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A STUDY ON THE UNTAPPED MARKET BY THE BRAND TIBRE AND THE ROAD MAP AHEAD FOR THE BRAND.

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Of

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Oct, 2006

KCT Business School
Department of management studies
Kumaraguru College of Technology
(An ISO 9001:2000 Certified Institution)
Coimbatore - 641006

Certificate

BONAFIDE CERTIFICATE

Certified that this project titled "A STUDY ON THE UNTAPPED MARKET BY THE BRAND TIBRE AND THE ROAD MAP AHEAD FOR THE BRAND" is the bonafide work of Mr.R.ILAYARAJA (Reg no : 71205631018), who carried out this research under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.



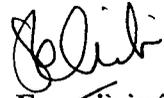
Prof. S.Elamurugan
Project Guide



Director



Examiner 1



Examiner 2

REF: HRD/GEN 327/2007

June 12th 2007

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Ilayaraja.R, (Roll No. 05MBA18), MBA** student of "KCT Business School", Coimbatore has undergone Summer Project for a period from 17.02.07 to 12.06.07. During the training period, his conduct, character and interest to learn was found good.

We wish him all success in his future endeavors.

Thanks and Regards,

For Gangotri Textiles Ltd,



Velmail.V
Manager-HR

Declaration

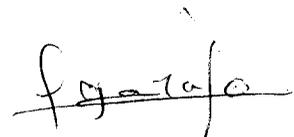
DECLARATION

I, hereby declare that this project report entitled as “A STUDY ON THE UNTAPPED MARKET BY THE BRAND TIBRE AND THE ROAD MAP AHEAD FOR THE BRAND”, has undertaken for academic purpose submitted to Anna University in partial fulfillment of requirement for the award of the degree of Master of Business Administration. The project report is the record of the original work done by me under the guidance of Prof. S. Elamurugan B.E. MBA, during the academic year 2007-2008.

I, also declare hereby, that the information given in this report is correct to best of my knowledge and belief.

Place: Coimbatore

Date : 01 06 07



(R. Ilaya raja)

Acknowledgement

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I express my sincere gratitude to our beloved correspondent **Prof.Dr.K. Arumugam**, the prime guiding sprit of Kumaraguru College of technology.

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I express my sincere gratitude and thanks to our Director for permitting me to carry out the project.

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I take this opportunity to thank my organizational guide **Mr. Shiva Shanmugam, Gangotri Textiles.** for his encouragement to fulfill the requirements of the project.

Abstract

Executive Summary

This project is done for GANGOTRI TEXTILES, in order to identify the expectations of the consumers with respect to the Readymade Pant materials. The study finding is based on a specially designed questionnaire collected from a sample of 100 respondents identified on the basis of convenience. The study focuses on identifying the purchase behavior, purchase pattern, brand preference, expectation on a brand and the factors influencing the purchase behavior.

From the analysis it is found that customers quality, design and brand name of the dress material. Price and quality are the main factors affecting purchase decision of prospective customers. Further according to the result customers make their purchase mostly on special occasions, the consumers are not aware of the product and are willing to switch to this brand if their expectations are met.

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Introduction

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The apparel industry is one of India's largest foreign exchange earners, accounting for 12% of the country's total exports. Garment manufacturing is one of the most fragmented sectors of the Indian textile industry. The garment industry comprises of manufacturers of ready-made garments for either the domestic or export markets or in certain cases both. The apparel segment on a whole is estimated to be Rs.40,000 crores and of that the branded apparel segment is estimated to be Rs. 9,000 crores.

Readymade garments market has its competitiveness with regard to the area, where in now companies are forming different techniques to catch up the market by segmenting the consumers. The growth of readymade men's wear business in India was very slow till the early – 1980s. the main reason for this was that Indian men were used to buying cloth and getting outfits tailored – mainly through local tailoring shops from unorganized segment. By the mid – 1980s however, customer mindset seemed to have started changing gradually, along with increasing urbanization, changes in the social and economic status and lifestyles. As in many other industries in the nation, the move towards 'branding' soon took momentum in the men's wear market. As the number of men in the age segment of 14 – 34 years grew during the late 1980s, the readymade garments business started expanding. Several other factors like clothing/fashion turning into a mode of self-expression; increasing consumerism; proliferation of Indian middle class, and the increase in its purchasing power have contributed to its growth. In 2003 men's clothing saw higher penetration of ready-to-wear apparel. Subsequently, in 2004 men's outerwear grew by 76% as against only 44% for women's outerwear. Listed and unlisted player caters to the branded apparel market.

In this scenario GANGOTRI TEXTILES which has existence of about 18yrs and a great market potential wanted to know the consumers expectation in the current brands available with their evaluation techniques to judge quality so that the company can formulate marketing and production strategy by which it can serve the customers better and simultaneously strengthen their presence in the market.

1.2. REVIEW OF LITERATURE

A research on “A study on brand consciousness among children and its effect on Family Buying Behavior in Bangalore City” by *Nithila Vincent* and a research on “A study on Branded Men’s wear” by *Dr. Ritu Narang* was referred and taken as a model for this research.

In the above mentioned projects one was conducted to study the level of brand consciousness among children in the age group of 8 – 16 years residing in Bangalore, to analyze the effect of brand consciousness among children in the family buying behavior and to examine whether unbranded products provide same satisfactions as branded products and customers’ preference for unbranded products and thereby to offer valuable suggestions to the marketer that would help in product planning, product promotion and product pricing.

It was inferred that, there is a significant difference in the reasons for buying branded items amongst the various income groups, the unbranded products give the same level of satisfaction as branded products according to respondents, children’s insistence for branded products and parents’ preference for branded products is dependent, boys and girls have different motivating factors for buying branded items, brand awareness amongst children is helpful to parents as they feel, their children’s suggestions are valuable to them.

While the other project which was taken up in the city of Lucknow, is to study the purchase behavior of the buyers of branded men’s garments, and to study the impact of advertising and promotional activities on purchase behavior of buyers.

It was suggested that, the companies should go for repetitive advertising as the buyer do not stick on to one brand in case of garment purchasing,

The product should be associated with style and trends so that it appeals to the youth and the brand name should be developed as a fashion statement among youth as they are the majority buyers, and promotional scheme such as discount and free offers with the purchase to increase the sales.

1.3. OBJECTIVES

OBJECTIVES OF THE STUDY

1. To study the Factors influencing the purchase pattern of Ready made Pants.
2. To know the Brand preference of the customers.
3. Consumers' concern towards Price and Quality of a Brand.
4. To understand the customer expectation in a Brand.
5. To give a conclusion and inference from the study done.

1.4. SCOPE OF THE STUDY

Even though, Ready made pants are major preference of the customers in today's scenario, this study is to know what a customer expects and how he evaluates a Brand, and their purchase behavior such as amount spent each year and major expectations on a brand.

1.5. RESEARCH METHODOLOGY

1.5.1 TYPE OF STUDY

The research is descriptive in nature as the study was done to find out the awareness level of the general customer and researcher has no control over the variables and is independent of the state of affairs.

