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## **A Study On Post Purchase Behaviour With Reference To Chillers**

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**Abstract :**This Research identifies the purchase Criteria when choosing a particular Air conditioner or Chiller and also understanding the Customers needs and how to meet the demands. The study mainly focuses on the Post Purchase satisfaction & dissatisfaction of the buyer.Analyzing the different constraints in Erection and commissioning and to provide solutions to overcome it. The findings, research and models developed in the study are restricted in applicability to Market scenario in Chennai only. The purpose of this study is to suggest the development noticed in the Industrial air conditioner Market in India. It is intended as an introductory and illustrative empirical study on the various challenges encountered in execution of a project and providing opportunities for future growth along with thorough understanding of the customers need.

**KEYWORDS:** Chiller , Customer, Post Purchase

### **1.0 INTRODUCTION**

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Establishing a foothold in a new market, particularly a highly developed one, is still difficult for most companies. The hurdles are many building up familiarity with customers and channels, understanding their needs, designing the right Products and creating competitive distribution capabilities. While many companies have adjusted well to new requirements in their own demography, transferring these skills for fool proof distribution on the whole proves to be an issue which needs to be addressed. Any firm for surviving in the market need to address their customer requirement after supply of product, supporting them is erection, commissioning & servicing the products. Thus post purchase behavior of any customer is the main cause for the product promotion in the particular market segment.

### **1.1 OBJECTIVES OF THE STUDY**

- To Understand the Customer Post purchase Behaviour in Industrial Air Conditioning market.

- Identifying the purchase Criteria when choosing a particular A/C.
- Understanding the Customers needs and how to meet the demands.
- Analyzing the different constraints in Erection and commissioning and to provide solutions to overcome it.

## **1.2 PERIOD AND AREA OF STUDY**

The data collected is for the period of 3 months i.e. from December 2009 to February 2010. The opinions and expectations revealed pertain to the same period. The study is based on the data collected from Industries in and around Chennai.

## **1.3 METHODOLOGY**

### **1.3.1 Sampling Design**

The validity of any research is based on the systematic method of data collection and analysis of the data collected. As stated above, the study is based on the data collected from the Industries in and around Chennai .

### **1.3.2 Collection of data**

The main tool for collecting the data was a questionnaire. It was pre-tested to ensure clarity and prompt response from the respondents. The secondary data was collected from various Textbooks, Journals & Magazines. The sample size was 50. Convenience sampling technique was adopted to select the Industries.

### **1.3.3 Limitations**

The Study conducted limits to selected brands of Industrial air conditioners. The findings, research and models developed in the study are restricted in applicability to Market scenario in Chennai only.

### **1.3.4 Analysis and Interpretation of Data**

The data collected was analyzed by preparing suitable tables. The information collected with the help of the questionnaire has been tabulated and analyzed by using percentage analysis .

## **1.4 IMPORTANCE OF THE STUDY**

In 2018, the world market for air conditioning was valued at USD 125 billion With total sales amounting to USD 68 billion in 2018. The Chinese market alone was valued at USD 17 billion in 2008. Sales of air conditioners in the Americas region were valued at USD 21 billion, followed closely by Europe with USD 30 billion market size in 2018. The Middle East, Africa and India market was valued at USD 30 billion. According to BSRIA, the global residential/light commercial market, which includes windows, portables and movables, was valued at USD 73 billion, representing approximately a 18 percent increase from the previous year. Minisplits continued to be the largest market

segment in terms of value. So there is need for the study in A/C generation. The purpose of this study is to suggest the importance of understanding the buyer behavior, expectation on service delivery and the different service options preferred by the industrial customer. This study will help to provide a complete solution to meet the clients requirements and for the optimized utilization of man power.

