Global Journal of Management and Business Research: E Marketing
Volume 15 Issue 1 Version 1.0 Year 2015
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

A Study on Dealer's Preference towards Water Pumps with Special Reference to Beacon Pump in Chennai City

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Abstract- This paper examines the dealer's perception, consumer brand preference, sources of awareness, dealer's expectation and special references to Beacon pump. Statement of the problems is to study on dealer's preference towards water pumps with special reference to Beacon pumps in Chennai city India. The experiments were taken on dealer's preference and find out the factors which is influence the dealers. An objective of the study is to know brand preferences of dealers with reference to Beacon pump and also need to find which factors influence dealers. The study mainly involves finding out the dealers perception, consumer brand preference, source of awareness, dealers expectation and so on. More than 26% of dealers are deal with Texmo brand pump. Brand image is the most important factors for dealers among the other factors.

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GJMBR - E Classification : *JEL Code : M31*

Strictly as per the compliance and regulations of:

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Abstract- This paper examines the dealer's perception, consumer brand preference, sources of awareness, dealer's expectation and special references to Beacon pump. Statement of the problems is to study on dealer's preference towards water pumps with special reference to Beacon pumps in Chennai city India. The experiments were taken on dealer's preference and find out the factors which is influence the dealers. An objective of the study is to know brand preferences of dealers with reference to Beacon pump and also need to find which factors influence dealers. The study mainly involves finding out the dealers perception, consumer brand preference, source of awareness, dealers expectation and so on. More than 26% of dealers are deal with Texmo brand pump. Brand image is the most important factors for dealers among the other factors. On the other hand quality is another most important factor for the customer. According to the customer demand Jet pump have high sale in the market. On the basis of rating of after sale service Suguna pump is in good position. We conclude that on the measurement of various factors dealer's preference are typically. Since Beacon pump are very new in the market so it might take another few years to get preference by the dealers.

Keywords: dealers, water pump, perception, brand preference.

I. Introduction

Man has been using pumps of some type for 4000 years, which makes 50 years a very short time in the history of pumping. Indeed, looking back at the most significant developments in technology, the last fifty years seem relatively insignificant. By 1959, all the major pump designs had been introduced and mostly developed into commercial products.

Water pumps have been existent since 3000 B.C. Early pumps were made with water wheels and chutes, and used animals to provide the energy to move the wheels. Early pumps were Mesopotamians, 500 B.C, Force Pump and now days various types of modern pumps have been used include a centrifugal pump, axial flow pump, jet pump and electromagnetic pump.

An objective of the study is to know brand preferences of dealers with reference to Beacon pump and also need to find which factors influence dealers. The study mainly involves finding out the dealers perception, consumer brand preference, source of awareness, dealers expectation and so on.

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II. Literature Review

a) Early Days Pumps

i. *Mesopotamians*

The Mesopotamians were responsible for the first pump around 3000 B.C. They used a wooden lever next to the water bank, with a counterweight on one end and a bucket on the other. When the pole was pushed down, the counterweight brought the bucket back up and it emptied into a trough.

b) Modern Day's Pumps

i. *Centrifugal Pump and Savery Pump*

The centrifugal pump is motor-driven, with internal workings that create suction to pull the water. It was invented in the late 1600s by Denis Papin. In 1698, Thomas Avery invented a pump that operated on steam to create a vacuum to draw water.

ii. *Axial-flow and Jet Pumps*

Since the 1940s, axial-flow pumps have been used a compressor in jet engines. Jet pumps are used in wells that are deeper than 200 feet.

iii. *Electromagnetic Pumps*

Electromagnetic pumps are used to move conductive liquids and can handle extremely high temperatures. This type of pump is used in nuclear reactors.

c) Different types of water pump

i. *Jet Pumps*

A jet pump can be installed at a couple of different depths below the ground. The shallow and deep well jet pumps will pull water out of the ground between 25 feet and 100 feet.

ii. *Submersible Well Pumps*

Submersible water pumps perform the opposite job to retrieve water from the well, pushing water up from the well instead of using the machinery to pull the water out of the hole. These types of pumps are lowered

deeper into the ground, according to the specifications of the local water district for obtaining ground water.

