A STUDY ON THE CHALLENGES FACED BY THE USERS OF WAREHOUSE IN HYDERABAD CITY

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Absract

Warehousing allows for timely delivery and optimized distribution, leading to increased labour productivity and greater customer satisfaction. The purpose of the study is to understand the areas of difficulties in warehousing activities from the user's point of view and analyze the various challenges faced by the users of the warehouses. The responses were collected only from the users of the warehouses as the study was limited to the users only of Hyderabad City. The data was analyzed and interpreted using various statistical tools which could further be helpful to know the reasons holding the major setbacks of warehousing with the users.

Keywords: Warehousing, Simplification of Warehousing, and Inventory Management.

1.1 Introduction

A warehouse can be defined functionally as a building in which to store bulk produce or goods (wares) for commercial purposes. Warehouses are used by manufacturers, importers, exporters, wholesalers, transport business, customs etc. [i]

Warehouses play a vital role in trade where trade is defined as exchange of goods and services from one place to another.[ii]

Hyderabad has become a hub of trade and commerce and an international centre for information technology (IT). Pharmaceuticals, cigarettes, and textiles are among the items manufactured there. Though the warehousing market is still at a nascent stage, Hyderabad's strategic location and excellent road infrastructure will act as a catalyst to attract occupiers from segments such as e-commerce and the third-party logistics towards warehousing at peripheral belts.[iii]

1.2 Review of Literature

1.2 (ⅰ) Hermann Gruenwald (2020) : Hermann Gruenwald explained that with the corona crisis and, the lockdowns and closed borders, domestic production became a real alternative. Warehousing took on its old

buffer function but capacities were at their limits. More challenging is the cold-storage supply chain. Online businesses like Amazon expanded their warehouses and became the universal warehouses for better off in the world. With it, DHL, FedEx, and UPS took on logistics functions with a greater role in warehousing from medicine, electronics to food.[iv]

1.2 (ii) Steffen Bangsow (2020) : Steffen Bangsow study says that one can use several objects for modelling storage and warehouse processes but main building blocks are buffer and store. The modelling of warehouse controls, combined with production control systems, is a major challenge for the simulation.[v]

1.2 (iii) V. Sivakumar and R. Ruthramathi (2019) : According to Sivakumar and Ruthramathi, warehousing is responsible for the storage space and management of the inventories beginning with supplier's receipt to consumption point. In addition to this are the highlights of the immediate control of the capacity of store distribution centre space, inventory network and the elevated level of robotisation.[vi]

1.3 Types of warehouses:

There are three types of warehouses namely public, private and bonded warehouses.

(i) Private Warehouses: The private warehouses are owned and operated by big manufacturers and merchants to fulfil their own storage needs.

(ii) Public Warehouses: A public warehouse is a specialised business establishment that provides storage facilities to the general public for a certain charge. It may be owned and operated by an individual or a cooperative society. It has to work under a license from the government in accordance with the prescribed rules and regulations.

(iii) Bonded Warehouses: Bonded warehouses are licensed by the government to accept imported goods for storage until the payment of custom duty. They are located near the ports. These warehouses are either operated by the government or work under the control of custom authorities. The goods are held in bond and cannot be withdrawn without paying the custom duty. [vii]

1.4 Challenges of Warehousing

Managing a warehouse has always been challenging, and trends in logistics management continue to make it harder every day. Here is a look at seven of the top warehousing problems:

   i.   Inventory Inaccuracy

  ii.   Redundant Activities

 iii.   Suboptimal Picking

 iv.   Space Utilisation

  v.   Product Diversification

 vi.   Seasonal Demands

vii.   High labour Costs[viii]

1.5 Research Methodology, Sampling Frame and Size

The research is conducted by using Primary data; collected by using a structured questionnaire in the form of Google forms. Secondary data were collected from various journals, magazines, reports, and websites available. Sampling size and frame constitutes of 32 respondents of age group between 25-50 years.

Henry Garrett Ranking tool/test has been used to determine the most Challenging Factor for the warehousing activities.

Application of statistical tool to determine the most challenging factor for warehousing:

Henry Garrett's statistical tool

Henry Garrett's method is often used to complete the ranking of an alternative based on the ratings of respondents that are converted into certain ranks. This ranking is done by determining the most significant factor from the respondent's answer. The ranking of alternatives using Garrett method is done by calculating the respondent's data as a factor of the percentage position value using the following equation:

$$\left[\frac{100(R_{ij} - 0.5)}{N_j} \right]$$

Where, R_{ij} is the value of the i-variable given by the respondents to j, while N_j is the number of variables assessed by as many as j respondents.

