



# BIJU PATNAIK INSTITUTE OF IT & MANAGEMENT STUDIES

**MBA**



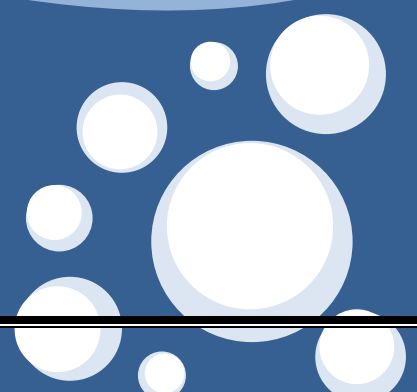
## SUMMER INTERNSHIP REPORT 2021

STUDENT NAME BPUT REGD. NO

ABHISMITA BHANJA 2006258036

FACULTY GUIDECORPORATE GUIDE

PROF.MANOJ KUMAR ROUT





**Estd. 1999**

# **Biju Patnaik Institute**

*of Information Technology & Management Studies*

A  
PROJECT REPORT  
ON  
“QUALITY PRACTICES AND PROCEDURES FOLLOWED BY  
JOLLY BELLY”

BY  
ABHISMITA BHANJA

UNDER THE GUIDANCE OF  
ASST. PROF MANOJ KUMAR ROUT

SUBMITTED TO  
BIJU PATNAIK INSTITUTE OF IT & MANAGEMENT

**YEAR 2020 TO 2022**



**Estd. 1999**

# **Biju Patnaik Institute**

*of Information Technology & Management Studies*

**PATIA, BHUBANESWAR – 751024, ODISHA**

**Phone: - 07438000111, 9040003344**

**Email: -[info@biitm.ac.in](mailto:info@biitm.ac.in), biitmbbsr@yahoo.com**

## **DECLARATION**

This is to certify that Research study entitled “**A study on QUALITY PRACTICES AND PROCEDURES FOLLOWED BY JOLLYBELLY .**” is prepared by **Ms. ABHISMITA BHANJA** under guidance and supervision of **ASST. PROF. MANOJ KUMAR ROUT** during Academic session of 2020-2022 as a partial fulfillment of M.B.A from **BIJU PATTNAIK UNIVERSITY OF TECHNOLOGY** Bhubaneswar, Odisha. This thesis has not formed before the basis for the award of any degree, diploma or any other similar titles.

**Place:** Bhubaneswar

**ABHISMITA BHANJA**

**Date:**



**Estd. 1999**

# **Biju Patnaik Institute**

*of Information Technology & Management Studies*

**PATIA, BHUBANESWAR – 751024, ODISHA**

**Phone: - 07438000111, 9040003344**

**Email: -[info@biitm.ac.in](mailto:info@biitm.ac.in), biitmbbsr@yahoo.com**

## **INTERNAL GUIDE**

**BIJU PATTNAIK INSTITUTE OF INFORMATION TECHNOLOGY AND  
MANAGEMENT**

**PATIA, BHUNABESWAR**

## **CERTIFICATE**

This is to certify that **Ms. ABHISMITA BHANJA**, pursuing MBA2020-2022 from BIITM, Bhubaneswar bearing Regd. No. 2006258036 has successfully completed his dissertation report on **“A study on QUALITY PRACTICES AND PROCEDURES FOLLOWED BY JOLLYBELLY.”** under my guidance for partial fulfillment of his **Masters in Business Administration** for the session **(2020-2022)**.

**Place: Bhubaneswar**

**Date:**

**Er. Manoj Kumar Rout**

**Assistant Professor (Operation)**



**Estd. 1999**

# Biju Patnaik Institute

*of Information Technology & Management Studies*

PATIA,

BHUBANESWAR – 751024, ODISHA

Phone: - 07438000111, 9040003344

Email: - [info@biitm.ac.in](mailto:info@biitm.ac.in), biitmbsr@yahoo.com

**PRINCIPAL**

**BIJU PATTNAIK INSTITUTE OF INFORMATION TECHNOLOGY AND  
MANAGEMENT**

**PATIA, BHUNABESWAR**

## **CERTIFICATE**

This is to certify that the project report entitled “**A study on QUALITY PRACTICES AND PROCEDURES FOLLOWED BY JOLLY BELLY**” was prepared by **Ms. ABHISMITA BHANJA** under the guidance and supervision of **Mr. MANOJ KUMAR ROUT, (Assistant Professor, Operation)**, BIITM, Bhubaneswar during the session of 2020-2022 for the partial fulfillment of Masters in Business Administration.

**Place:** Bhubaneswar

**Dr. Pratap Kumar Tripathy**

**Date:**

**Principal, BIITM**

# Acknowledgement

I take this opportunity to express my sincere gratitude to the following personalities without whose help and guidance the successful completion of my project work would have been remained a dream.

I extend my heartfelt thanks to our Corporate Guide Mr. Subhojit Manna and Almas Ranna for the constant and valuable guidance by him throughout my course.

I would like to take the pleasure of this opportunity to express my heartfelt gratitude to my guide Mr. MANOJ KUMAR ROUT, (Assistant Professor, Operation), who took personal interest and gave valuable suggestions throughout my field work and completion of the project.

I thank all my faculty members of MBA department for their valuable suggestions throughout my course.

The importance of the moral support and good wishes of my parents and friends is external and I am very much indebted to them.

Finally I thank all my friends who directly or indirectly helped me a lot during my project.

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# INTRODUCTION

JOLLY BELLY WAS FOUNDED BY BISWAJEET MOHANTY, RASHMITA MOHANTY

PARENT COMPANY: SETERNITY CEASELESS SERVICE

CATAGORY: MOBILE APPLICATION BASED

SECTOR: FOOD AGGREGATOR

STAGE: PILOT STAGE

JOLLYBELLY ( SETERNITY CEASELESS SERVICES PVT LTD) HAS BEEN IN OPERATION FOR 2 YEARS

THE SERVICE BEGAN IN NOV 2020

JOLLY BELLY IS AN ONLINE START-UP (STARTUP ODISHA & STARTUP INDIA RE RECOGNITION) PLATFORM TO DELIVER STREET FOOD,GROCERIES, VEGETABLES, MEAT PRODUCTS,FLOWERS AND MUCH MORE

ACROSS INDIA.



## **INDUSTRY OVERVIEW**

Pipes and Fittings are designed and constructed for use in food, beverage, medical, pharmaceutical, and biological applications where cleanliness and sterility are required. These types of fittings are constructed of materials that ensure a sterile environment and maintain sterility during use.

Pipes and Fittings Industry has been segmented on the basis of types of PVC pipes and fittings (PVC, UPVC and CPVC pipes and fittings), by regions, by applications of PVC pipes and fittings and by organized and unorganized market.

PVC pipes and fittings market in India has grown at a Compound Annual Growth Rate (CAGR) of 13.4% during the period FY'2010 - FY'2015. In the past few years, government of India has initiated many new projects and investments in the irrigation sector. The focus of the government is on rural water management, which will be fulfilled only when there will be proper infrastructure for the transportation of water to the end-user like housing, irrigation and water infrastructure. This factor will remain as one of the major drivers for the growth of PVC pipe industry in the country along with the expansion of housing sector and increasing demand for oil and gas transportation.