iii. *Manual Pumps*

Manual water pumps are a throwback to the past because the consumer has to manually perform an action to pump water out of the ground. For example, you can obtain water by turning a crank or pumping a lever up and down.

iv. *Sewer Sum pumps*

Sewer pumps are needed to pump sewage water from the house into the septic system. Inside the septic tank, the water will break down and return to the soil through the soil absorption system. The sewer sum pump is a pump submersed into the ground. Pumping the septic tank every few years will help to improve the life of the sum pump.

v. *Circulation Pumps*

Water circulation pumps are needed to circulate water around the house. Two examples are pumps that pump water from the water purifier tanks outside into the house and the water pumps that send water from the hot water heater into the bathroom, kitchen and laundry room. The water circulation pump may use centrifugal force to pump water from the source to the destination.

d) Different Types of Hand Pumps

i. *Suction and lift hand pumps*

Suction and lift are important considerations when pumping fluids. Suction is the vertical distance between the fluid to be pumped and the centre of the pump, while lift is the vertical distance between the pump and the delivery point.

ii. *Siphons*

Water will always try to find its lowest level. Using this principle, very simple pumps with plastic or rubber bulb with flap valve at each end are used for emptying fuel or water cans into tanks. Once the bulb is full the fluid will flow without further effort from the higher to the lower container.

iii. *Direct Action*

Direct action hand pumps have a pumping rod that is moved up and down, directly by the user, discharging water. Direct action hand pumps are easy to install and maintain but are limited to the maximum column of water a person can physically lift of up to 15 m.

iv. *Deep Wells*

Deep well hand pumps are used for high lifts of more than 15 m. The weight of the column of water is too great to be lifted directly and some form of mechanical advantage system such as a lever or flywheel is used. High lift pumps need to be stronger and sturdier to cope with the extra stresses.

v. *Diaphragm*

Diaphragm pumps have the advantage that they pump relatively lightly due to the lack of pulling rods and are corrosion resistant. Their disadvantage is that they need a specific length of tubing and high quality rubber diaphragms, which are costly and are relatively inefficient due to the extra work needed to deform the diaphragm.

vi. *Water Pumps Landmark*

The history of pumps is long and illustrious. Among of this account here were present highlights of some of the major historical and technological developments.

In 2000 BC Egyptians invent the shado of to raise water. It uses a long suspended rod with a bucket at one end and a weight at the other.

200 BC Greek inventor and mathematician Ctesibius invents the water organ, an air pump with valves on the bottom, a tank of water in between them and a row of pipes on top. This is the principal design that is now known as the reciprocating pump.

1475 According to Reti, the Brazilian soldier and historian of science, the first machine that could be characterized as a centrifugal pump was a mud lifting machine that appeared in a treatise by the Italian Renaissance engineer Francesco di Giorgio Martini.

1593 Frenchman Nicolas Grollier de Servière creates an early design for a gear pump.

1675 Sir Samuel Moreland—an English academic, diplomat, spy, inventor and mathematician—patents the packed plunger pump, capable of raising great quantities of water with far less proportion of strength than a chain or other pump. The piston had a leather seal. Moreland's pump may have been the first use of a piston rod and stuffing box (packed in a cylinder) to displace water.

1782 James Watt—who invented the steam engine's connecting rod crank mechanism, which made it possible to convert the piston's reciprocating motion into rotary motion—designs an oscillating piston machine in which a wing-shaped rotary blade made a near complete revolution uncovering inlet ports in a chamber separated by a curved radial wall.

1851 British inventor John Appold introduces the curved vane centrifugal pump.

1870 UK Professor Osborne Reynolds develops an original design of a centrifugal pump.

1901 Byron Jackson develops the first deep well vertical turbine pump.

1929 Stork Pompen produces the first concrete volute pump for drainage, integrating the pump housing in the civil construction of the pumping station.

1936 Robert Sheen invents the metering pump. The core of his invention was a method of controlled

volume that was inherent to the pump. The first pumps were assembled in the basement of his father, Milton Roy Sheen's, home, where the initial patterns for castings were made.