## **1.5 RESULTS AND DISCUSSIONS**

### **1.5.1 The Competitive Strengths and Weaknesses of Emerging Global Customer Post purchase Behaviour.**

The global success of companies will depend on the competitive advantages they develop and maintain in the marketplace. Clearly, one core advantage is access to low-cost resources. Other advantages shared by many, include products that appeal to price-conscious customers, relatively modern and efficient plant and Equipment and access to huge talent pools. On the other hand, there are potential constraints to global success for some of these companies in the form of lack of close relationships with customers, a slow rate of innovation, a dearth of in-house intellectual property, a lack of strong brands and customer franchises, problems with access to effective distribution channels, and limited experience in managing.

**Window/through the wall units:** Currently, in 25 out of the 46 observed countries, the market for window units continues to decrease. The US is still the largest world market for windows, but sales dropped in 2019-20 compared with the previous period. India, the second largest market in the world, will continue its sustained slow growth mostly due to strong demand from customers with low disposable income. However, at the moment the Indian windows market is experiencing strong competition from minisplits to movables. In 2008, half of the world sales in the movables market were made in Europe. A hot summer combined with lack of minisplits stock and in some countries, installers' availability, prompted the market to double in volume compared with its performance in 2008. However, the market in France plummeted by 75 percent and the markets in Spain, UK and Germany also experienced a decline.

This was partially caused by customers switching to permanent cooling solutions such as minisplits in anticipation of changes in global weather. **Minisplits:** China continues to be the world leader in the minisplits market. The Chinese market for minisplits will grow by 11 million units by 2011. China is the biggest manufacturer and also the largest minisplit market in the world. With 24 million units sold in 2007-08, China accounted for nearly half of the world minisplit. Process applications aim to provide a suitable environment for a process being carried out, regardless of internal heat loads and external weather conditions. Process applications include the following.

- Hospital operating theatres in which air is filtered to high levels to reduce infection risk and the humidity controlled to limit patient dehydration. Although temperatures are often in the comfort range, some specialist procedures such as open heart surgery require low temperatures and others such as neonatal require relatively high temperatures.

- Clean rooms for the production of integrated circuits, pharmaceuticals require very high levels of air cleanliness and control of temperature and humidity are required for the success of the process.
- Facilities for breeding laboratory animals. Since many animals normally only reproduce in spring, holding them in rooms at which conditions mirror spring all year can cause them to reproduce year round.
- Aircraft air conditioning. Although nominally aimed at providing comfort for passengers and cooling of equipment, aircraft air conditioning presents a special process because of the low air pressure outside the aircraft.
- Data Processing Centers
- Textile Factories
- Physical Testing Facilities
- Plants and Farm Growing Areas
- Nuclear Facilities
- Mines
- Industrial Environments

In both comfort and process applications not only is the objective to control temperature but other factors including humidity, air movement and air quality. The choice of chillers is based on building capacity. The unit for measurement is TR (Tonnes of refrigeration). Water Chillers are also known as Industrial Chillers or Process Chillers or Liquid Chillers. These Chillers are mainly used for Machine Cooling, Laser Cooling, Chemical Cooling, Comfort Cooling, Food Processing, Product Cooling and various other applications.

### 1.5.2 Factors Considered for purchase of chillers

**Table No.1** :Factors Considered for purchase of chillers

SI No.	CRITERIA	NO OF RESPONDENTS	PERCENTAGE
1	Efficiency	13	26
2	Reliability	10	20
3	Price	9	18
4	After Sales service	7	14
5	Maintenance	6	12
6	Technical	3	6
7	Specification	2	4
		50	100