PVC pipes and fittings industry in India mainly includes rigid PVC, flexible PVC and chlorinated PVC pipes and fittings. By adding plasticizers, rigid PVC is converted into flexible PVC. Rigid PVC pipes mainly find application in agriculture and construction sector, whereas flexible PVC pipes cater to plumbing and building sectors. The installation of rigid PVC pipe system is much more complex than flexible PVC pipesystem. Though the installation of rigid PVC pipe system is more labor intensive, rigid PVC pipes are priced lower than flexible PVC pipes. They are also available in a wider range of sizes varying from 20mm to 400mm. Additionally, flexible PVC pipes are not available in large diameters in the market. Chlorinated polyvinyl chloride is a thermoplastic produced by chlorination of polyvinyl chloride resin. The CPVC resin technology enables enrichment of the chlorine content in PVC by chlorination. CPVC piping is used in residential, commercial and industrial plumbing systems. This type of pipe is ideal for moving all types of water from hot and cold potable to acidic water.

The Indian PVC pipes and fittings industry is bifurcated into irrigation, water supply, sewerage, plumbing, chemical and oil and others on the basis of its applications. Expanding

population leading to an increase in the demand for agricultural products and increasing water sanitary management have created substantial demand for PVC pipes and fittings in agriculture, infrastructure, real estate and construction sectors across the nation, over the years.

Factors such as augmenting level of population leading to increased demand for agricultural production, increased government thrust on infrastructure development, rising demand from construction sector and increasing recognition among people regarding the benefits of PVC pipes over other conventional piping systems have impelled the scope for PVC pipe industry in India in the past and the trend is expected to continue in the future years. This will be driven by the launch of new products, improved penetration of the companies with expanding distribution network and significant role played by the government in the development of irrigation infrastructure and real estate sector in the country. Besides, a deficient and uneven rainfall in the country is expected to increase the demand for irrigation systems in the coming years, which will boost the demand for PVC pipes, tubes and hoses.

## **COMPANY OVERVIEW**

Astral Pipes specializes in manufacturing world class plumbing, drainage, fire sprinkler and conduit piping systems for both residential and commercial applications, CPVC piping systems for industrial applications and column and pressure piping systems for agriculture applications. Astral pipes embrace latest international technology and provides quality piping solutions made for varied needs of the markets.

Astral Pipes is known as pro- customers company, serving with an intention of taking excellence to new heights. Our robust facilities in Santej and Dholka (Gujarat) and Hosur (Tamil Nadu), for manufacturing plumbing, drainage and industrial systems, deliver world class piping solutions, setting up a benchmark of being Pro-India Company in numerous ways.

## **ASTRAL POLY TECHNIK LTD – A BRIEF**

Astral Poly Technik Limited was established in 1996 with the aim to manufacture pro-India plumbing and drainage systems in the country. While serving the plumbing needs of millions of houses, the company adds extra mileage to India's developing real estate fraternity. Our contribution to the plumbing industry in the form of being pro-innovative bears the hallmark of unbeaten quality. Astral Poly Technik is equipped with production facilities at Santej & Dholka (Gujarat), and Hosur (Tamil Nadu) to manufacture Plumbing systems, Drainage systems, Agriculture, Industrial and Electrical Conduit Pipes with all kinds of necessary fittings.

Astral Pipes are also known as pro- customers' company as we serve with an intention of taking excellence to new heights. Through our quality products and services, they have also achieved the benchmark of being Pro-India Company in numerous ways.

### **COMPANY ANALYSIS:**

- Astral Poly Technik Limited is engaged in the production of plastic products. The Company and its subsidiaries are engaged in the business of manufacturing and trading of pipes, fittings and adhesive solutions.
- Astral Poly Technik Limited was established in 1996 with the aim to manufacture pro-India plumbing and drainage systems in the country.
- Astral are the pioneers of CPVC pipes in India. With over 17 years of expertise in this area, we have motivated the category to achieve global benchmarks.
- Astral are one of the leading company in the plumbing industry with a turnover close to Rs. 1800 crores; with a network spanning 850 distributors and 27,000 dealers across India.
- Significant focus on brand building through print media, electronic media, exhibitions and outdoor promotions.
- Strong management team, led by MD Mr. Sandeep Engineer.
- Astral Poly Technik Limited is having 4 manufacturing plants and 7 Depots in India.
- Astral Poly Technik Limited is having 3 subsidiaries companies:
  - **Resinova**
  - **Bondit.US**
  - **Bondit.UK**
- Astral Poly Technik Limited vision of achieving consumer delight is to achieve consumer trust.

- Beyond manufacturing, they have invested in the category by training more than 70,000 per year plumbers in India. We believe this training equips them in making their future sustainable.
- ASTRAL has a full-fledged, research and development division to constantly improve, innovate and to engineer new developments. This division has a fully integrated product development environment that encompasses the development process all the way from conceptual design of products to manufacturing.
- ASTRAL constantly strives to upgrade processes and materials and to incorporate international developments in the plumbing industry to benefit their customers. They test their products beyond the requirements for IS and ASTM Standards.
- Initiating the process of compounding of raw material in India is their contribution towards the Make in India initiative.
- The best quality piping materials may cause problems if the installations are not carried out correctly. Therefore, they empower their users with updated product catalogues, technical manuals, installation literatures, audio- visual presentations and plumbing guides.
- They always think of their customer when working on innovative products and they make conscious effort to supply them with the best. Astral seeks to deliver innovative product designs and improvements, new technologies, and a fully integrated manufacturing system that assure quality.
- With Salman Khan as the voice of their products they hope to expand the already flourishing company that has more than 850 distributors and thousands of dealers in India penetrating the plumbing market from metro cities to smaller towns. ASTRAL products are now also available in more than 22 countries.

### **Company profile**

**Astral Poly Technik Limited**

**CIN: L25200GJ1996PLC029134**

**(Tel No: +91 79 66212000) (Fax No: +91 79 66212121) (E-Mail: info@astralpipes.com) (Website: www.astralpipes.com)**

**Board of Directors**

Mr. K.R. Shenoy  
Mr. Sandeep P. Engineer  
Mrs. Jagruti S. Engineer  
Mr. Kyle A. Thompson  
Mr. Anil Kumar Jani  
Mr. Pradip N. Desai  
Mr. Narasinh K. Balgi

**Chief Financial Officer**

**Company Secretary**

**Statutory Auditors**

**Registered & Corporate  
Office**

**Registrar & Share  
Transfer Agent**

**Bankers**

**Factory Location**

Chairman (Independent Director)  
Managing Director  
Whole Time Director  
Non-Executive Director  
Non-Executive Director  
Independent Director  
Independent Director

Mr. Hiranand A. Savlani

Mr. Krunal D. Bhatt

Deloitte Haskins & Sells  
(Chartered Accountants)  
19<sup>th</sup> Floor, Shapath-V,  
S.G. Highway,  
Ahmedabad-380 015, Gujarat,  
India

“Astral House”  
207/1, B/h. Rajpath Club,  
Off S. G. Highway,  
Ahmedabad-380 059, Gujarat,  
India

Bigshare Services Private Limited  
1<sup>st</sup> Floor, Bharat Tin Works  
Building,  
Opp. Vasant Oasis, Makwana  
Road,  
Marol, Andheri (East),  
Mumbai 400 059  
Phone No. : +91 22 62638200  
Fax No. : +91 22 62638299