1944 During World War II, Goulds extra-quiet trim pumps are installed in every U.S. Navy submarine. That year, 157 Goulds men went to war and 157 women took their places on the Goulds manufacturing floor. Goulds earned the prestigious Army-Navy "E" Award that year for outstanding production of war materials.

1956 Sixten Englesson develops for Stenberg-Flygt AB the submersible sewage pump, called the C-pump, with a discharge connection and level regulator.

1964 In cooperation with German chemical companies, KSB develops the CPK standardized chemical pump series to satisfy a newly-published standard.

1970s Gorman-Rupp invents the bellows-metering pump and the oscillating pump, while the Mansfield Division acquires the Roto-Prime pump.

1985 Sims manufactures the first structural composite pump, all Simsite Vertical Pit Pump. Sims later won the Innovative Product Award for these products in 1990.

1994 Baha Abulnaga invents the slurry and froth pump with a split vane impeller. The split impeller helps to reduce recirculation in slurry pumps by dividing the space between the main vanes without reducing the passageway at the narrowest point, which is the eye of the impeller. In froth pumps, it helps to break up air bubbles that form and tend to block the flow.

2001 KSB presents the first "intelligent" submersible motor pump. Ama-Porter ICS is sensor-controlled and needs no float switches.

III. Methodology

This study is based on primary data which were collected by survey method from Chennai, India. 120 data were collected out of 350 samples. Tabular and graphical analyses were done with the collected data in order to complete the objectives of the study.

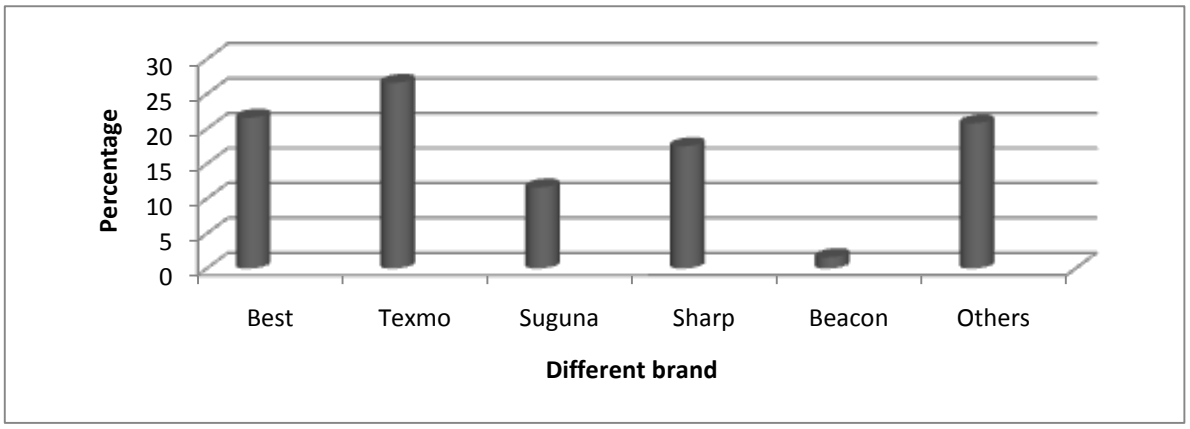
IV. Finding and Analysis

a) Dealer's dealing With Different Brand of Pumps

Table 1

Sl No	Brand	No of Samples	In percent (%)
1	Best	26	21.6
2	Texmo	32	26.6
3	Suguna	14	11.6
4	Sharp	21	17.5
5	Beacon	2	1.6
6	Others	25	20.8