1.5.2 DATA COLLECTION

5.2.1 Primary Data:

The primary data was collected with the aid of structured questionnaire prepared with respect to the objective of the project.

5.2.2 Secondary Data:

Secondary data regarding the industry, company and products were obtained from

- Internet
- Company personnel
- Books

5.2.3 Tools of study

- Frequency Analysis
- Simple Percentage Analysis
- Cross Tabulation
- Chi – square test

1.6. LIMITATIONS

The buyers may not follow what they have stated in their responses. Thus the degree of reliability cannot be taken to be always accurate. There are certain constraints of this study:

- ❖ The sample size is limited to 100 respondents.
- ❖ Due to time constraints the study is limited to Coimbatore region.
- ❖ The respondents are limited to those who are frequent buyers.

1.7. CHAPTER SCHEME

This project is divided into 5 chapters.

Chapter 1 deals with background of the study, review of literature, objective & scope of the study, methodology and limitations.

Chapter 2 covers history of the organization, management, organization structure, service profile, competitive strength and various functional areas.

Chapter3 covers all macro analysis and micro analysis of the study.

Chapter 4 covers data analysis & interpretation through representation of various tables and graphs

Chapter 5 deals with result, discussion and recommendation provided for the study.

Organizational Profile

CHAPTER 2

ORGANISATION PROFILE

2.1 History of the organisation:

The promoter of the company are *Shri. Manoj Kumar Tibrewal* and *Shri. Ramesh Kumar Tiberwal* when they were about 20+ started trade in cotton waste in kolkatta. an all India status was very soon reached by virtue of sound business principles. In 1989 they ventured into recycling of waste by installing imported machinery, which few had done in the country. The success in cotton waste and subsequently in waste recycling led to forward integration. In this process, Gangotri Textiles Private limited was born on 26th july 1989. Convinced that, large sized undertakings alone can have recognition, Gangotri Textiles Private limited was converted to a Public limited Company on 1st june 1993.

The first unit was started in 1993 at Coimbatore with a capacity of 768 rotors on a huge site. The company entered the capital market on july 4, 1994 with a widen public issue of Rs.210 lakhs, to part finance the cost of its expansion to a sinning capacity at 1152 rotors. The equity shares of the company are currently listed at the Coimbatore, Bombay, Calcutta, Chennai and National Stock Exchanges.

At Unit-I today stands a “Twin” plant, basically identical in size and layout housing between them a total at 2496 rotors positions occupying 9938 sq mtrs at manufacturing floor space.

The company continues its expansion spree by putting up another unit at Coimbatore with 1344 rotors. The company acquired a unit Kolhapur, Maharashtra with 384 rotors. Not only that, the company been produced for expanding immediately 1344 rotors at Kolhapur but also able to take immediate advantage at geographical spread over. Since inception, the group has expanded manifold and today it is one of the largest open-end composers.

The Growth rate of the spinning group in South India is tremendous as reflected by the sales. Turnover from about Rs. 463 lakhs in 93-94 and to Rs.8500 lakhs in 98-99. The current installed spinning capacity of the Group is 518 rotors and it produces 17500 tonnes of cotton yarn per annum in addition to large volumes of recycled cotton waste.

Gangotri Textiles Limited now stands tall, equipped with 3 open-end spinning units spread over the frontiers of Coimbatore, Kolhapur, Maharashtra and a sophisticated ring. Spinning unit was setup at Udumalpet, near Palani. Gangotri Ltd., not only focuses on cotton and yarn now, it has also successfully established its presence in the branded readymade wear market, with the successful launch of its men's wear brand Tibre manufactured and marketed by Gangotri Apparels, it's a apparel division.

Tibre is a brand, which fully dedicates its paradigms to one word COMFORT. Moreover, true to its paradigm, Tibre offers truly comfortable trousers, shirts, light denim, cargos, shorts that are impeccable in fit style, fabric finish and durability. And the base line looks formal feels casual further accentuates our platform. The company's long term aspiration is to become an integrated textile giant led to the establishment of this division. Catering exclusively to the branded wear segment through our trousers and shirt brand Tibre that hit the shelves in August 1999.

Our range of machinery includes the latest from world renowned manufacturers like Tutzschler, Elitex, Schlafhorst, Rieter, LMW and Uster in the spinning category and Durlcopp Adler, Kansai, Juki, Pegasus, Kumsung, Stewart and Nagaishing in the readymade garments category.

Clear vision. A sense of purpose and sheer hard work can surely pay rich dividends. The origin of Gangotri Textiles Limited demonstrates this quite well promoted by far sighted men with strong business Acumen and sense of destiny the company progressed steadily from dealing in cotton waste to the position of eminence holds today.

In 1992 the company was converted into public and today has a major corporate presence in South India. Values are integrated to everything they do. It tends credence and bring into the future and defines their corporate identity. They subscribe to a value system that swears by integrity and transparency and go that extra mile to meet customer demand and ensure customer confidence without in any compromising on their core values. Today as they stand on the fibres hold of change and are quietly confident of establishing their presence as a leader in a chosen sphere of the activity to the timeless values that penetrate their decisions and actions, and also by staying progressive and contemporary at all times.

2.2 Management

EXECUTIVE DIRECTOR:

Sri. Mohanlal Tiberwal

MANAGING DIRECTOR:

Sri. Manoj Kumar Tiberwal

BOARD OF DIRECTORS:

Sri. C.R. Swaminathan

Sri. S. Palanisamy

Sri. T.A. Ganesh

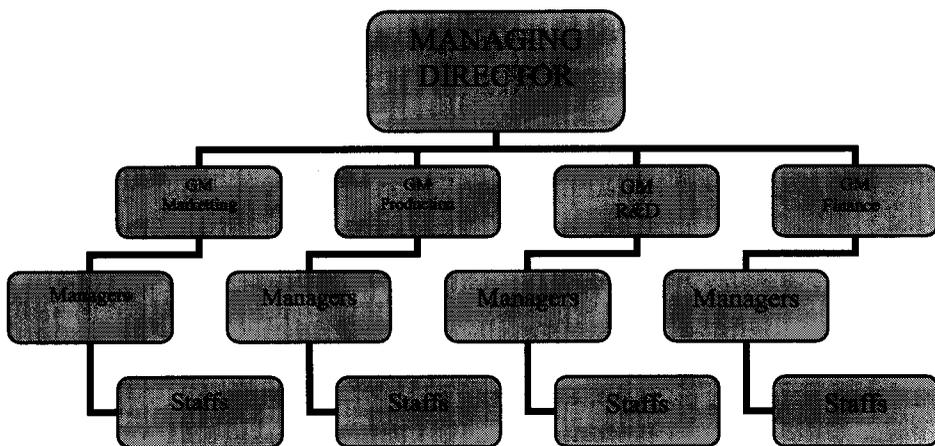
AUDITORS:

M/S. Thakker & Sanghani

M/S. Srikishen & Co

M/S. Agarwal Kejriwal & Co

C.Organizational structure



2.3 PRODUCT PROFILE

ABOUT *TIBRE*:

The purest materials. Prized craftsmen. Unique cut and fall. The essence that makes Tibre trousers just perfect for you. Launched in 1999, Tibre is manufactured and marketed by Gangotri Textiles Ltd.

