4. 1. [pic] (CBM ??? Container Base Measurement) Inference From the above chart and table it could be inferred that the bay X08 floor space is used more than minimum utilization space (30 CBM), 100% of the columns in these bays are above the height 1. 0 meters. The bay E10, G06, H08, G08, O06 and F05 has more unused floor space and all the columns in these bays are of height less

than 1. 90 meter. Bay E10 have 33 columns and all the 33 columns are of height less than 1. 90 meters. Bay E10 has the more unused space of about 24 CBM. Bay X05 and F05 also have more unused floor space about 16 CBM

4. 2. Analysis and interpretation of secondary data collected. 4. 2. 1. Chart Representing the Number of Times the Bay ' A' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 2. [pic] Inference:

From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bay which are closer to the point are most frequently used. 4. 2. 2. Chart Representing the Number of Times the Bay ' B' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 3. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bay B01 and B12 which are closer to the point are most frequently used. . 2. 3. Chart Representing the Number of Times the Bay ' C' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 4. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bays which are closer to the point are most frequently used. Bay which are much interior are not used frequently. 4. 2. 4. Chart Representing the Number of Times the Bay' D' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. 4. 5. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very

little number of goods arrives on Sunday. Bays which are closer to the point are most frequently used. 4. 2. 5. Chart Representing the Number of Times the Bay ' E' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 6. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Bay E08, E09 and E10 are not used frequently. 4. 2. . Chart Representing the Number of Times the Bay ' F' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 7. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bays which are closer to the point are most frequently used. 4. 2. 7. Chart Representing the Number of Times the Bay ' G' Series Has Been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 8. [pic] Inference:

From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bays which are closer to the point are most frequently used. 4. 2. 8. Chart Representing the Number of Times the Bay ' H' Series Has Been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 9. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bays which are closer to the point are most frequently used.

H05 bay is used less frequently. 4. 2. 9. Chart Representing the Number of Times the Bay I Series Has Been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. 4. 10. [pic] Inference: From the above

chart it could be inferred that bays I07 to I14 are used frequently compared to the bays I01 to I06. The bay I06 is used less. The bays are used frequently on Friday. 4. 2. 10. Chart Representing the Number of Times the Bay ' J' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 11. [pic] Inference:

From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bay J01 is used more frequently on all the days. Bay J06 is used less. 4. 2. 11. Chart Representing the Number of Times the Bay ' K' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 12. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Monday and Friday. Very little number of goods arrives on Sunday. Bay K01 is used more frequently on all days.

Some of the bays are all used frequently on Wednesday. 4. 2. 12. Chart Representing the Number of Times the Bay ' M' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 13. [pic] Inference: From the above chart it could be inferred that most of the bays are used less. Bay M05 is used more frequently. On Wednesday it was used most frequently. 4. 2. 13. Chart Representing the Number of Times Bay ' N' Series and Bay ' New' has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 14. [pic] Inference:

From the above chart it could be inferred that bays are more frequently used on Friday. Very little number of goods arrives on Sunday. Bays which are closer to the point are most frequently used. Bay New is used on all days

except on Sunday. Bay New is used frequently on Thursday. 4. 2. 14. Chart Representing the Number of Times the Bay ' O' Series Has Been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 15. [pic] Inference: From the above chart it could be inferred that bay Q10 is used more frequently on all days. Very little number of goods arrives on Sunday.

Some of the bays are utilized more often on Monday. Bay O08 is used less on all days. 4. 2. 15. Chart Representing the Number of Times the Bay K Series Has Been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 16. [pic] Inference: From the above chart it could be inferred that bay P05 is used frequently on all days. Bay P08 and P09 is used less on all days. Most of the bays are used frequently on Friday. 4. 2. 17. Chart Representing the Number of Times the Bay ' Q' Series HAS BEEN Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. 4. 17. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Monday and Wednesday. Very little number of goods arrives on Sunday. Bays which are closer to the point are most frequently used. 4. 2. 18. Chart Representing the Number of Times the Bay ' X' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart No. : 4. 18. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday.