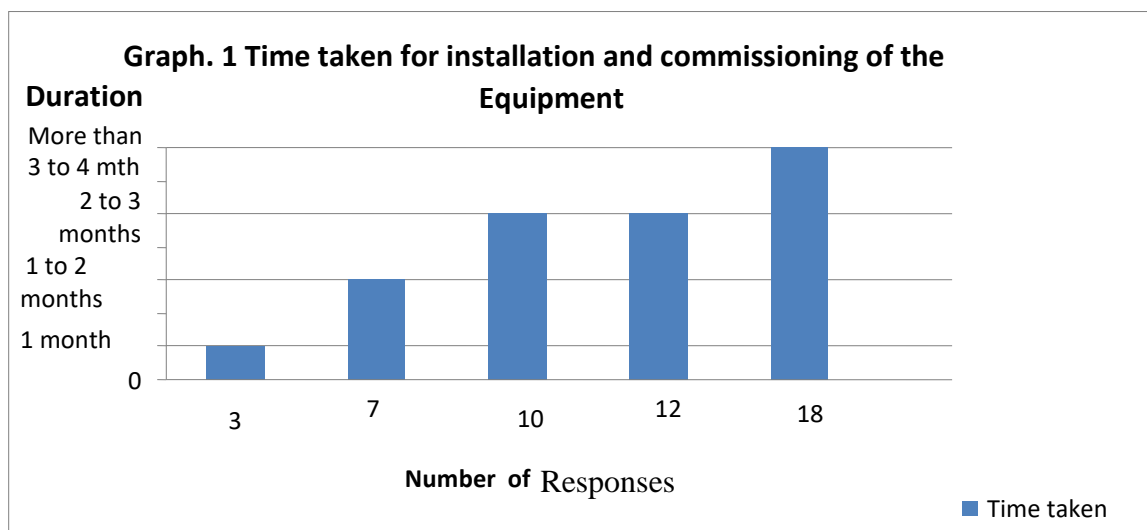
- **Efficiency** plays a very important role when purchasing a chiller because chillers are capital investments made only once. From the above Table No.1, the respondents on efficiency were more i.e.13 and the percentage is 26%. It is not feasible to change the chiller arrangement once the installation is done. The

output generated and the life of the chiller determines the efficiency. Efficiency is followed by reliability.

- **Reliability** is other important factor for any purchase. One such factor where in customers look for uninterrupted air supply for a continuous operation. Hence reliability is one of the major factors considered for purchase of chillers. From above Table No.1 there were 8 respondents which is next high percentage to Efficiency.
- **Price, after sales service & maintenance** comes under normal factor were people look for. This is also major factors considered for purchase of chillers. The respondents had rated references, delivery & commercial terms as the least factors considered for purchase of chillers.

### 1.5.3 Time taken for installation & commissioning of the equipment

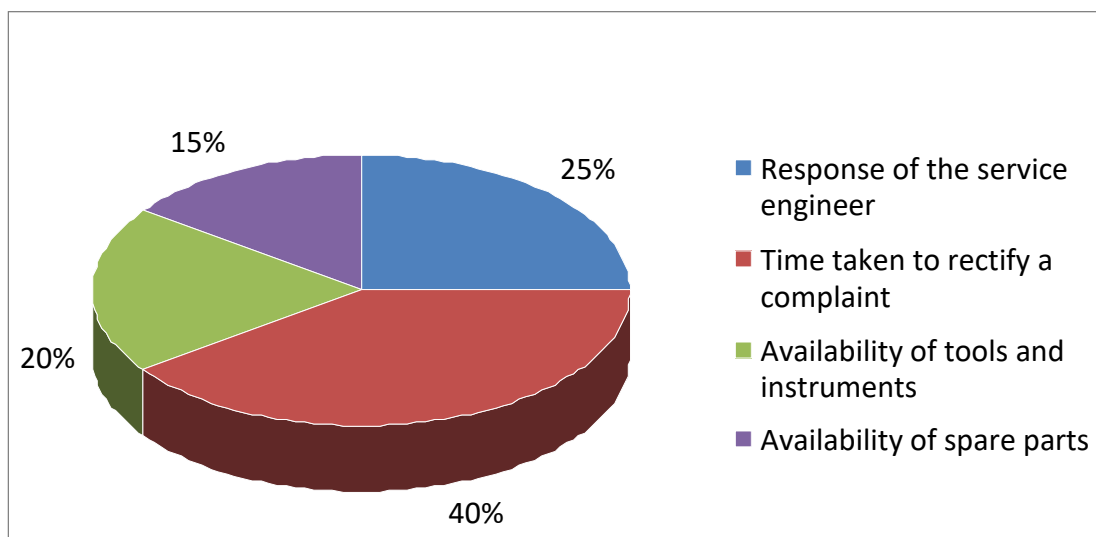
Installation & commissioning of chillers also requires a lot of consideration. It is part of the project management team. Installation & commissioning differs from every project as it is based on the capacity of chillers installed.