Corporation Bank  
HDFC Bank Limited  
HSBC Bank  
IDBI Bank Limited  
IndusInd Bank  
Standard Chartered Bank

Santej (Gujarat)

## **Branch Offices**

Dholka (Gujarat)  
Hosur (Tamilnadu)  
Ghilothe (Rajasthan - Under  
Construction)

Bengaluru (Karnataka)  
Chennai (Tamilnadu)  
Hyderabad (Telangana)  
Jaipur (Rajasthan)  
Kochi (Kerala)  
Lucknow (Uttar Pradesh)  
Mumbai (Maharashtra)  
New Delhi  
Pune (Maharashtra)

## **PRODUCT DETAILS**

### **Astral CPVC Pro**

- Mostly used for drinking purpose pipes
- NSF Certified
- Key Applications: Domestic plumbing for hot and cold water

### **Astral DrainMaster**

- No threading, No Solvent Cementing
- High flow rates, No choking
- UV Protected

### **Astral Fire Pro**

- Advanced CPVC Fire Sprinkler System
- Resistant to rust, scale and foreign contaminant build up/ Inexpensive tools required for installation.
- Designed to a 50 years life expectancy.

### **Astral Case- well**

- Very effective way to recharge the ground water
- Main sewer can be protected from flooding during monsoon by reduced volume of discharge of rain water.

### **Astral Chem Pro**

- Advanced CPVC industrial piping system
- High temperature resistance.

### **Astral Aquarius**

- Manufactured using un-plasticized PVC (UPVC), which is non-toxic and hence favored for applications including portable water pipes.
- Key Applications: Domestic plumbing for cold water, swimming pools, salt water lines, industrial process lines, and coal washing & ash handling.

### **Astral Bore Well**

- Piping systems for submersible pumps with fast and easy installation.
- Heavy metal & lead free and hence, absolutely safe for drinking water.
- Chemical resistant & corrosion resistant, resulting in a relatively longer life span and lower friction loss.

### **Astral Foam Core**

- Multiplayer pipes with outer and inner layers of conventional PVC and middle layer of foamed PVC.
- Used primarily for underground applications.

### **Astral DWV**

- Made up of uPVC foam core pipes and uPVC click-ring type fittings.
- Used primarily for sewerage and drain water.

### **Astral UltraDrain**

- Has high chemical and corrosion resistance properties.
- Key Applications: Ventilation, rain water applications, soil/ water discharge applications.

### **Astral Aquasafe**

- Pipes and fittings for agricultural applications.
- Chemical and corrosion resistant, odorless & hygienic with a smooth bore giving a high flow rate.
- Light welded & economical, with low maintenance requirements.

### **Astral Under Ground**

- High performance drainage systems for the drain and sewer market.
- Key user segments: Residential complexes, Commercial/ office space, Resorts, Hospitals.

### **Astral WireGuard**

- Light-weight but tough wire guard for electrical cables.
- It has high heat deflection temperature and ductile behavior even at low temperatures.

### **Astral Silencio**

- Made with a high molecular structure, which enables absorption of airborne sound and structure borne sound.
- Sound energy does not spread over the pipe wall.

### **Adhesives & Sealants**

#### **Weld On**

- Environment friendly solvent cements and primers for CPVC and PVC Pipes
- NSF,UPC & CSA approved, with high quality performance
- Plumber friendly, with reduced fumes & odour during installation

#### **Seal It**

- In August of this year, we have acquired UK-based Seal It Services Ltd, a manufacturer of various type of sealants & adhesives under the brand name “Bond-it”.

Seal It produces high quality silicone products, sealants , construction adhesives, building chemicals, bitumen compounds, tile adhesives, polyurethane foams and cleaning products.

### **PLACE**

- Astral has marketing network of more than 850 distributors and 27000 dealers spread all over India.
- Astral Manufacturing Plants:
  - a. Santej(Gujrat)
  - b. Dholka(Gujrat)
  - c. Hossur(Karnataka)
  - d. Baddi(Himanchal Pradesh)
- Proposed Manufacturing Plant:



Ghiloth(Rajasthan)

- Depots
  - a. Ghaziabad
  - b. New Delhi
  - c. Hyderabad
  - d. Kolhapur
  - e. Vijayawada
  - f. Bangalore
  - g. Coimbatore

### **DISTRIBUTION CHANNEL**

- Manufacturing Plants to Depots then from Depots to authorized Distributors then from Distributors will send the pipes to Dealers those required the stock of Astral.
- Manufacturing to Distributor (if the distributor is nearer then the Depot) then to Dealers those required the stock of Astral.

### **Major Clients of Astral Poly Technik Limited**

- **Construction Houses**
  - Tata Housing
  - Hoysala builders
  - Lodha Builders
  - Kalpa-Taru
  - Hiranandani
  - Ajmera
  - Sobha
  - Rustomjee Come Home
  - GMR Group
- **Industries**
  - Reliance
  - L&T
  - Adani
  - Cadila Pharmaceuticals Ltd
  - Aditya Birla
  - JSW Steel Ltd

- NTPC
- NPCIL
- RCF
- **Corporate Houses**
  - Wipro
  - Indian Oil
  - TCS
  - Prestige Group
  - Nokia
  - Infocity
  - Lemontree
  - Sundaram Finance Group
- **Hotels and Resorts**
  - Hyatt
  - Trident
  - Holiday Inn
  - Taj
  - The Oberoi
  - Sayaji
  - Courtyard
  - LeMeridien
  - The Imperial
- **Hospitals**
  - Krishna Hospitals
  - Aditya Birla Hospitals
  - Wockhardt
  - Kailash Cancer Hospital
- **Academic Institution**
  - IIM Ahmedabad

## **Branding Activities**

### **Outdoor Promotions**

- Signed on Salman Khan as its brand ambassador.

- Advertised by wrapping trams in Kolkata and local trains in Mumbai
- Posters back of Autos and Buses.

### **Print Media**

Advertise regularly in newspapers, magazines and other print media.

### **Electronic Media**

In-film marketing: e.g. in Dabang 2 – Around 56,000 people from amongst the Company's target segment including plumbers, dealers, architects, and consultants were given free tickets

### **Exhibitions**

Holds exhibitions from time to time to showcase its product capabilities.

## **COMPETITOR ANALYSIS**

### **Industry analysis:**

#### **Emerging Players**

- Astral Pipes
- Ashirvad Pipes
- Sudhakar Pipes
- Finolex Pipes
- Supreme Pipes

#### **Local Players**

- Oriplast Pipes
- Hariplast Pipes
- Lingaraj Pipes
- Konark Pipes

#### **New Entrant**

- Atman Pipes

#### **Nature of competition:**

Nature of the competition can be said as Perfect Competition because there are many sellers and many buyers in the market. The market share is always increasing as India is developing country and there is lots of construction is going on and Pipes are required in every construction.

### **Differentiation Practiced By Various Players:**

- Different companies use different schemes to sell their product in the market more.
- Companies like Sudhakar Pipes, Finolex Pipes, Supreme Pipes they believe in low price and don't consider the quality for the customer.
- Companies like Ashirbad Pipes believe in high quality and according to that the price is fixed.
- Most of the companies are copy the product which is newly introduced in market.
- Astral pipes being a leading brand it innovates and design new and potential products to meet consumers need.
- Astral is known for quality products and value in the market that's how Astral differentiates it from other competitors.