Figure 1



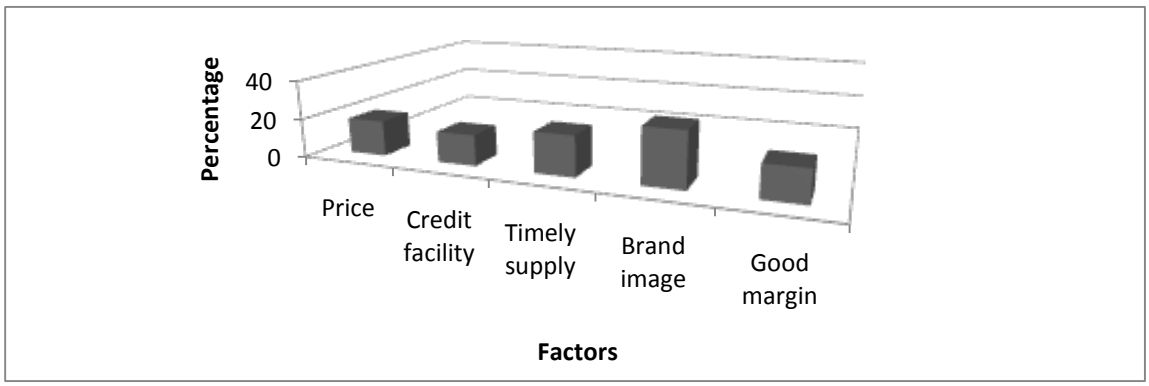
Interpretation: From the above data interpretation shows that there are more dealers for Texmo (26.6%) followed by Best (21.6%), others (20.8%), sharp (17.5%), Suguna (11.6%) and at last have Beacon (1.6).

b) Ranking the Factors by Dealers for a Particular Brand of Pump

Table 2

Sl No	Factors/Rank	No of Samples	In percent (%)
1	Price	22	18.33
2	Credit Facility	19	15.83
3	Timely supply	25	20.83
4	Brand image	34	28.33
5	Good margin	20	16.62

Figure 2



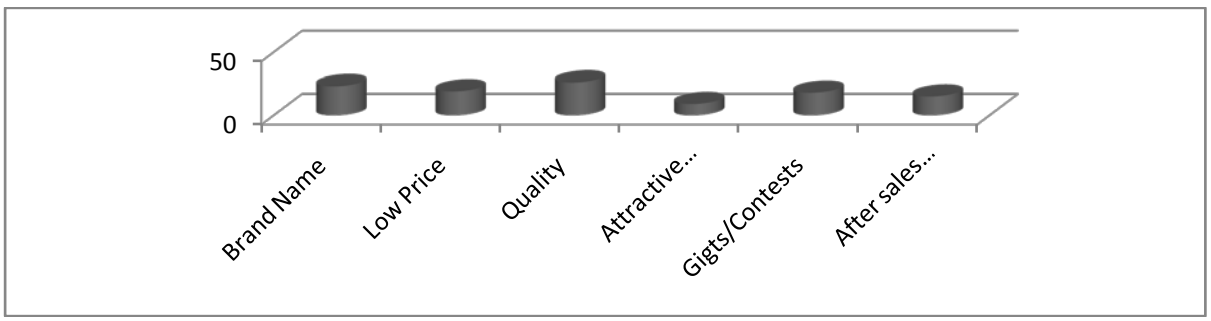
Interpretation: The above table state that most of the dealers are giving rank factors about brand image 28.33% then followed by timely supply 20.83% and third and fourth place respectively price 18.33%, good margin 16.62 and lastly ranking the brand of pump is credit facility 15.83%.

c) Ranking the Factors Which Influence the Consumer Most

Table 3

Sl No	Factors/Rank	No of Samples	In percent (%)
1	Brand name	27	23
2	Low price	23	19
3	Quality	32	26
4	Attractive Packaging	11	9
5	Gifts/Contests	9	18
6	After sales service	18	15

Figure 3



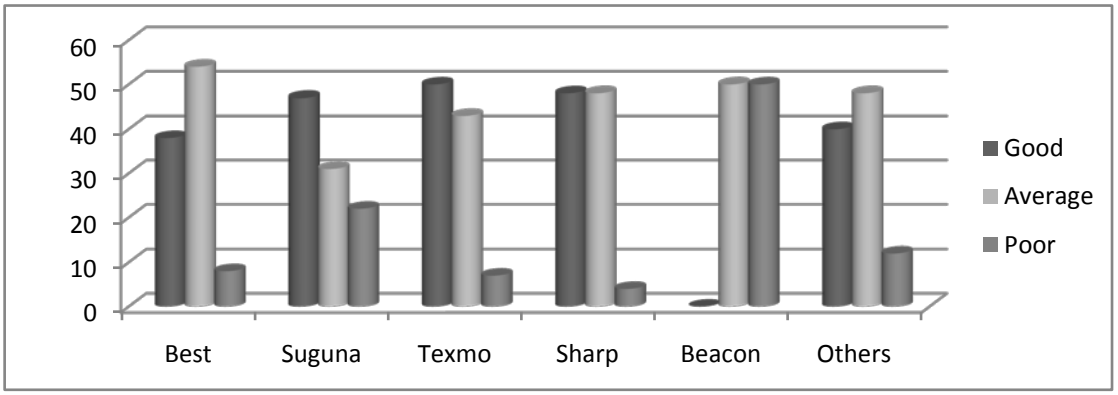
Interpretation: From the above data and information collected the interpretation states that most of the consumer's are influence by the factors of quality 26% and then respectively brand name 23%, low price 19% and gift/contest 18%, after sales service15%, attractive packaging 9%.