The last decade has seen the company emerge as a strong player in its category. And one of many reasons that fuel this growth is the company's ability to constantly expand its product range. With over 30 varieties, Tibre is all set to delight its customers.

Among the new introductions are *ROYALE* – a premium range of formal trousers made from 100% cotton with smooth scape finish and *ESSENCE*, a special blend that is enriched with 100% cotton of heavier count and construction for that perfect fall.

Both the above introductions are treated with *SUPERCREASE* – a unique concept patented from UK, for that crisp look. This feature less the trouser keep its crease permanently and the risk of double crease during ironing is avoided.

And there's something else – something just about every Tibre customer will be truly happy about – Gangotri Textiles is all set to launch it's collection of shirts – both casual and formal! Tibre will now cover their needs for stylish, comfortable work wear.

The company is supported by a 750 strong channel partner network and this is set to grow exponentially in the next few months itself. Across the country, Tibre is now a key player. The brand has already made its foray abroad, in select markets of the Middle East where it has received stupendous response.

Slip on a pair of Tibre trousers and shirts to discover how it makes you look formal and feel casual.

RANGE OF PRODUCTS	FIT	NO: OF COLOURS	PRICE (RS)
<i>ROYALE</i>	BASIC & REGULAR	4	1495
<i>HONCHO</i>	BASIC & REGULAR	9	1295
<i>COLORADO</i>	BASIC & REGULAR	2	1145
<i>ESSENCE</i>	BASIC & REGULAR	5	1145
<i>VERTICALS</i>	BASIC & REGULAR	6	1095
<i>TOP BRASS</i>	BASIC & REGULAR	9	1095
<i>SENATOR</i>	BASIC & REGULAR	9	995
<i>PREMIUM</i>	BASIC & REGULAR	10	895
<i>PURICOTS</i>	BASIC & REGULAR	9	845,945
<i>ULTRA LIGHTS</i>	BASIC & REGULAR	10	795,895

2.4 COMPETITIVE STRENGTH OF THE COMPANY

The location of the company in *The Manchester city* of Tamil nadu. This area is surrounded by major textile exporters and manufacturers, Tibre has been a success story since its launch and the brand now finds presence in over a 550- multi brand outlets across India. Gangotri's stitching and washing units are the most modern and up-to-date in terms of infrastructure and technological expertise. The units are equipped with the latest imported machinery from Germany, Korea, Singapore, Hong Kong, Czech Republic and Japan.

Adding to our glory is our most modern washing unit in South India Located at the SIPCOT Industrial estate, Perundurai. The jewel in the crown is a Common-Efficient-Treatment-Plant Coupled with it. Efficient and well-trained workers handle the washing unit that has a 3000 GMP per day installed capacity and with their expertise, provide a palette of about 25 washes encompassing the entire range of garment manufacturing. Technically qualified professionals manage the plant laid back on their vast experience garnered from the garment industry particularly in special finishes. Vertically integrated facilities to manufacture every thing from yarn to finished garments.

2.5 DESCRIPTION OF VARIOUS FUNCTIONAL AREAS

2.5.1 SECRETARIAL DEPARTMENT

SECRETARY:

“One who assists an executive in carrying out the details of his work”. The profession of the secretary is as old as the man. It has also been said that, the man of action always need a man of the pen to record his deeds. But with the passage of time, the office of the secretary assumed more importance. In the modern times, the duties and function have become so wide and varied that a modern secretary does no longer resemble his ancient counterpart.

SECRETARY OF THE COMPANY:

The secretarial department of Gangotri Textiles Limited is functioning under the control and superintendence of the Company Secretary. Gangotri Textiles Limited has appointed Mr. Maxim Joseph as its Secretary.

FUNCTIONS OF THE SECRETARIAL DEPARTMENT:

Following are some of the functions of a secretarial department which are performed by Gangotri Textiles Ltd.,

- Handling staff matters dealing personally with outside callers.
- Acting as a mouth piece of management for communicating their decisions to the staff.
- Maintaining public relations, that is, keeping the public informed about the activities of the organization.
- Communicating to management, the grievances of the staff, if any, or reactions of the staff to management policies.
- Supervisions co-ordinates and contract of clerical work.
- Selection, appointment and assignment of office work and staff.
- Maintaining office discipline.
- Supervising secretarial work relating to meetings, etc.



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2.5.2 PERSONNEL DEPARTMENT

INTRODUCTION:

Personnel department has control over the following department.

1. Canteen.
2. First Aid.
3. Time office and Secretary.

The company, right from inception has taken an unique place in the Industry, always progressing towards the winning edge. It creates its own market, joins hand with customers in fulfilling their needs in a superior manner, satisfies share holders by company's goal and vision are built on the twin stepping stones " Commitment and Discipline ".

Having recognized that its employees are the foundation and backbone for the Company and the realization of the fact that the trust and faith that employees have in the Company go to make a model workforce, the company on its part reciprocates the same goodwill towards the employees. This reciprocal appreciation of each others position is very effective and brings out the best from the employees. The company continues to enjoy a highly motivated and result-oriented human capital throughout the organization and at all levels. The culture of competency, self-motivation and total involvement continues to be the cornerstone of all activities.

Industrial relations continued to be harmonious in all the units. The continuous training that is imparted to the workforce at all levels is yielding very good result.

2.5.3 PURCHASE AND PRODUCTION DEPARTMENT

PURCHASE DEPARTMENT

The main functions of this department are to deal with clerical work in connection with purchase of materials and stores. The purchase of stores items are Bearings, Lubricants, Belts, Spares, Compressor stationery, Tools paints, General, Hardware items, Vehicle spares, Electrical items. The usual work of this department includes preparation of suppliers orders receipt, checking and recording of suppliers invoices and delivery notes, Maintenance of purchase journal and ledger checking and certification for payment of suppliers bills etc.

Every month, on the day of 27th the meeting will be conducted by the company. In this meeting purchasing (stores) items listed are submitted to the higher authority or verification.

The purchase manager is Mr.Jayaprakash who is permitted to make an order and pass the bill for payment. The goods ordered are received by the same department and supplied to various department on the basis of the requisition letter.