### **Barriers In the industry (Entry-Exit):**

- There are barriers to entry in the industry because it is a high investment business. Companies are having many competitors in the market. The market is really competitive and quite some big names are still fighting for place in new markets.
- If you want to exist from the market it is very difficult to get back your investment which you have invested.

### **Porter's Five Forces:**

- Porter's five forces framework is a tool for analyzing competition of a business. It draws from industrial organisation economics to derive five forces that determine the competitive intensity and, therefore, the attractiveness of an industry in terms of its profitability.

#### **1. Threat of New Entrants:**

- Threat of new entrants is low in pipe and fitting industries because the investment for the pipe industry is very high and there is already many pipe companies is there in the market and they are competing with each other to become the market leader.

#### **2. Threat of Substitute Product:**

- There are no substitute products for pipes in the market. Astral introduce Lead free pipes in the market.

### **3. The Bargaining power of Buyers:**

- Bargaining power of buyers is very high because there are so many competitors for pipe industry. So buyer always searches for another option if he/she didn't get the good quality product with fewer prices.

### **4. The Bargaining power of Supplier:**

- Bargaining power of supplier is very low. The main ingredient for pipes and fittings include polyvinyl chloride (both chlorinated and unplasticized), polypropylene, Resins, etc are available with many suppliers.

### **5. Rivalry among Existing Firms:**

- There are many competitors for astral pipes but main competitor is Supreme and Ashirbad pipes. Both Astral and Ashirbad believes in innovation in the field other competitors just copy the product which is invented by these 2 companies with low quality and less price.
- In local market Oriplast, Hariplast, Lingraj pipes are giving completion to the astral Pipes.

### **Major Competitors of Astral Polytechnik Limited:**

- Ashirbad is the major competitor of Astral Pipes.
- Both are playing with high quality and the prices are almost the same.
- Ashirbad is having NSF certification on raw materials.
- Ashirbad imports raw materials from Lubrizol US.
- Ashirbad imports compounding raw materials directly from US.
- PVC raw materials are purchased from Reliance Industries.

## **CUSTOMER ANALYSIS**

### **Who is your customer?**

Basically our customers are of 3 types Primary, secondary and tertiary.

- Distributors – Primary
- Dealers – Secondary
- Consumers – Tertiary

Because this is the network through which sales is operated. Current and potential customers or clients are as follows:

- Hospitals
- Resort and parks
- Residential projects
- Academics Institutes
- Construction Houses
- Industries
- Commercial Complexes
- Hotels.

Though the company is now started in retail business also, now the customers are increasing as individual customers also who wants to use astral pipes in their home.

#### **Competitor's Customers:**

- Hospitals
- Resort and parks
- Residential projects
- Academics Institutes
- Construction Houses
- Industries
- Commercial Complexes
- Individual houses

#### **Non Customer of Astral Products:**

There is no one that cannot purchase the astral pipes, but since it is a premium segment all are not able to afford the astral pipes so they prefer low cost pipes.

#### **Buying roles in Pipes:**

**Initiator:** The contractor who took the contract to build the house.

**Influencer:** The plumber who is working on that project influence the buyer to purchase that company pipes.

**Decider:** The person who owns the house will decide which company pipes will be purchased.

**Buyer:** The Person who is the owner of the house.

**Users:** Residents of that house.

**Reference Group:** Reference groups in pipes are the neighbours', friends and relatives.

**Opinion Leader:** Plumbers are the opinion leader because they are the technical person who knows all about the pipes.

### **Types of customers for our product:**

**Passive Customer:** The customer is not that aware about the product in odisha market but in other states they know about astral pipes very well.

**Economic Customer:** The customer is looking for low price pipes they are only looking for low budget piping system so they are not very much concern about the quality.

### **Specific factors of your product Influencing Consumer Behavior:**

- Astral Pipes specializes in manufacturing world class plumbing, drainage, fire sprinkler and conduit piping systems for both residential and commercial applications.
- Quality of astral pipes very much good compare to its competitors.
- Longevity of the astral pipes is around 50 to 60 years.
- NSF( National Sanitation Foundation) Certified in Raw materials and also finished product.

### **What customer buys?**

- Customer buys solution for their house drainage and water supply.
- Customer buys CPVC pipes for water supply.
- Customer buys SWR (soil waste and rain) pipes for their drainage system.

## **How customers buy? AIDA model**

### **Attention-**

Astral Pipes specializes in manufacturing world class plumbing, drainage, fire sprinkler and conduit piping systems for both residential and commercial applications.

### **Interest-**

Astral pipes embrace latest international technology and provide quality piping solutions made for varied needs of the markets.

### **Desire-**

Desire is to longevity of the product.

### **Action-**

- Then the customer will purchase.
- Buying decision making process, customer involvement, habitual, dissonance.
- Before buying, a customer compares the product price, quality and durability, of other brands. The customer initiate an information search in order to find out what they feel is the best solution.
- They evaluate different products or brands at this stage on the basis of alternative product attributes – those which have the ability to deliver the benefits they are seeking.

### **Post Purchase Behavior:**

- The behavior of the customer after the purchase is very good because there is no complain in the product quality and longevity.

### **Where Customer Buy.**

- If a contractor is purchase for a project to create the more buildings so there will Business to Business purchase.
- If a Owner wants to purchase Pipes for his own house then it will Business to Customer purchase.

### **Distribution Policy:**

- As it is not a day to day purchase product so its distribution exclusive.



### **When they Buy.**

- Customers buy during the time of construction of Houses, Hotels and resorts, institutes, parks and hospitals.
- There is no season for purchasing the Pipes.

### **Competitive Advantage:**

- Astral Pipes having NSF certified finished products which other companies don't have.
- Astral is the only company having its own compounding factory.

## **VALUE PROPOSITION**

Over the last ten years, the plastic piping industry has seen a very strong demand mainly from new construction. There is a huge demand for replacement of metal pipes to plastic pipes mainly due to the corrosion, rusting and scaling etc.

Astral pipes are used in five main categories – Plumbing systems, Drainage systems, Specialty systems, Agriculture systems and Electrical piping. CPVC pipes contribute ~55% of standalone revenue and ~24% of consolidated revenue.

PVC pipes form around 44% of the total APTL standalone revenue and ~19% of the total consolidated revenue.

### **Innovations and Recognition**

- First to introduce CPVC piping system in India (1999)
- First to launch lead free uPVC piping system in India (2004)
- Corp Excel – national SME Excellence Award (2006)
- First to get NSF certification for CPVC piping system in India (2007)
- First to launch Lead Free uPVC Column pipes in India (2012)
- Enterprising Entrepreneur of the year Award 2012-13
- Business Standard Star SME of the year Award (2013)
- Inc. India Innovative 100 award for smart Innovation under category of “Technology” (2013)
- India's most promising Brand Award (2014)

- Value Creator Award during the first ever Fortune India Next 500 (2015)
- India's Most Trusted Brand Award (2015)
- India's Most Trusted Pipe Brand Award (2016)
- ET Inspiring Business Leaders of India Award (2016)
- India's Most Attractive Pipe Brand Award (2016)
- Fortune India 500 company (2016)
- Consumer Validated Super brands India (2017)



Source: Company, Karvy Research

### Plumbing systems:

- Astral pipes and fittings are used in hot and cold water applications in homes, apartments, hotels, resorts, hospitals, buildings, corporate and commercial houses, academic institutes etc. for pure and hygienic water supply. Astral sells CPVC pipes under the brand name Flow Guard.
- Astral CPVC pipes are corrosion-free, unlike metal pipes and yet tougher as compared to other thermoplastic plumbing. Bacteria build up with CPVC is far lower than alternative piping materials like copper, steel and other thermoplastics. CPVC pipe has a higher pressure bearing capability. This leads to the same flow rate with a smaller pipe size.