d) Dealers Opinion about Quality of Pump

Table 4

Manufacturer	Good	In percent (%)	Average	In percent (%)	Poor	In percent (%)
Best	10	38	14	54	2	8
Suguna	15	47	10	31	7	22
Texmo	7	50	6	43	1	7
Sharp	10	48	10	48	1	4
Beacon	0	0	1	50	1	50
Other Specify	10	40	12	48	3	12

Figure 4



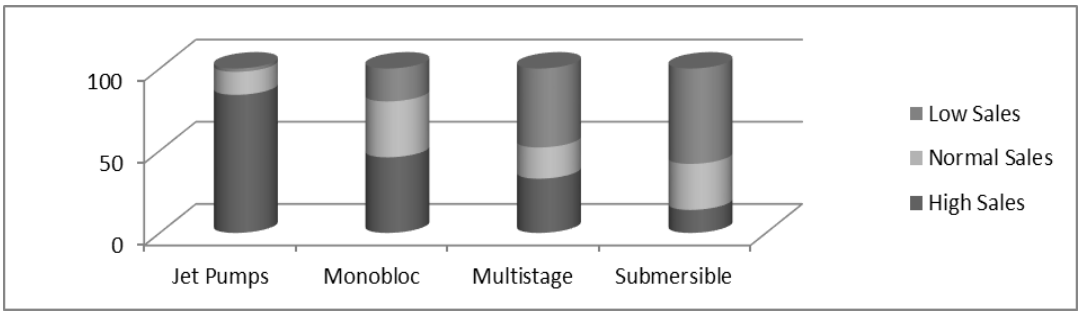
Interpretation: From the above interpretation it is observed that dealers' opinion about the quality of the pump Texmo (50%) is the first to have Good quality followed by sharp (48%) and Suguna (47%).

e) Type of Pump Which Has More Sales in Market

Table 5

Type	High Sales	In percent (%)	Normal Sales	In percent (%)	Low Sales	In percent (%)
Jet Pumps	101	84	17	14	2	2
Monobloc	55	46	41	34	24	20
Multistage	40	33	23	19	57	48
Submersible	17	14	33	28	70	58

Figure 5



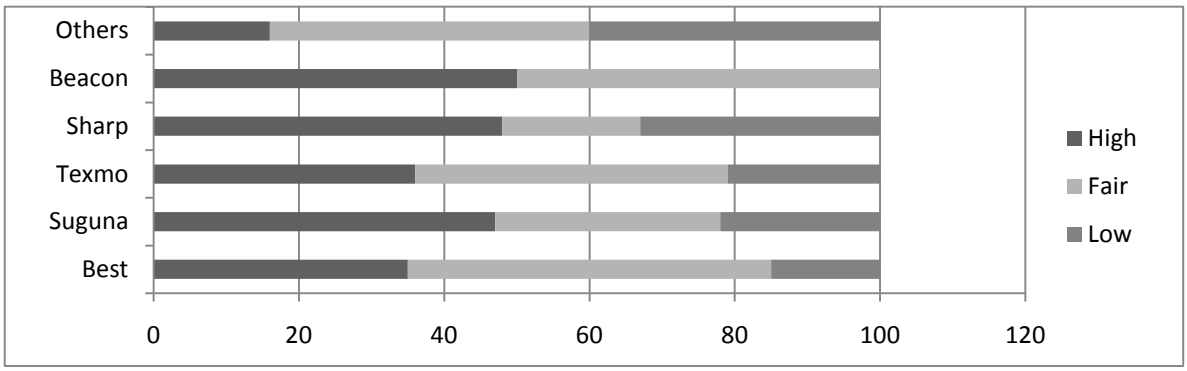
Interpretation: It is herewith concluded that Jet pumps have high sales than other pumps in the market, followed by Monobloc, multistage and submersible respectively.