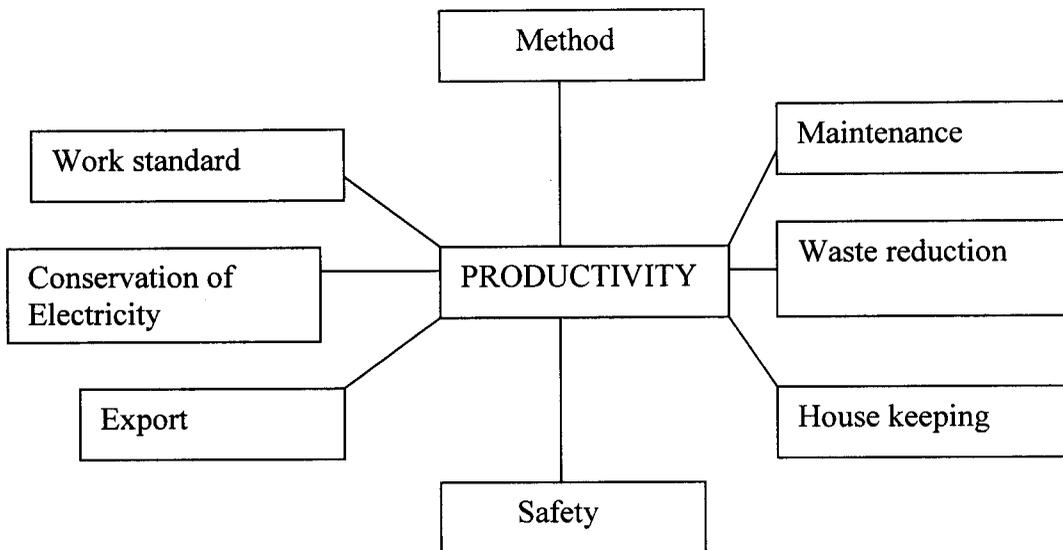
FUNCTIONS OF PURCHASE DEPARTMENT:

- To minimize the time consumed for purchase.
- To introduce vendor ratings.
- Development of vendors.
- Identification of new vendors.
- Minimizing inventory with other department.
- To have relationship with other department.
- Improving service to division and its units.
- To minimize the purchase cost.
- Supply of material based on timely placement of purchase requisition.
- To purchase quality materials at minimum cost from genuine vendors.
- Follow up action by the subordinates.

- To have a sources of new vendors for substitutes.
- To co-ordinate with accounts department for proper payment.
- To maintain records and prepare plans with accounts department.
- To operate the purchase accounting system effectively.

2.5.4 PRODUCTION DEPARTMENT

Productivity is the ratio of the input facilities to the output of goods and services. The only way of raising the living standard of the society is to increase the productivity.



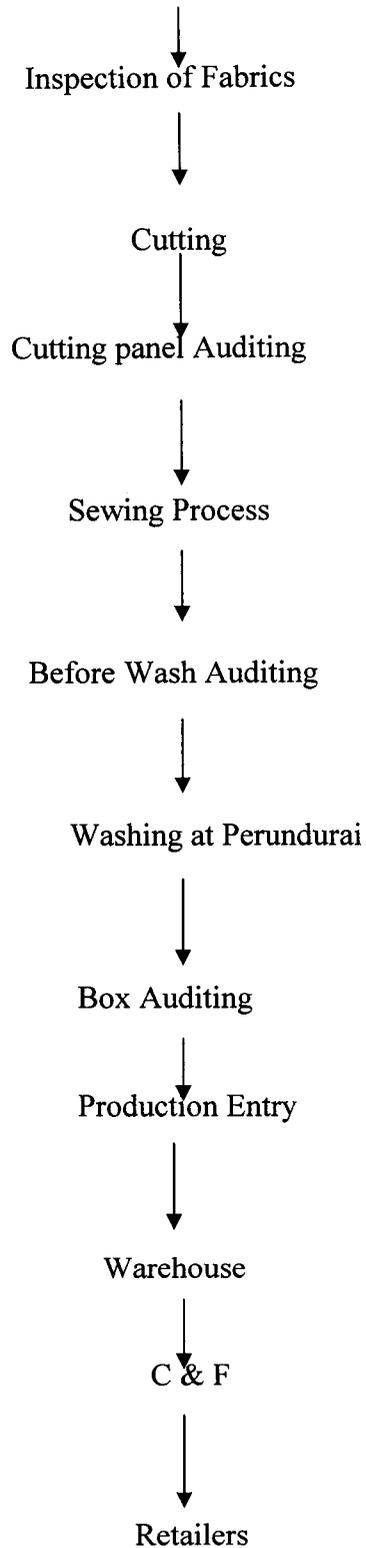
The main function of the mill is to produce the yarn to the market. The production department was very much concentrated with new techniques.

The Gangotri Textiles mill produces high quality of yarn in the all over textile market. The production of yarn in various counts namely 4s,1s,7s,10s,12s,14s,16s.

Gangotri textiles ltd., have three types of production segments. They are Open-end spinning, Ring spinning and garments production.

2.5.5 PROCESS OF PRODUCTION

Fabrics and accessory Procurement



Macro and Micro Analysis

CHAPTER 3

MACRO-MICRO ECONOMIC ANALYSIS

3.1. INDIAN SCENARIO:

India is one of the largest producers of cotton in the world. Cotton textiles, hosiery and Garments industry put together provide employment to over five lakh persons mainly in the small scale enterprises. The knitwear industry in India is over a century old. It had its Origin in Calcutta and later it spread to other parts of the country. Presently, main centers where this industry is located are Tirupur (Tamilnadu), Delhi, Calcutta, Bangalore, Ahmedabad, Saharanpur, Surat, Kanpur (Uttar Pradesh) and Mumbai. Initially, the industry produced mainly under-garments in hosiery. It is only in the last 15-20 years that the industry started manufacturing outer-wear like T-shirts, cardigans, jerseys, pull-overs and polo-shirts. It is believed that the first small scale hosiery unit was started by an enthusiastic entrepreneur from Calcutta in the year 1893 in a small shed in Khidderpur. This industry has now grown multi-fold and made a significant contribution to our economy with almost 10,000 units. Besides, there are several other units that are supporting this industry by producing related products. The production of hosiery yarn and hosiery products both are now 16% of the total textile products.

Indian Apparel Industry- an Overview

The apparel industry is one of India's largest foreign exchange earners, accounting for nearly 16% of the country's total exports. The 1996 Indian textile exports approximately amounted to Rs.35,000 crores of which apparel occupied over Rs14,000 crores.

It has been estimated that India has approximately 30,000 readymade garment manufacturing units and around three million people are working in the industry. Today not only is the garment export business growing, enthusiasm in the minds of the foreign buyers is also at a high. Today many leading fashion labels are being associated with Indian products. India is increasingly being looked upon as a major supplier of high quality fashion apparels and Indian apparels have come to be appreciated in major markets internationally. The credit for this goes to our exporter community.

Consistent efforts towards extensive market coverage, improving technical capabilities and putting together an attractive and wide merchandise line has paid rich dividends. But till today, our clothing industry is dominated by sub-contractors and consists mainly of small units of 50 to 60 machines. India's supply base is medium quality, relatively high fashion, but small volume business.

Recent recession in Europe and the South Asian currency crisis have also contributed their own bits to the decimating Indian exports. Though these are expected to fizzle out soon, there is no reason for complacency on the part of Indian exporters or of the garment industry. The industry will be soon faced with open competition shorn of quotas or tariffs.