- The above graph (*Graph 1*) represents an ideal time band the respondents feel should be the average time taken for installation & commissioning. Out of the sample size of 50, 40% feel the ideal time that should taken for installation & commissioning to be within 2 to 3 months.
- Customers by large are not acceptable for delayed time limes for more than three months as seen in the graph (*Graph.1*). So Project scheduling becomes a major factor for installation & commissioning of chillers.
- Today focus is more on the serviceability of the product than never before. Customer expects faster response to service complaints. Some of the terms used in industry today is **MTTR** (Mean Time to Repair). They are constantly focusing in reducing the MTTR.

### 1.5.4 Expectation on service delivery

**Graph 2: Expectation on service delivery**



**Table No.2 Expectation on service delivery**

SI No.	CRITERIA	NO OF RESPONDENTS	PERCENTAGE
1	Response to Service	13	25
2	Time taken to rectify	20	40
3	Tools Availability	10	20
4	Spare parts	7	15
		50	100

Organizations are feeling the importance of Expectation on service delivery. When we look at the above graph (Graph 2) .We can infer that 40% of the respondents feel that importance to be given on the time taken to rectify a complaint. In any case no customer is happy to when his equipment is lying idle. It should be operational at the earliest.

- When a complaint has been registered at the service desk the response time taken by the engineer is very important. This also forms an integral part of expectation on service delivery. The customer at least feels convinced that his equipment or machinery is in safe hands now. This confidence can only be brought through faster response from the service engineer and the rapport he creates with the customer.

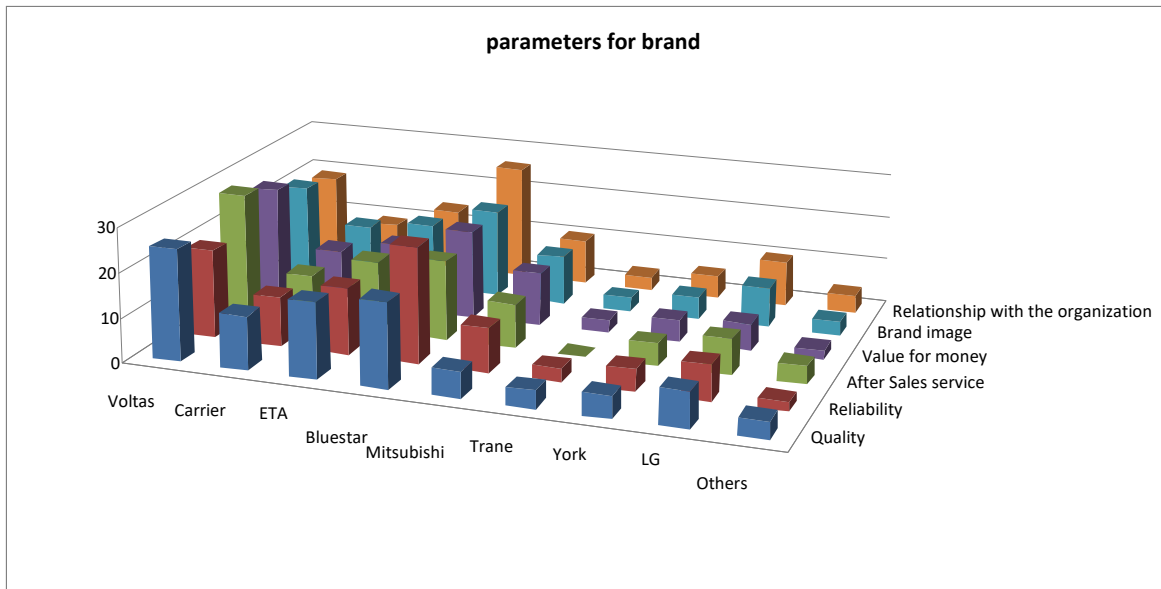
- The service engineer must be well equipped with all the tools & tackles when he addresses a service issue. The customer must not be made to wait for want of tools & tackles.
- One more factor which needs to be emphasized here is availability of critical spares. In case of any breakdown the customer has to be provided with an alternative mode of operation.
- In case of any replacements the particular item must be made available in the warehouse. If in case it is not available in the warehouse alternate arrangements have to be made to procure the same and put the unit into operation.