Very little number of goods arrives on Sunday. Bay X13 is used less. 4. 2. 19. Chart Representing the Number of Times the Bay ' Y' Series has been Utilized on a Particular Day for the Past Six Months on a Particular Day Chart

No. : 4. 19. [pic] Inference: From the above chart it could be inferred that bays are more frequently used on Friday and Saturday. Very little number of goods arrives on Sunday. Bay Y13 is used less. 4. 2. 20. Chart and Table Representing the Number of Times the goods arrived to the warehouse on weekdays on the Past Six Months Table No: 4. 2. Day | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY | SUNDAY | | Units | 1693 | 687 | 1203 | 1333 | 2482 | 3113 | 559 | Chart No. : 4. 20. [pic] Inference From the above chart it could be inferred that 29% of the times goods arrived on Saturdays. 22% of the times goods arrived on Fridays. 4. 2. 21. Chart and Table representing total number of Full Container Load (FCL) and Less Than Container Load (LCL) stuffed in the warehouse from 3rd January 2008 to 10th January 2008 Table No. : 4. . | Container Variety | FCL | LCL | | Numbers | 108 | 339 | Chart No. : 4. 21. [pic] Inference From the above chart and table it could be inferred in the past six months 76% of the total number of container stuffed in the warehouse was stuffed as LCL. 4. 2. 22. Chart and Table representing number of Full Container load and Less Than Container load stuffed on a weekday days in the warehouse from 3rd January 2008 to 10th January 2008 Table No. : 4. 4. Day | FCL | LCL | | Monday | 20 | 61 | | Tuesday | 10 | 82 | | Wednesday | 14 | 40 | | Thursday | 8 | 43 | | Friday | 17 | 43 | | Saturday | 22 | 35 | | Sunday | 17 | 35 | Chart No. : 4. 22. [pic] Inference From the above chart it could be inferred that in all weekdays more number of Less Than Container Load are stuffed than Full Container Load. On Tuesday about 80% more number of Less Than Container Load is stuffed than Full Container Load. On Tuesdays least number of Full Container Load is stuffed compared to other weekdays. On Tuesdays more number of Less Than Container Load is stuffed than other weekdays. 4. 2. 23. Chart representing

the variety of container stuffed as Full Container load and Less Than Container Load stuffed in the warehouse from 3rd January 2008 to 10th January 2008 Table No. : 4. 5.

Variety of Container	FCL	LCL
20 Feet	80	116
40 Feet	19	88
40 High Cube	9	132
45 Feet	0	3

Chart No. : 4. 23. [pic] Inference From the above chart and table it could be inferred that more number of Less Than Container Load is stuffed more than Full Container Load in all variety of containers. 20 Feet Container is stuffed more than other type of container. 100% of 45 Feet container is stuffed as Less Container Load. 4. 2. 24. Chart representing the variety of container stuffed on the weekdays on the past six months Table No. : 4. 6.

Day	Container Variety			
	20 Feet	40 Feet	40 High cube	45 Feet
Monday	659	373	529	31
Tuesday	595	270	414	23
Wednesday	529	278	478	47
Thursday	523	394	443	25
Friday	908	611	542	19
Saturday	1086	578	712	5
Sunday	45	2	6	0
Total	4345	2506	3124	150

Chart No. : 4. 24. [pic] Inference From the above chart it could inferred that in all the weekdays 20 Feet Container is stuffed more than all other container. About 85% of the container stuffed on Sunday is 20 Feet Container. In all weekdays 45 Feet container is stuffed less than 4%. Table No. : 4. 7. Table representing number of days, some packages stored on the warehouse, which are stuffed during 03/01/2008 to 10/01/2008.