Thus the need of the hour is to enlarge both manufacturing as well as the marketing base. Inculcation of a spirit of innovation by way of research and development and tapping new markets especially in South Africa, Central Africa, CIS, East European countries, Latin America and Australia is also mandatory for export growth.

Indian Textiles- A historical perspective

Today cotton is an integral part of textiles in India. Nearly four million handlooms are engaged in weaving fabrics of nearly 23 different varieties of cotton. It was a piece of cotton stuck to a silver vase and some spindles discovered in excavations which revealed that the spinning and weaving of cotton was known to the Harrappans, nearly five million years ago.

References to weaving are found in the Vedic literature. Method of spinning, the various materials used etc. are also mentioned in these ancient scripts. The history of Textiles is told many times over in the epics, the Puranas, the Graeco- Roman sources of Indian history, and the classical Tamil Sangam Literature. Various techniques of weaving, designing, needle work etc have survived through the centuries

The foundations of the Indian textile trade with other countries began as early as the second century BC. Kalyan, a port, is place in that time from where textiles were exported. A variety of fabrics, including cotton brocade, is mentioned in Chinese literature as Indian products exported to China.

A hoard of block printed and resists dyed fabrics, mainly of Gujrati origin, found in the tombs of Fostat, Egypt, are the proof of large scale Indian export of cotton textiles to the Egypt in earlier times. They were exported in the early medieval times. Some of these motifs were found similar to those mentioned in the Western Indian manuscripts in the 13th century. There are others which have resemblance to the block printed fabrics, in Gujrat.

The silk fabric was a popular item of Indian exports to Indonesia around the 13th century, where these were used as barter for spices. Towards the end of the 17th century, the British East India Company had begun exports of Indian silks and various other cotton fabrics to other countries. These included the famous fine Muslin cloth of Bengal, Bihar and Orissa. The trade in painted and printed cottons or chintz, a favorite in the European market at that time, was extensively practiced between India, China, Java and the Philippines, long before the arrival of the Europeans.

Before the introduction of mechanised means of spinning in the early 19th century, all Indian cottons and silks were hand spun and hand woven, a highly popular fabric, called the khadi.

Profiles of Three Leading Indian Exporters of Home Textiles

Home textiles are among the most dynamic export segments in India's textile industry. By focusing on the US market, India has become the USA's leading foreign supplier of towels, and one of its top three foreign suppliers of cotton sheets. Its success in home textile exports stems largely from the efforts of a few dynamic companies such as Welspun India, Abhishek Industries and Alok Industries. These companies have become

India's top three home textile exporters and, spurred by their global ambitions and buoyed by their export success, they are in the midst of implementing large expansion programmes.

Welspun India is India's largest maker and exporter of terry towels, and has emerged as the largest overseas supplier of terry towels to the USA. The company has an aggressive strategy to grow its business by expanding capacity, establishing a subsidiary in the USA, and moving up the value chain by selling innovative and differentiated products. Abhishek Industries is the second largest producer and exporter of terry towels in India. The company has been following a growth strategy for its textile business which is similar to that of Welspun, including an aggressive expansion of capacity, the establishment of subsidiaries in the USA and Europe, and an emphasis on value added terry towels. Alok Industries, a large integrated textile player, entered the home textiles business as recently as 2003 by exporting bed linen. The business has been growing rapidly and has acted as a growth engine for the company. Alok has already emerged as the second largest overseas exporter of bed sheets to the USA.

Garment Exports From India

The welcome decision of phasing out Multi-fibre Agreement will end the regime of quotas and will unleash "competition", overwhelming condition of playing in the global market. Survival of the fittest shall become the rule of the game and the Indian clothing industry whose supply base is medium quality and small volume business shall have to brace itself and go for rapid modernisation, timely delivery and broad basing its export basket and market.

For India the Clothing industry has performed quite well in exports. It has been filling most of the quotas every year. As compared to Rs. 12 crores in 1970-71, exports have reached Rs.18, 000 crores by 1998. The major competitors in this segment of the market are developed countries, Asian Tigers like Korea, Taiwan, Hong Kong and Singapore, developing countries like Indonesia, Thailand and Malaysia and neighbouring countries like Bangladesh and Myanmar and China, of course.

In order to ensure quality of garment exports the SSI restriction of the garment industry should be removed. Present equity participation of 24% by the foreign partners needs to be enhanced and Joint Ventures with majority share holding as well as technical collaborations should be allowed. Labour laws need a remodelling and liberalisation. A research, development and training institute focused on post garment processing like washing dyeing etc. is also needed. Indian government should negotiate higher quotas from USA / EEC in accordance with its sizes and capabilities. Stream lining Internal Quota Administration and freezing minimum export prices is crucial for the future of the readymade garment export industry.

Prospects for the Textile and Garment Industry in India

India is the world's second largest producer of textiles and garments after China. It is the world's third largest producer of cotton—after China and the USA—and the second largest cotton consumer after China. The textile and garment industry in India is one of the oldest manufacturing sectors in the country and is currently its largest. The textile and garment industry fulfils a pivotal role in the Indian economy. It is a major foreign exchange earner and, after agriculture, it is the largest employer with a total workforce of 35 mn. In 2005 textiles and garments accounted for about 14% of industrial production and 16% of export earnings.

The industry covers a wide range of activities. These include the production of natural raw materials such as cotton, jute, silk and wool, as well as synthetic filament and spun yarn. In addition an extensive range of finished products are made. The Indian textile industry accounts for about 23% of the world's spindle capacity, making it the second highest after China, and around 6% of global rotor capacity. Also, it has the highest loom capacity—including hand looms—with a 61% share. India accounts for about 12% of the world's production of textile fibres and yarns. This includes jute, of which it is the largest producer. The country is the second largest producer of silk and cellulose fibre and yarn, and the fifth largest producer of synthetic fibre and yarn.

3.2 GLOBAL SCENARIO

The industry contributes significantly to the exports of the country. Their production is estimated to be 1300 million pieces per annum. Almost one-third of the production is exported and the rest is consumed within the national market. Of the total textiles exports of Rs. 31,336 crores in the year 1994-95, hosiery exports were Rs. 3,151 crores.

The Multi-fibre arrangement is due to expire by the year 2005, as a result competition will increase drastically. In Italy a cluster of small specialized textile firms are competing on end products, Germans weave for 24 hours under "lights out" arrangement, Total quality Management is ensured in Japanese and American plants, 'looming robots' are installed and firms in Southern USA are reported to be researching the use of genetic engineering, cellular

Under these circumstances India needs to go a longer way. An IIM Ahmedabad study points out the loopholes in Indian Textile Industry as -- long manufacturing & delivery times, conflict 'n' competition between small medium & large players and amongst links of supply chain viz. cotton producers, spinners, weavers etc., poor process control, outdated technology, non existent indigenous R&Ds, etc.