### 1.5.5 PARAMETERS FOR BRAND

To understand the customer's expectation on different brands a set of parameters were selected and the respondents were made to select the parameters depending on their experience and knowledge on the brand.

**Table No. 3 Brands Preferred**

SI No.	COMPANIES	NO OF RESPONDENTS	PERCENTAGE
1	Voltas	10	20
2	Carrier	8	16
3	ETA	9	18
4	Blue Star	9	18
5	Mitsubishi	5	10
6	York	2	4
7	LG	3	6
8	TATA	4	8
		50	100



**Graph 3: Parameters for brand**

- The parameters which were considered are Quality, Reliability, After Sales service, Value for money, Brand Image & Relationship with organization.
- Some of the major brands in Indian market were considered namely Voltas, Carrier, ETA, Bluestar, Mitsubishi, Trane, York & LG
- Of all the parameters and the brands respondents had a greater affinity toward brands like Voltas, Carrier & Bluestar compared to the newer brands like York, LG & Trane.
- The year 2017-2018 saw some major changes in Indian Market with respect to chillers. This was the time when MNC entered India to grab the market share. Only after that did we see changes in the approach of companies in terms of Advertising, Marketing, After Sales service, Parts support etc. Every company present and future wants to hold on to the market share by improving their services to the customer.

### 1.6 SUMMARY OF FINDINGS

- Chennai is growing and has all the characteristics to become one of the largest markets in the India. First, Chennai too has a large population - and still growing.
- Second, the level of penetration for air-conditioning is still low. A markets potential is measured by looking at them in terms of air-conditioning spent per capita. Roughly speaking, in India it's a \$1.3 billion market, and thus, the per capita spend on air-conditioning is merely \$1.3. Chennai shares 25% of it.



- The economy's growing and the growth rate over the past few years has been very impressive. Moreover, Chennai's a hot and humid City and the growth in infrastructure, retail, real estate and other sectors are all indicators that chillers will be much in demand.

Newer technology and higher efficiency products need to be introduced in the market. Since Energy saving and cleaner environment are some of the major concerns companies need to bring Energy efficient products and power savings also. Chennai has a challenge in terms of power. Building up infrastructure while keeping up with the growing demand for electricity is going to be tough. Thus, it is important for industry in Chennai to focus on energy-efficient products.

- Companies like Hyundai , Nokia , Samsung, Motorola, Foxcon and many more companies at Sriperumbudur and Companies like Ford , Visteon & BMW at Chengalpet and many Companies situated within ChennaiCity need to focus on sticking to deadlines. Proper project management techniques must be followed for addressing installation processes.
- Competitive advantage, Above-average management & Market leadership are the three important characteristics which would differentiate a good company with a best company.
- Focus should be on positive human resource development and employee retention measures. While employee remuneration is an important part of corporate human resource policy, paying high salaries is not enough. People expect to be treated fairly, they want to acquire new skills and assume higher responsibilities.

## **1.7 CONCLUSION**

The companies have to focus on their strategies by reviewing it in an effective manner and further they have to a make structured implementation process, in order to boost their productivity and performance to sustain in this competitive market.The Indian government has to assist by facilitating and supporting the Indian companies as well as the market, by understanding their needs and the requirements in fast and delivering it in a crucial manner.The data collected through primary sources & secondary sources has given an insight on challenges present in this market and how the same can be overcome.

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