f) The Opinion of Dealers Regarding the Price Structure

Table 6

Brand Name	High	In percent (%)	Fair	In percent (%)	Low	In percent (%)
Best	9	35	13	50	4	15
Suguna	15	47	10	31	7	22
Texmo	5	36	6	43	3	21
Sharp	10	48	4	19	7	33
Beacon	1	50	1	50	0	0
Others	4	16	11	44	10	40

Figure 6



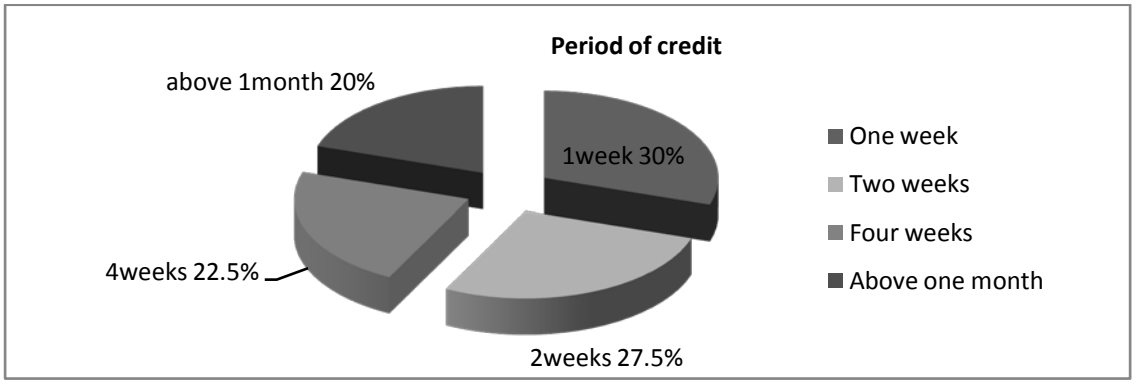
Interpretation: From the above data It is clear that most of the dealers have fair price structure on Best brand followed by Texmo and Suguna where as many consider that Beacon has got a high price structure in the market.

g) Period of Credit

Table 7

Sl No	Period	Samples	In percent (%)
1	One week	33	30.00
2	Two week	33	27.50
3	Four week	27	22.50
4	Above one month	24	20.00
5	Total	120	100.00

Figure 7



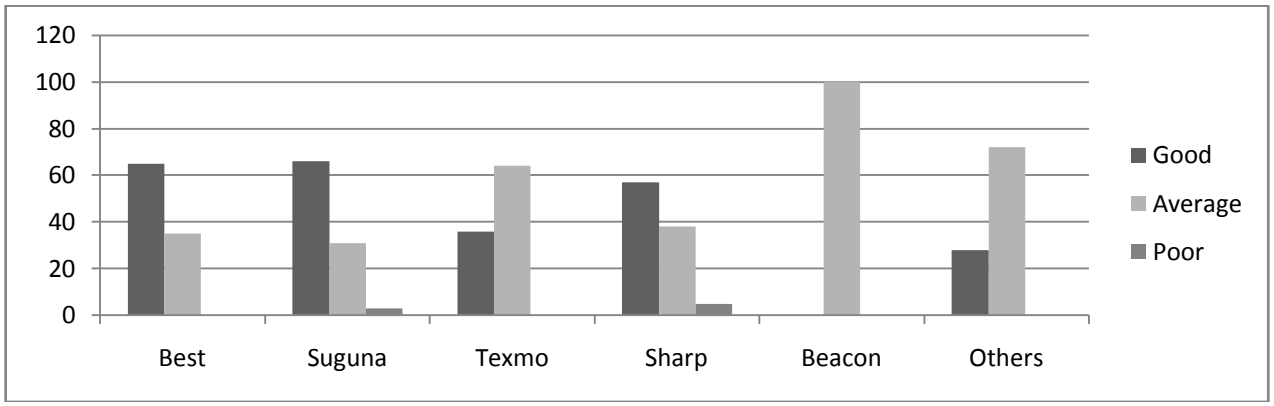
Interpretation: The above interpretation it can be concluded that most of the dealers are provided discount for period of one week (30%) followed by two weeks (27.5%) and four weeks (22.5%).Only 20% of the respondents get credit for above one month.