- Even after years of use in the most aggressive conditions, CPVC pipes are free from corrosion, withstand low pH water, coastal salt air exposures and corrosive soils. CPVC has excellent chemical resistance to strong mineral acids and bases.
- Astral CPVC pipe has a lower coefficient of thermal expansion than alternative plastics, reducing the amount that the pipe expands when hot water is running. CPVC uses a simple, solvent cement joining method with simple and inexpensive tools.
- Astral CPVC pipe is compatible with both hot and cold water. It withstands very high temperature compared to any other thermoplastic plumbing systems. Many solar and electric water heaters have CPVC piping system for heat efficiency and lower installation cost.
- Astral Aquarius pipes and fittings are lead free and hence nontoxic; and used in swimming pools, salt water lines, sugar and paper industries, pipes for hand pumps, dye plants, chrome, zinc plating and tanning plants, coal washing and ash handling.

#### **Drainage systems:**

- Astral offers economical, high performance drainage systems to meet the demanding needs of today's drain and sewer market.
- They are cost effective, strong, and resistant to impact and are easy to install.

#### **Specialty piping systems:**

- Indian pipes market is predominantly controlled by metallic pipes for fire sprinkler system.
- Astral will be the first mover in the country for CPVC polymer fire sprinkler solutions. CPVC fire sprinkler system will be free from all shortcomings that metallic pipes face such as corrosion, scaling and rusting. CPVC BlazeMaster pipe and fittings are specifically designed for fire sprinkler systems with advantages like faster and easier installation process, resistant to scale, corrosion to pipe, low flame and smoke characteristics.

#### **Agriculture systems:**

- APTL has recently entered into agriculture piping sector which has a very good market and future potential in India. The market size for this segment is placed around Rs.70 Bn. The Astral's strong brand awareness in India would help the company to gain market share from this segment going ahead.

# **RESEARCH METHODOLOGY & DESIGN**

## **RESEARCH DESIGN**

### **TITLE OF THE RESEARCH TOPIC**

Study of customer attitude towards Astral Pipes.

### **RESEARCH OBJECTIVE**

- To know the profile of customers taking decision for plastic pipes.
- To know the factors responsible to take decision for any brand of plastic pipes.

## **RESEARCH METHODOLOGY**

### **RESEARCH PROBLEM**

To make a comprehensive study of Astral Pipes & know the attitude of customers.

### **TYPE OF RESEARCH**

Descriptive research has been used to complete the project. This research is based on the fact finding enquires and the variables are totally independent and uncontrollable.

### **DATA COLLECTION**

#### **Primary Data**

Primary data of research are collected from direct resources (people of Bhubaneswar, Bhadrak, Balasore, Baripada and Berhampur) through questionnaire.

#### **Secondary Data**

Secondary Data which are used for research to know the history, company profile of Astral pipes are collected from already available resources like net and other sources.

### **Universe**

Universe of this research is people of Bhubaneswar, Bhadrak, Balasore, Baripada, Berhampur.

### **SAMPLING TECHNIQUE**

Random sampling is used for the research project. I have given equal weightages to my all respondent and chose them randomly without any bias like gender, age, income culture.

### **SAMPLE SIZE**

80 respondents have been selected as sample size for research.

### **DATA REPRESENTATION TECHNIQUE AND TOOLS**

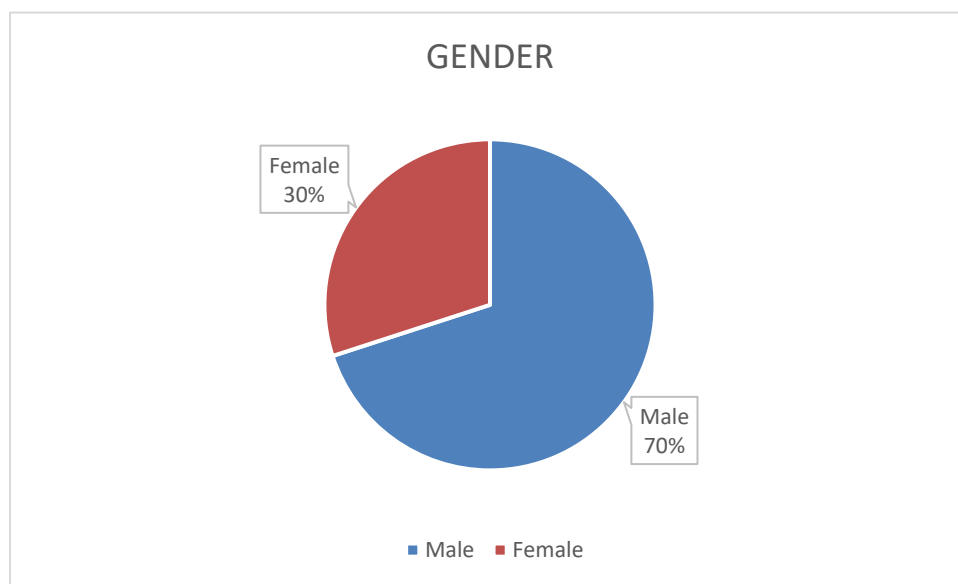
Column charts and Pie charts have been used for representation.

# **ANALYSIS & INTERPRETATION**

- **OBJECTIVE-1:** Understanding the profile of customers taking decision for plastic pipes.

### 1. Gender of customer

Male	Female
56	24



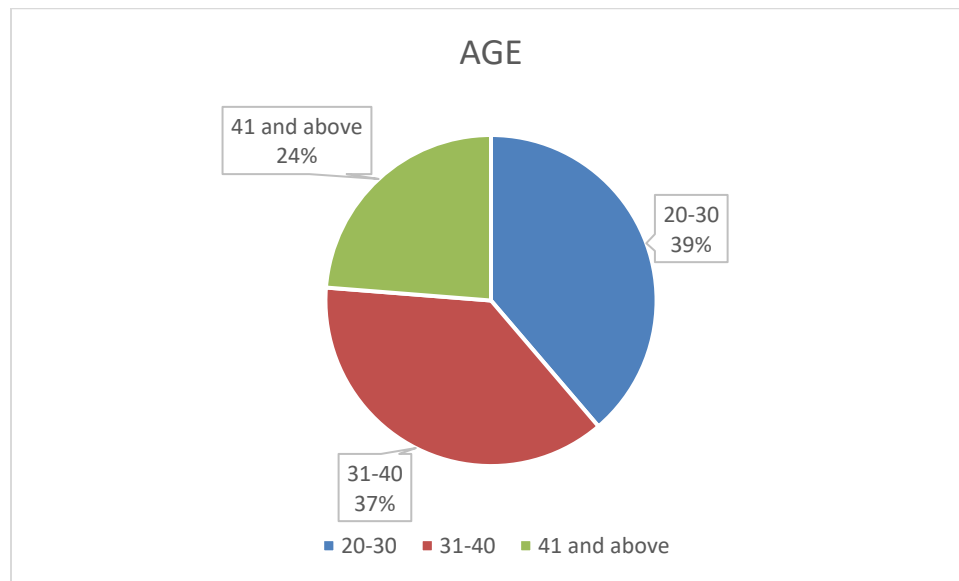
**Analysis:** Data collected for project from 80 respondents in which 56 are male which are 70% and 24 are female which are 30% of total respondents.