The results of the percentage position are then converted into Garrett Values using the Garrett ranking conversion table. The value of R_{ij} is then multiplied by the Garrett Value to determine the Total Garrett Score. The average Garrett Score is then calculated by dividing the Total Garrett Score by the number of alternatives. The alternative ranking is done based on the highest average value.

In this research, the Garrett method is applied to determine the most challenging factor for warehousing activities from the respondent's answer. The following are challenging factors for the warehousing activities.

Challenging Factors

S No	Particulars	Symbol
1	Inventory Inaccuracy	CF_1
2	Suboptimal Picking	CF_2
3	Space Utilisation	CF_3
4	High labour Costs	CF_4
5	Seasonal Demands	CF_5

Source : Primary Data March 2021

The next step was to calculate the percentage of the position of each challenging factor. The results of the calculation of the percentage of positions as well as conversions into Garrett Value are shown in the table.

Garrett Scores

S No	Percent position by using the formula $$\left[\frac{100(R_{ij} - 0.5)}{N_j}\right]$$	Percent Position Score	Garret Score
1	[100 (1– 0.5) / 5]	10	75
2	[100 (2– 0.5) / 5]	30	60
3	[100 (3– 0.5) / 5]	50	50
4	[100 (4– 0.5) / 5]	70	40
5	[100 (5– 0.5) / 5]	90	24

R_{ij} = rank given for the ith variable by jth respondents

N_j = no. of variable ranked by jth respondent.

Furthermore, the results of the calculation of the percentage of positions are converted into Garrett Value. This Garrett Value then becomes a multiplier component for each result. The results of the calculation of the percentage of positions as well as conversion into Garret scores are shown in the table below.

The next step was to calculate the total Garrett Score by multiplying each value given in the results of the questionnaire by Garrett Value and were then summed up. This treatment applies to the calculation for each factor. Then, the average Garret score was calculated by dividing the total Garrett Score in each factor by the number of factors being ranked. The result of Garrett score calculation is factor ranking based on the highest average Garrett value. It can be seen that, the Garret score automatically shows the best ranking sequence based on the percentage position value of each scale. In other cases, the ranking position may differ depending on the value of the questionnaire generated.

Results of Garrett Rank techniques for the most challenging factors

S No.	Stress Factors	Ranks					Total Respondents	Total Score	Total Mean Score	Rank
		1	2	3	4	5				
1	CF_1	5	9	8	4	6	32	1619	50.59	3
2	CF_2	3	9	9	6	5	32	1575	49.21	4
3	CF_3	9	5	9	4	5	32	1705	53.28	2
4	CF_4	7	9	5	8	3	32	1707	53.34	1
5	CF_5	10	4	1	6	11	32	1544	48.25	5

Primary Data March 2021

Ranks: 1st = High labour Costs

2nd = Space Utilisation

3rd = Inventory Inaccuracy

4th = Suboptimal Picking

5th = Seasonal Demands

1.6 Conclusion:

Therefore, the results of the Garret ranking showed that High labour Costs is in the first position to be the most challenging factor for the warehousing activities. Thus, the researcher concluded that Garret ranking could be used for ranking technique especially for models that combines the results of ranking with other approaches. The major limitations during the research were time, area of study, authenticity of the responses and the fact that it was only useful to the warehouse users. Additionally, the following suggestions were given by the researcher for the simplification of the warehousing:

1. The researcher suggested that a new app for the warehouse users would be helpful to keep them posted with the updates of the warehouse.

2. The researcher suggested that by knowing the limitations of the warehouse and involving the employees of each level to ask for their suggestions about the functioning and facilities will help reduce the difficulties and acquire possible solutions for these problems.

3. It was also suggested to analyse the material usage patterns in the warehouse to ease the warehousing activity.

4. The researcher suggested to update the stock details daily in the system and to store the goods in order according to its demand or priority to support the dispatch activity of the goods.

5. It was suggested to train the staff about warehouse equipment and machinery handling for their efficient performance.

6. It was also suggested that by investing in necessary equipment and machinery, being cognizant of morale, being realistic and giving recognition where its due can optimise the labour productivity.

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