h) Rating the Manufacturers with Respect to after Sales Service

Table 8

Manufacturer	Good	In percent (%)	Average	In percent (%)	Poor	In percent (%)
Best	17	65	9	35	0	0
Suguna	21	66	10	31	1	3
Texmo	5	36	9	64	0	0
Sharp	12	57	8	38	1	5
Beacon	0	0	12	100	0	0
Others	7	28	18	72	0	0

Figure 8



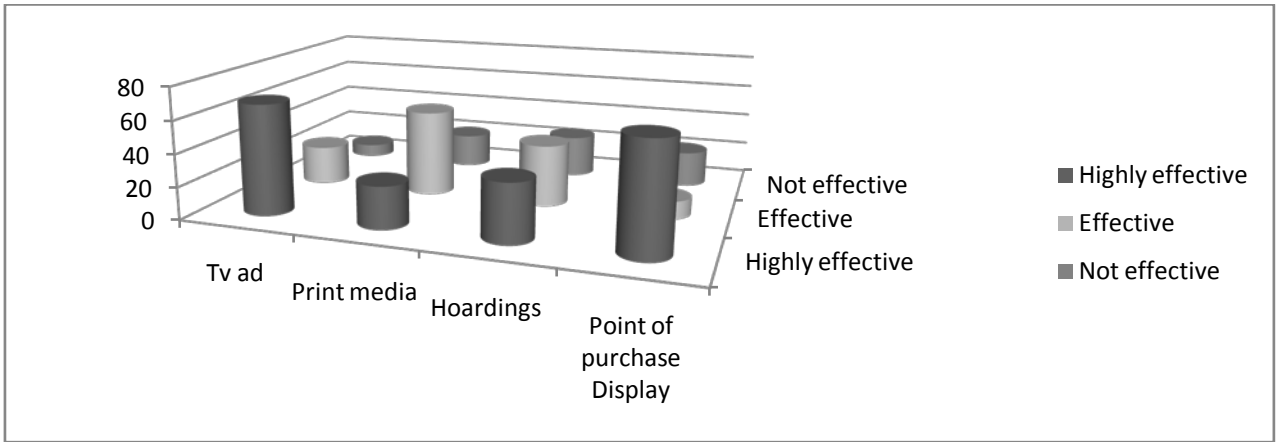
Interpretation: From the above interpretation it could be reveals that Suguna has got the first opinion about after sales service among the dealers, where as the opinion for Beacon is totally average among the dealers.

i) The Effectiveness of Media in Advertisement for Pumps

Table 9

Media	Highly effective	In percent (%)	Effective	In percent (%)	Not effective	In percent (%)
TV Ad	82	68	29	24	9	8
Print media	31	26	64	53	25	21
Hoardings	43	36	46	38	31	26
Point of purchase display	50	67	13	11	27	22