At present Chinese textile firms are imparting 70 hrs. of training each year to an experienced worker as opposed to 10 hrs. By Indian firms, investing in R&D for New Application Areas, addressing the issue of quality systematically and also canalizing export through centralized channels.

The main challenge for Indian textile Industry lies in protecting domestic market after year 2005. The 3C's of Commitment, Co-ordination and Co-operation need to be applied at all levels by the industry to be able to maintain its presence in the global market.

Global Market for Smart Fabrics and Interactive Textiles

In 2004 the global market for electrically enabled smart fabrics and interactive textile (SFIT) technologies was worth US\$248.0 mn. By 2008 it is expected to be worth US\$485.6 mn, representing a compound annual growth rate of 18%. SFIT technology has advanced significantly in recent years. Novel polymers, when integrated into textiles, provide a range of interactive properties such as electrical conductivity, ballistic resistance and biological protection. In the future, there will be a need for even more materials whose properties alter in response to external stimuli.

So far, the number of applications for SFIT which have made a commercial impact is disappointingly few—apart from electrically heated seat kits, which have been a major success. End uses that have proved successful tend to be restricted to smaller markets such as luxury sportswear and novelty outerwear. However, growth in demand is expected in the case of clothing with built-in electronic storage and communication capabilities, and for fabrics which provide electromagnetic shielding.

Owing to the diverse nature of the technology employed, the industry has become characterised by a variety of strategic alliances and partnerships. Competition is therefore weak, and is likely to remain so in the short term. Factors inhibiting industry growth include the high price of finished articles—which is a consequence of the high cost of research and marketing—and a shortage of research funding. Research effort tends to be driven mainly by government and military interests and, to some extent, by the medical sector. Industrial growth is also being inhibited by a lack of industry standards, which is hampering communication and technological progress.

Hand processing: yarn formation

Wool

This description is based on the assumption that wool is the fibre being used. For hand-spinning most of the fibre spun is wool, or a blend containing wool. Most animal hair

fibre is handled with only a few modifications to the below description. Plant fibres are prepared for spinning very differently.

Sheep Shearing

A half sheared sheep.

The first step in processing the wool is to collect it. Shearing can be done with use of hand-shears (tools that look like big scissors) or powered shears. Professional sheep shearers can shear a sheep in under a minute, without nicking the sheep once. At many state fairs there are sheep shearing contests, to see who can shear a sheep the fastest. These contests mainly include older men, with only a few youngsters.

Wool in a shearing shed

When the fleece comes off the sheep it should be in one piece. Also, it is best if the shearer cuts close enough to the skin that a second cutting is not required. Second cuts make for very short fibres, which are more difficult and not as much fun to deal with and spin. Primitive breeds, like the Scottish Soay sheep have to be plucked, not sheared, as the kemps are still longer than the soft fleece, (a process called rooing) or the fleece must be collected from the field after it falls out.

Skirting

Skirting basically means disposing of all wool that is unsuitable for spinning (too short, has sheep dung in it, etc.) One often could spin this wool, with much extra effort, if one wanted. (The dung can be washed out, the short fibres - though with greater difficulty than longer ones - can be spun, and other objections can be similarly dealt with.) Thus this step can be skipped if necessary. It can also be done at the same time as carding.

Cleaning

Before carding the wool, it must be cleaned. At this point the fleece is full of lanolin and often contains vegetable matter, such as sticks, twigs, burs and straw. One way to prevent the vegetable matter from getting into the fleece is to have the sheep wear a coat all year round.

At this point there are two ways to go. The first is to simply pick out the vegetable matter, and move on to the next step. The lanolin is kept in the wool. People who enjoy spinning 'in the grease' (i.e. spinning with the lanolin still in the wool) prefer this method, and wait to wash the lanolin out until they finish spinning. The lanolin can be left in the wool after spinning as well, making the fabric or garment water repellent. If one doesn't want to spin in the grease, the other option is to take both the vegetable matter and the lanolin out.

Washing the wool at this stage can be a tedious process, if you let it. Some people wash it a small handful at a time very carefully, and then set it out to dry on a table in the sun. Other people will stick the whole fleece in a tub of water and soap (dishwashing detergent works well), let it sit, swish it around, and refill the tub with new water occasionally until the fleece is clean (of soap and dirt). One carding mill puts the fleece in a washing machine (that has been slightly modified for this purpose) and melts the lanolin away by soaking the fleece in very hot water. All these methods work. The thing not to do when washing fleece is to rub it against itself too much. If the fleece gets agitated, it will become felt, and then spinning it is impossible. Felting, when done on purpose (with needles, chemicals, or simply rubbing the fibres against each other), can be used to create garments.

Carding or combing

Before spinning it is a good idea to get the fleece into a slightly more manageable state. It is possible to spin directly from a fleece, if it is a very clean one, but it is much easier to spin a carded fleece. Carding by hand yields a rolag, a loose woollen roll of fibres. Using a drum carder yields a bat, which is a mat of fibres in a flat, rectangular shape. Most carding mills return the fleece in a roving, which is a stretched bat; it is very long and

often the thickness of a wrist. (A pencil roving is a roving thinned to the width of a pencil. It is often used for knitting without any spinning, or for beginning spinners.)

Many hand-spinners send their wool out to carding mills to be carded, as one good-sized fleece may take weeks to card with a drum-carder, or an eternity by hand. If the fleece is sent to a carding mill, it must be washed before carded. Most mills offer washing the wool as a service, with extra fees if the wool is exceptionally dirty. Other hand-spinners simply buy their fibres pre-carded.

Another technique, less used on raw fleece, is that of combing. Combing is another method to align the fibers parallel to the yarn, and thus is good for spinning a worsted yarn, whereas the rolag from handcards produces a woolen yarn.

Spinning

A spinning wheel used to make yarn.

Hand spinning can be done many different ways, the two most common being by use of the spinning wheel or the spindle. Spinning turns the carded wool fibres into yarn which can then be directly woven, knitted (flat or circular), crocheted, or by other means turned into fabric or a garment.

Removing the yarn from the wheel

When spinning on a spinning wheel, the yarn collects on a bobbin. Once the bobbin is full, the spinner can either put on a new bobbin, form a skein, or ball the yarn.

A lazy kate with bobbins on it in preparation for plying.

If the yarn is to be plyed then the most common action is to put a new bobbin on the wheel, and leave the yarn on the bobbin so that the spinner can ply directly from the bobbin. This makes for greatest ease when plying, but cannot be done if the spinner does not have enough bobbins. When plying from bobbins a device called a lazy kate is often used to hold the bobbins.

A niddy noddy ready to have a skein wound on it.

If the spinner has the end result (i.e. the yarn is already plied or is not going to be), then most likely they will make a skein out of the yarn. A skein is a coil of yarn twisted into a loose knot. It is either formed on a niddy noddy or some other type of skein winder. Traditionally niddy-noddys looked like an uppercase "i", with the bottom half rotated 90 degrees [1]. Now days spinning wheel manufactures also make niddy-noddys that attach onto the spinning wheel [2] for faster skein winding.