**Interpretation:** In total respondent we analyzed that most of the customer in this sector are male and their demand always consider at the time of taking the decision. Company should try to attract new customer by providing new scheme to them.



## 2. Age

20-30	31-40	41 and above
31	30	19

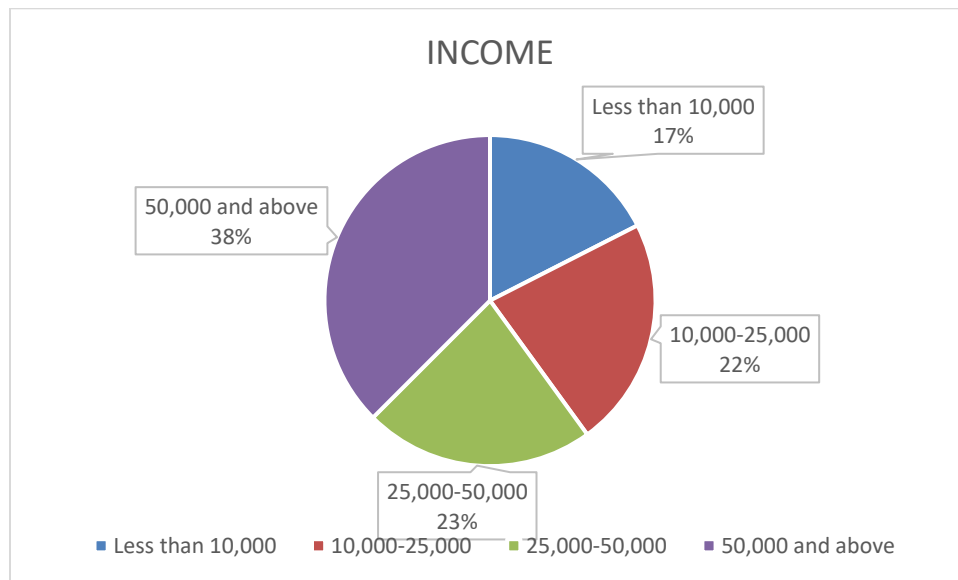


**Analysis:** Data collected for project from 80 respondents in which 31 are between the age of 20 - 30 which are 39%, 30 are between age of 31- 40 which are 37%, and 19 are of age group 41 and above which are 24% of total respondents.

**Interpretation:** From the above data we know most of the customers are in the age group 20-30.

### 3. Income

Less than 10,000	10,000-25,000	25,000-50,000	50,000 and above
14	18	18	30

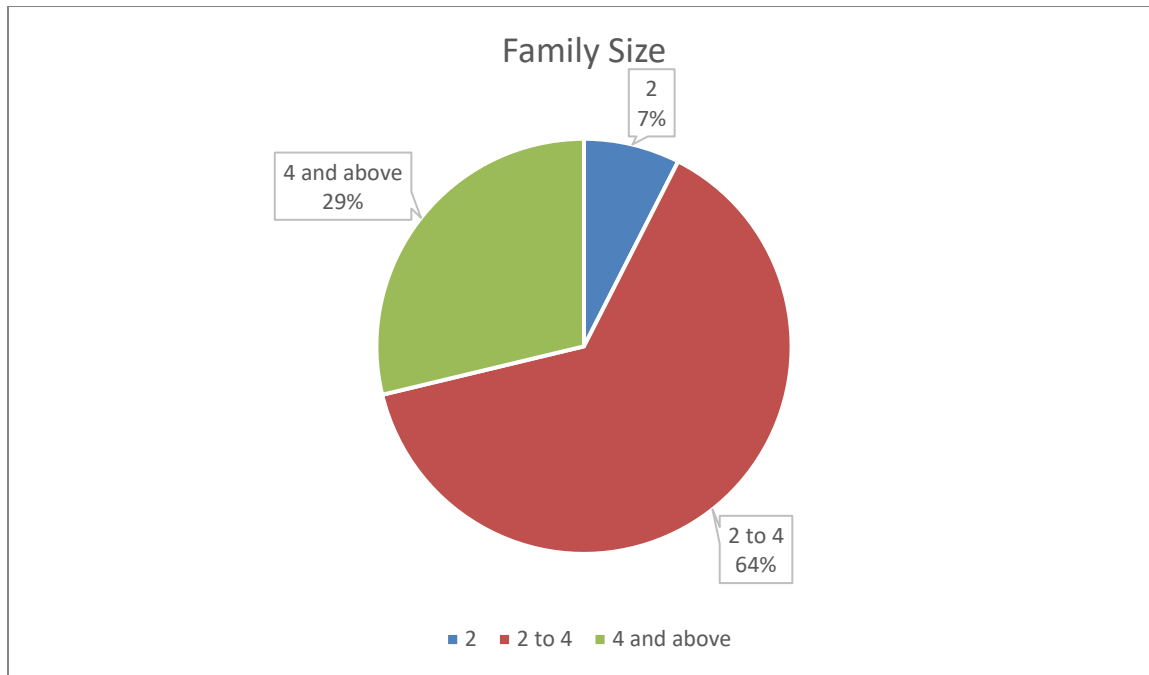


**Analysis:**Data collected for project from 80 respondents in which 14 are in the income group less than 10,000 which are 17%, 18are in the income group 10,000-25,000 which are22%, 18 are in the income group 25,000-50,000 which are 23%and 30 are in the income group50,000 and above which are 30% of total respondents.

**Interpretation:** We collected the data from the above chart that most of the respondents have above 50,000 income which plays a major role in the buying behavior of pipes. With different income group the preference of buying varies from respondent to respondent.