Figure 9



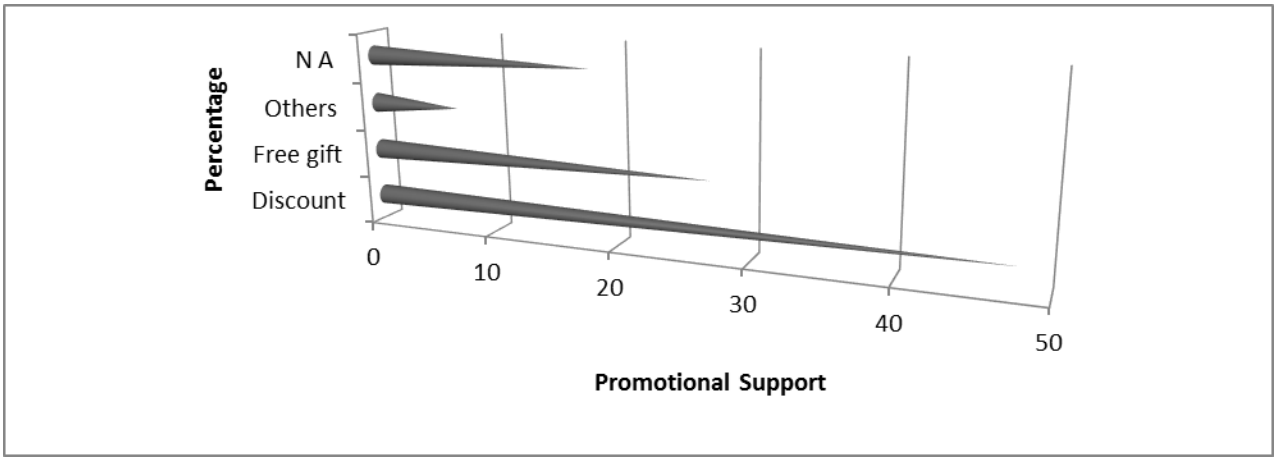
Interpretation: From the above interpretation it is clear that most of the dealers prefer TV ad as highly effective 68% and 67% of the dealers also agree that point of purchase is also effective.

j) Promotional Support is being offered by Brand of Pumps to Dealers

Table 10

Sl No	Promotional support	No of samples	%
1	Discount	58	48
2	Free gifts	32	27
3	Others	8	7
4	N/A	22	18

Figure 10



Interpretation: From the above interpretation it can be concluded that most of the brand of pumps are being offered discount promotional support to the dealers (48%) and followed by free gifts(27%) and N/A 18% (not applicable) and others(7%) respectively.

V. Findings of the Study

From the survey it has been found that 26.6% dealers are dealing with Texmo pump, 21.6% dealing with Best pump and followed by 17.5% sharp 11.6% Suguna and at least 1.6% dealing with Beacon pump. According to dealers ranking factors they want rank first Good Image 28.33% then Timely Supply 20.83% and followed by Price, Good Margin and Credit Facility.

According to consumer most influencing ranking factors they want to rank first Quality that is more percentages 26% then Brand Name 23% and followed by Low Price 19%, Gift/Contests 18% and at least attractive packing that is 9%.

From the survey we have seen that dealers opinion about the quality of pump as good with Texmo first at 50% followed by Sharp 48% Suguna 47% Others 40% Best 38% and Beacon is 0%.

From the survey we have seen that Jet Pump have more sales in the most 84% followed by Monobloc 46% Multistage 33% and Submersible 14%

Among the given brand dealers are given their opinion about price as fair for both equally Best and Beacon 50% and followed by others 44% Texmo 43% thereafter respectively Suguna 31% and Sharp 14%.

In case of credit facilities 30% get credit only for one week period and followed by 27.5% get time for two weeks 22.50% get for four weeks and only 20% get credit time for above one month only.

VI. Conclusions and Recommendations

The study enables us to understand dealer's perception, consumer brand preference, source of awareness, dealer's expectation and so on. The study helps to improve the sales of Beacon pumps with implementation of new strategies. It helps to understand the dealers that can future help to improve the demand of Beacon pumps.

The awareness for Beacon brand name is very low, so first the company should undertake an awareness campaign to inform the dealers about their product. Jet pumps have more sales in Chennai market according to survey. So company should try to concentrate more on jet pumps and try to improve the quality and performance.

As plumber are the main people who induce the purchase of pumps, efforts should be taken to inspire them to promote company's product by undertaking activities like plumber card, commission etc.

The company should provide certain benefits to the dealers so as motivate them to promote their products like bulk discounts, regular plumber meeting with dealers, provide dealers with banners, wall paintings, gift contests etc. As from the survey it was found TV ad is most effective. So the company should try to advertise its product through the same.

The company as being new one can try to select a particular area or location and concentrate in that particular area only and slowly start expanding. The company should involve itself in hardcore marketing as it has got not much share in market. The company should try to identify potential dealers and approach them to promote their product and provide all the required support.

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