Rarely is the yarn balled directly after spinning. Normally hand-spun yarn will be stored in skein form, and transferred to a ball only if needed. (For example, knitting from a skein, unless done very carefully, ends up with the yarn in knots, so it is best to ball it first.)

Ply

Plying yarn is when one takes a strand of spun yarn (one strand is often called a single) and spins it together with other strands in order to make a thicker yarn. There are several ways, the most common being regular and Navajo.

Regular plying consists of taking two or more singles and twisting them together, the opposite way. This can be done on either a spinning wheel or a spindle. The most important thing to remember though is that the twist must go the opposite direction. If in spinning the single the wheel was spinning clockwise (which is called a "Z" twist, as on any given side the fibres appear to cross diagonally in the same direction as the diagonal of a "Z"), in order to ply it the wheel must spin counter-clockwise (an "S" twist). This is because otherwise you are not balancing the twist, just twisting it more. The concept is similar to when a heavily twisted piece of yarn is folded, and it twists up on itself. It is most common for singles to be spun with a "Z" twist, and then plied with an "S" twist.

Navajo plying consists of making large loops, similar to crocheting. First make a loop about 8 inches long through the loop on the end on the leader. (A leader is the string left on the bobbin to spin off of.) Start spinning all three strands together in the opposite

direction than that they were spun in. When only 2 to 3 inches remain of the loop, pull a new loop of yarn through the loop, and continue spinning. The new loop should be around 7 inches long. Repeat this process until the yarn is all plied. Only one single is necessary, and if the single is already dyed this technique allows it to be plied without ruining the colour scheme. This technique also allows the spinner to try to match up thick and thin spots in the yarn, thus making for a smoother end product.

Most spinners (who use spinning wheels) ply from bobbins. This is easier than plying from balls because there is less chance for the yarn to become tangled and knotted if it is simply unwound from the bobbins. So that the bobbins can unwind freely, they are put in a device called a lazy kate, or sometimes simply *kate*. The simplest lazy kate consists of wooden bars with a metal rod running between them. Most hold between three and four bobbins. The bobbin sits on the metal rod. Other lazy kates are built with devices that create an adjustable amount of tension, so that if the yarn is jerked, a whole bunch of yarn is not wound off, then wound up again in the opposite direction. Some spinning wheels come with a built in lazy kate. Picture of lazy kates, with tension device.

Washing

If the lanolin was not washed out before, this is the point at which it gets washed out, unless the lanolin is to be left in the cloth as a water repellent. When washing a skein it works well to let the wool soak in soapy water overnight, and rinse the soap out in the morning. Dishwashing detergents are commonly used, and a special laundry detergent designed for washing wool is not required. The dishwashing detergent works and does not harm the wool. After washing, let the wool dry (air drying works best). Once it is dry, or just a bit damp, one can stretch it out a bit on a niddy-noddy. Putting the wool back on the niddy-noddy makes for a nicer looking finished skein. Before taking a skein and washing it, the skein must be tied up loosely in about six places. If the skein is not tied up, it will be very hard to unravel when done washing.

Flax

The preparations for spinning is similar across most plant fibres, including Flax and Hemp. Cotton is handled differently, as with cotton it is not the stalk of the plant that is used. Flax is the fibre used to create linen.

Harvesting

The first step in preparing flax to be spun is harvesting it. Flax is not cut, but instead it is pulled out of the ground about a month after the initial blooming. It should be pulled when the lower part of the plant begins to turn yellow, and when, on opening the pods, the most forward of the seeds are found in a soft state, and the middle of the seeds is green. It should be pulled in handfuls, straight up. Next, one should join several handfuls together and tie them using a slip knot so that the sting can be tightened as the stalks dry. (Note that great care should be taken to keep the root ends even.) These bundles of several handfuls of flax (also known as "beets") should be left standing up till the whole is dry, pods and all. At this point the seed will then be ripe and the flax in the best state.

Removing the seedheads

At this point the seed heads are removed. Once the seed heads are removed it can be stored for many months if necessary, but they must be kept dry. An easy way to remove the seed heads is to take a board and hammer in a row of blunt nails at even intervals, like a comb. Spread a sheet out to collect the seed heads, as they can be planted to create more flax. Next pull the dry bundles of flax through the nails (also called a ripple). This will cause the seed heads to pop off. Make sure to maintain the evenness of the root ends.

In order to separate the seeds from the rest of the seed heads an easy method is to thresh the seed heads by use of a rolling pin. Then, on a windy day or in front of a fan, take the mixture and pour it back and forth between two containers. This action is called winnowing. The chaff will get caught in the wind and blow away, while the seeds will fall straight down into the container. A screen also works to filter out some of the chaff.

Retting

Retting is the process of rotting away the inner stalk, leaving the outer fibres intact. A standing pool of water or a plastic trash can is needed. Actually, any type of water tight container of wood, concrete, earthenware or plastic will work. Metal will not work, as an acid is produced when retting, and it would corrode the metal. A tall plastic trash can with a spigot at the bottom works well. Place as many bundles of flax in the trash can as will fit, and fill the trash can full of warm water (80 degrees Fahrenheit is best). It is suggested that a lid of some sort be put over the trash can in order to keep the flax submerged, conserve warmth and contain the stench. After 4 hours a complete change of water is recommended, and 8 hours after that the scum should be washed off the top by the addition of some more water. From then on the scum should be washed off every 12 hours until the retting process is over.

If kept at 80 °F, the retting process takes 4 or 5 days, and any colder than that takes longer. When the retting is complete the bundles should feel soft and slimy, and quite a few fibres should be standing out from the stalks. When wrapped around a finger the inner woody part should spring away from the fibres. It is better to not let the bundles sit in the water long enough than to let them sit there too long, as they always can be submerged again if found to be wanting later, but the reverse problem cannot be solved (in this case the fibres are rotted as well as the stalk, and one cannot un-rot something).

Dressing the flax

Dressing is the broad term referring to removing the fibres from the straw and cleaning it enough to be spun. The flax is broken, scutched and hackled in this step.

Peasant woman breaking flax

Breaking The process of breaking breaks up the straw into short segments. To do it, take the bundles of flax and untie them. Next, in small handfuls, put it between the beater of the breaking machine (a set of wooden blades which mesh together when the upper jaw is lowered- it looks like a paper cutter but instead of having a big knife it has a blunt arm), and beat it till the three or four inches that have been

beaten appear to be soft. Move the flax a little higher and continue to beat it till all is soft, and the wood is separated from the fibre. When half of the flax is broken, hold the beaten end and beat the rest in the same way as the other end was beaten, till the wood is separated.

Scutching In order to remove some of the straw from the fibre, it helps to swing a wooden scutching knife down the fibres while they hang vertically, thus scraping the edge of the knife along the fibres and pull away pieces of the stalk. Some of the fibre will also be scutched away, this cannot be helped and is natural.