#### 4. Family size

2	2-4	4 and above
6	51	23



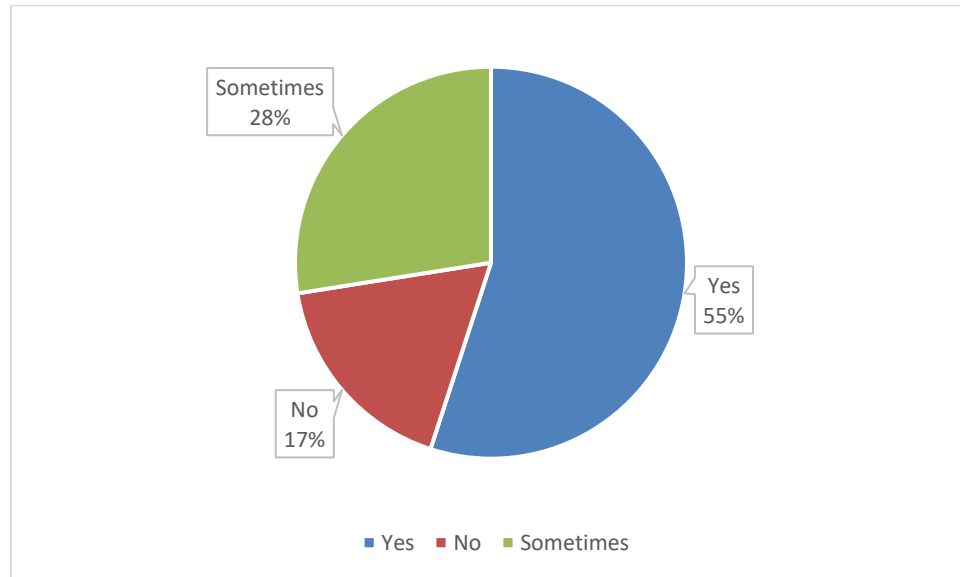
**Analysis:** Data collected for project from 80 respondents in which 6 have family size 4 and above which are 29% of total respondents. 2 which are 7%, 51 have family size 2 to 4 which are 64% and 23 have family size

**Interpretation:** In total respondent we analyzed that most the families have members of 4-6. So according to the family size the buying behavior or need also changes of a family. So company should penetrate the families having these no of members.

- **OBJECTIVE-2:** Understanding the factors responsible to take decisions for any brand of pipes.

## 1. Taking decisions for your home construction

Yes	No	Sometimes
44	14	22

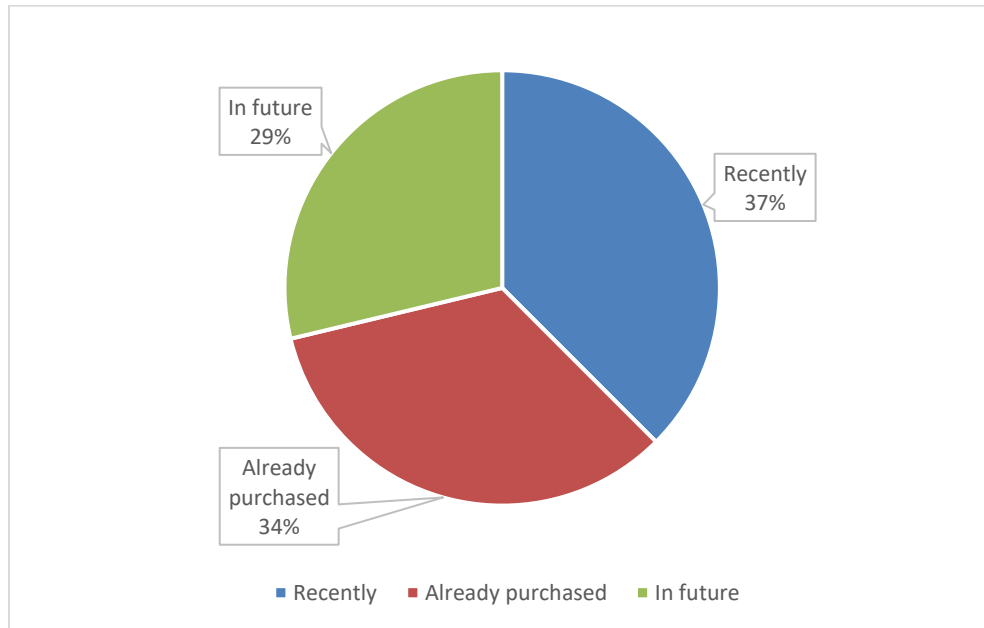


**Analysis:** Data collected for project from 80 respondents in which 44 customers said yes which are 55%, 14 are those which say no which are 17% and 22 say sometime.

**Interpretation:** From the above analyzed data above 55% of respondents take decision for their home construction.

## 2. Purchase of plumbing pipes

Recently	Already purchased	In future
30	27	23

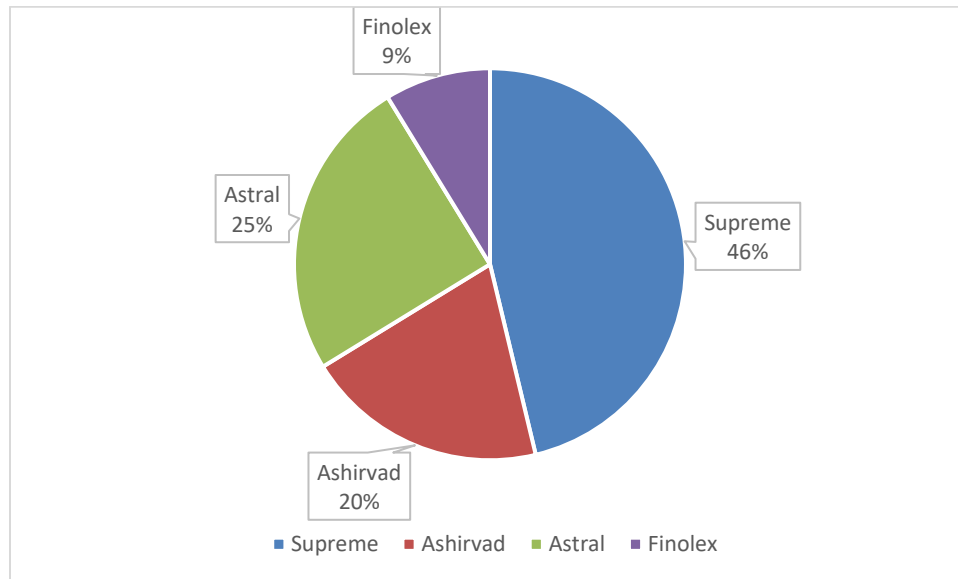


**Analysis:** Data collected for project from 80 respondents in which 30 customers said they have recently purchased which are 37%, 27 are those which say they have already purchased which are 34% and 23 say they might purchase in future.

**Interpretation:** From my analyzed data most of the respondents have recently purchased plumbing pipes, while certain amount of respondents have already purchased plumbing pipes. Rest of the respondent may purchase pipes in near future.