SB No	Goods Inwards Date	Goods Outwards Date	No. f days the goods in the warehouse
6204856	24/12/2007	3/1/2008	11
6206601	27/12/2007	3/1/2008	8
6206704	20/12/2007	3/1/2008	15
6206743	19/12/2007	3/1/2008	16
6207134	21/12/2007	4/1/2008	15
6207739	31/12/2007	4/1/2008	5
6208734	24/12/2007	3/1/2008	11
6208785	27/12/2007	4/1/2008	9
6208856	27/12/2007	9/1/2008	

14 | | 6208856 | 29/12/2007 | 4/1/2008 | 7 | | 6210319 | 29/12/2007 | 4/1/2008 | 7 | | 6210439 | 28/12/2007 | 4/1/2008 | 8 | | 6210508 | 29/12/2007 | 4/1/2008 | 7 | | 6210880 | 31/12/2007 | 4/1/2008 | 5 | | 6210900 | 29/12/2007 | 5/1/2008 | 8 | | 6211229 | 31/12/2007 | 4/1/2008 | 5 | | 6211742 | 1/1/2008 | 7/1/2008 | 7 | | 6211781 | 2/1/2008 | 8/1/2008 | 7 | | 6211819 | 2/1/2008 | 7/1/2008 | 6 | | 6211967 | 2/1/2008 | 7/1/2008 | 6 | | 6211968 | 2/1/2008 | 8/1/2008 | 7 | | 6212408 | 4/1/2008 | 10/1/2008 | 7 | | 6212552 | 4/1/2008 | 10/1/2008 | 7 | | 6213528 | 5/1/2008 | 10/1/2008 | 6 | (SB: Shipping Bill) Inference From the above table it could be inferred that some of the packages are stored in the bay for more than 14 days. Most of the packages are stored more than 5 days. More packages are stored in the warehouse more 7 days. Chapter V Findings ??? The bays X08 and D03 used the floor space more than the average floor space, since all the columns in the bay are of height more than 1. 90 meters. The bays E10, G06, H08, G08, O06 and F05 have more unused space of about 6 CBM to 24 CBM, because 100% of the column present in bay are of height less than 1. 90 meters. ??? Free space is created in the bay due to the columns of low height. ??? Most of the bays are used frequently on Fridays and Saturdays. ??? Most of the bay is left unused on Sundays. ??? 22% of the goods arrive on Fridays. ??? 29% of the packages arrive on Saturdays. ??? Only 5% of the packages arrive on Sundays. ??? 76% of the container stuffed in the warehouse is stuffed as LCL. ??? About 90% of the total number container stuffed on Tuesday is stuffed as LCL. ??? More number of 40 high Cube is stuffed as LCL Only about 10% of the 40 High Cube Container Stuffed on Tuesday is stuffed as LCL. ??? On Tuesday more number of LCL is stuffed on the warehouse. ??? More number of 20 Feet containers is stuffed on warehouse than other type

of containers. ??? 85% of the container stuffed on Sunday is 20 Feet Container. ??? 45 Feet container is stuffed less than 4% in all the weekdays. ??? Some of the packages are stored in warehouse more than 7 days. Chapter VI Conclusion Through the project the researcher was able to know about the importance of space management and various factors which affect the floor space utilization of the warehouse. This study gives the researcher an insight of the Export and Import warehouse functioning.

The utilization of the floor space in the bay has been measured. The reasons for the inefficient usage of the floor space have been identified. The pattern of goods inflows and stuffing in the weekdays has been studied. The pattern of the usage the bays on the weekdays has been studied. Chapter VII Suggestions: ??? By converting present storing system of warehouse to rack storing system. So that more number of packages can be stored. ??? By installing rack storage system in bay X and Y and categorizing these shelves for the storage area of packages which will occupy less height in a column. ??? Cost for storing the packages can be increased so that packages will not be accumulated for a long time. Storage charges for the packages in the warehouse are made when storage period exceed seven days. This storage period should be reduced. So that the packages will not mount up in the warehouse. Chapter VIII BIBLIOGRAPHY 1. Logistical Management ??? " The Integrated Supply Chain Process" by Donal J. Bowersox and David J. Closs. 2. Logistics Engineering and Management ??? Sixth Edition by Benjamin Blanchard 3. Physical Distribution Management : Logistical Approach by Dr. K. K. Khanna 4. Business research Methods – William G. Zikmud 5. www. fmdesktop. com/files/Download/BIM 6. http://www2. isye.

gatech. edu/ideas/ Chapter IX APPENDIX Direct Observation Form | Date | Bay No. : | Measurement (cm) | No. of Columns | No. f units in each | Type of Package | | | | | | column | | | | | L | B or R | H |