### 3. Good brand of plumbing pipes

Supreme	Ashirvad	Astral	Finolex
46	20	25	9



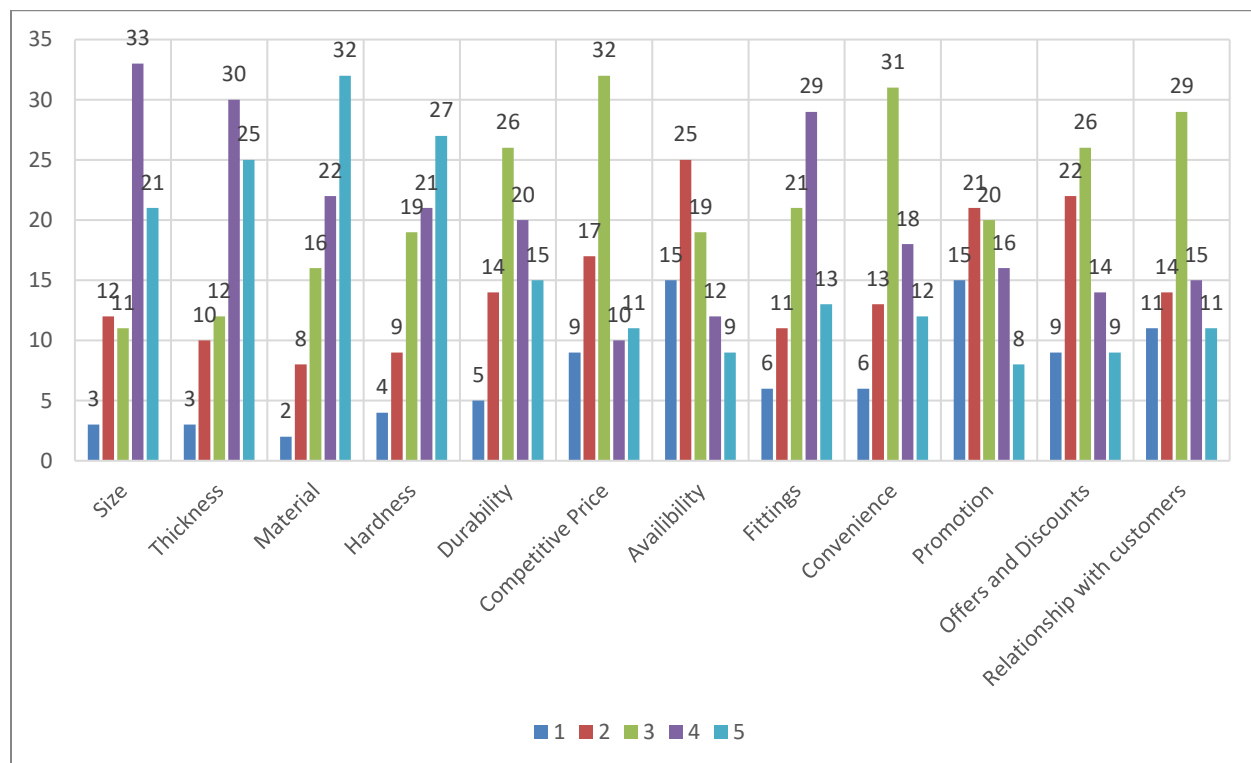
**Analysis:** Data collected for project from 80 respondents in which 37 customers said Supreme which are 46%, 16 are those who said Ashirvad which are 20%, 20 are those who said Astral which are 25% and 7 are those who said Finolex which are 9% of total respondents.

**Interpretation:** In the analyzed data most of the respondents prefer Supreme pipes. Many respondent also prefer Astral pipes. The preference of customer is also there for Ashirvad and Finolex but up to a certain extent.

**4. Rate the following features of Astral pipes in order of your preference from 1 to 5. (5 being very good to 1 being poor)**

	1	2	3	4	5
--	---	---	---	---	---

<b>Size</b>	<b>3</b>	<b>12</b>	<b>11</b>	<b>33</b>	<b>21</b>
<b>Thickness</b>	<b>3</b>	<b>10</b>	<b>12</b>	<b>30</b>	<b>25</b>
<b>Material</b>	<b>2</b>	<b>8</b>	<b>16</b>	<b>22</b>	<b>32</b>
<b>Hardness</b>	<b>4</b>	<b>9</b>	<b>19</b>	<b>21</b>	<b>27</b>
<b>Durability</b>	<b>5</b>	<b>14</b>	<b>26</b>	<b>20</b>	<b>15</b>
<b>Competitive price</b>	<b>9</b>	<b>17</b>	<b>32</b>	<b>10</b>	<b>11</b>
<b>Availability</b>	<b>15</b>	<b>25</b>	<b>19</b>	<b>12</b>	<b>9</b>
<b>Fittings</b>	<b>6</b>	<b>11</b>	<b>21</b>	<b>29</b>	<b>13</b>
<b>Convenience</b>	<b>6</b>	<b>13</b>	<b>31</b>	<b>18</b>	<b>12</b>
<b>Promotion</b>	<b>15</b>	<b>21</b>	<b>20</b>	<b>16</b>	<b>8</b>
<b>Offers and Discounts</b>	<b>9</b>	<b>22</b>	<b>26</b>	<b>14</b>	<b>9</b>
<b>Relationship with customers</b>	<b>11</b>	<b>14</b>	<b>29</b>	<b>15</b>	<b>11</b>



# **FINDINGS AND CONCLUSION**



- Lack of product knowledge among the customers.
- Retailers are mostly not interested due to lack of demand among the customers.
- Very few advertising done in the urban and remote areas of Odisha.
- The past relationship between the distributors and suppliers has not been very well.
- The distributors were charging their finished goods at high price and they had monopoly market and used to charge customers high price.
- There was communication gap between the company and the distributors.
- The Retailers who previously had kept stock of Astral pipes had switched to other brands providing better offers.

# **LIMITATIONS OF THE STUDY**

The project has some limitations because it is totally based on efforts of individuals. Peoples may be careless and may not give correct answer to the questions, because of so many reasons.

- Time has been a major constraint throughout the study as it has been only for duration of 1.5 months.
- Some customers are not interested in answering the questions.
- It is totally based on personal efforts of individuals.
- The customer behavior varies according to different products.

# **RECOMMENDATIONS AND SUGGESTIONS**

- More investment should be done to educate the plumbers regarding the quality and benefits of Astral pipes.
- There should be a HUB or FACTORY buildup in eastern zone (i.e. Odisha, West Bengal, Jharkhand, Bihar) for swift availability of the finished products.
- Healthy relationship should be maintained between the Company, Distributors and Retailers.
- More campaigns are essential to create awareness of the product among the customers.
- More number of advertisings are essential to mark the presence of the product.

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# APPENDIX



## QUESTIONNAIRE

1. Name: .....

2. Location:

.....

3. Sex:

a. Male ☐

b. Female ☐

4. Age:

a. 20-30 ☐

b. 31-40 ☐

c. 41 and above ☐

5. Income:

a. Less than 10000 ☐

b. 10,000-25,000 ☐

c. 25,000-50,000 ☐

d. 50,000and above ☐

6. Family size:

a. 2 ☐

b. 2 to 4 ☐

c. 4 and above ☐

7. Are you taking decision for your home construction?

a. Yes ☐

b. No ☐

8. Have you purchased plumbing pipes?

a. Recently ☐

b. Already purchased ☐

c. In future ☐

9. Which brand of plumbing pipe is good?

a. Astral ☐

b. Ashirvad ☐

c. Supreme ☐

d. Finolex ☐

**10. Rate the following features of Astral pipes in order of your preference from 1 to 5. (5 being very good to 1 being poor)(Note: 1=Poor, 2=Fair, 3=Average, 4=Good, 5=Very good)**

- |                                |                          |
|--------------------------------|--------------------------|
| a. Size                        | <input type="checkbox"/> |
| b. Thickness                   | <input type="checkbox"/> |
| c. Material                    | <input type="checkbox"/> |
| d. Hardness                    | <input type="checkbox"/> |
| e. Durability                  | <input type="checkbox"/> |
| f. Competitive price           | <input type="checkbox"/> |
| g. Availability                | <input type="checkbox"/> |
| h. Fittings                    | <input type="checkbox"/> |
| i. Convenience                 | <input type="checkbox"/> |
| j. Promotion                   | <input type="checkbox"/> |
| k. Offers & discounts          | <input type="checkbox"/> |
| l. Relationship with customers | <input type="checkbox"/> |