Hackles In this process the fibre is pulled through various different sized hackles. A hackle is a bed of "nails"- sharp, long-tapered, tempered, polished steel pins driven into wooden blocks at regular spacing. A good progression is from 4 pins per square inch, to 12, to 25 to 48 to 80. The first three will remove the straw, and the last two will split and polish the fibres. Some of the finer stuff that comes off in the last hackles can be carded like wool and spun. It will produce a coarser yarn than the fibres pulled through the heckles because it will still have some straw in it.

Spinning

Flax being spun from a distaff

Depending on the preference of the spinner, flax can either be spun from a distaff, or the spinner may simply lay flax fibres in their lap. It is recommended that the spinner keep their fingers wet when spinning, to prevent forming a fuzzy thread, and that the single be spun with an "S" twist. (See Ply above for details). From this point on much of the process is the same as that for wool.

Washing

One of the few differences in between flax and wool once the fibre is ready for spinning is the washing process. After flax is spun it should be let to sit in a pot of boiling water for a couple of hours to set the twist and reduce fuzziness.

Note:

Many handspinners, instead of doing all the preparation themselves, will buy a roving of flax. This roving is spun in the same manner as above. The rovings may come with very long fibres (4 to 8 inches), or much shorter fibres (2 to 3 inches).

Machine Processing: yarn formation

The machines used for different fibres vary slightly in the initial steps, but once the fibre is in a rolag (ready to spin) the process and machinery is pretty much universal. Slight changes are made depending on the coarseness of the fibre or yarn desired.

Cotton**Cotton Gin**

The cotton boll is white, roughly spherical and fluffy. After being harvested, the cotton is sent through a cotton gin because the seeds have to be removed before carding. A modern day cotton gin looks similar to a carding machine, in that the fibre goes through many different rollers. The teeth on the gin are different from those on a carding machine. The ginning process removes the seeds from the cotton fibre. The first cotton gin was produced by Eli Whitney.

At this point, the ginned cotton is normally put into bales, and shipped to the cotton mill.

Picking

When the cotton comes out of a bale, it is all packed together and still contains vegetable matter. In order to fluff up the cotton and remove the vegetable matter, the cotton is sent through a picker. A picker looks similar to the carding machine and the cotton gin, but is slightly different. The cotton is fed into the machine and gets beaten with a beater bar, to loosen it up. The cotton then collects on a screen and gets fed through various rollers, which serve to remove the vegetable matter.

Carding

The cotton comes off of the picking machine in large bats, and is then taken to carding machines. The carders line up the fibres nicely to make them easier to spin. The carding machine consists mainly of one big roller with smaller ones surrounding it. All of the rollers are covered in small teeth, and as the cotton progresses further on the teeth get finer (ie. closer together). The cotton leaves the carding machine in the form of a sliver; a large rope of fibres.

Combining the Slivers

Next, several slivers are combined. Each sliver will have thin and thick spots, and by combining several slivers together a more consistent size can be reached. Since combining several slivers produces a very thick rope of cotton fibres, directly after being combined the slivers are separated into rovings. These rovings are then what are used in the spinning process. Generally speaking, for machine processing a roving is about the width of a pencil.

Spinning

Cotton being spun

The spinning machines stake the roving, thin it and twist it, creating yarn. The roving is pulled off a bobbin and fed through some rollers, which are feeding at several different speeds. This thins the roving at a consistent rate. If the roving was not a consistent size, then this step could cause a break in the yarn, or could jam the machine. The yarn is twisted through the spinning of the bobbin it is rolled on, exactly like a spinning wheel but just in a different configuration.

Plying

Plying is done by pulling yarn from two or more bobbins and twisting it together, in the opposite direction than that in which it was spun. Depending on the weight desired, cotton may or may not have been plied.

Yucca

While not an especially common fibre, Yucca fibres were at one time widely used throughout Central America for many things. Currently they are mainly used to make twine.

Leaf to Rolag

After being harvested, the yucca leaves are put on a conveyor belt, and then cut to a standard size. In order to separate the fibres from the rest of the leaf, the leaves are crushed in between two large rollers. The waste, a pulpy liquid that stinks, can be used as a fertilizer. At this point the fibres are bundled up and dried. This is easily done by draping them over trellises and leaving them out in the sun to dry. Once the fibres are dry they are combined into rolags. Then several rolags are combined to produce a more consistent rolag. At this point it is ready to spin.

Hand Processing- Fabric Formation

Once the fiber has been turned into yarn the process of making cloth is much the same for any type of fibre, be it animal or plant.

Knitting

The front side of a plainly knitted object might look like this, under close inspection.

Knitting needles

Knitting by hand is a trend that is slowly growing throughout the United States. Commonly knitted goods are scarf's (both decorative and functional), sweaters, socks and shawls. Hand knitting can either be done "flat" or "in the round". Flat knitting is done on a set of single point knitting needles, and the knitter goes back and forth, adding rows. In Circular knitting, or "knitting in the round", the knitter knits around a circle, creating a tube. This can be done with either double pointed needles or a circular needle.

Since knitting in essence is pulling one row of loops of yarn through another row, a knitted object will unravel easily if the top has not been secured. Knitted objects also stretch easily in all directions, whereas woven fabric only stretches on the bias.

Crochet

Irish crocheted lace

Crocheting differs largely from knitting in that there is only one loop, not the multitude as knitting has. Also, instead of knitting needles, a crochet hook is used. Other than that it is vaguely similar, and is often mistaken for knitting. Lace is commonly crocheted, as well as a large variety of other items.

Lace

A lace fabric is lightweight openwork fabric, patterned, with open holes in the work. The holes can be formed via removal of threads or cloth from a previously woven fabric, but more often lace is built up from a single thread and the open spaces are created as part of the lace fabric.

Weaving

The earliest weaving was done without a loom, but that is rare now.

Loom

A picture taken from the back of a loom. The metal rods with holes that have the yarn running through them are the heddels. Further back, the metal comb with wood on the top and bottom is the reed. The shed is the gap between the two sets of yarn.

In general the supporting structure of the loom is called the *frame*.

The frame provides the means of fixing the length-wise threads, called the *warp*, and keeping them under tension. When producing a long piece of material, the warp threads are wound on a roller called a *beam*, and attached to the *cloth beam* which will serve to

hold the finished material. Because of the tension the warp threads are under, they need to be strong.

The thread that is woven through the warp is called the *weft*. The weft is threaded through the warp using a *shuttle*, which carries the weft through separated warp threads. The original *hand-loom* was limited in width by the weaver's reach, because of the need to throw the shuttle from hand to hand. The invention of the *flying shuttle* with its *fly cord* and *picking sticks* enabled the weaver to pass the shuttle from a *box* at either side of the loom with one hand, and across a greater width. The invention of the *drop box* allowed a weaver to use multiple shuttles to carry different wefts.

After passing a weft thread through the warp, a *reed* comb used to *beat* (compact) the woven weft.

Rather than having to lift each thread individually, alternate threads can be separated by introducing a bar between the threads: the gap created is called the *shed*. While an inserted bar only presents one orientation, alternating sets of threads can be lifted by connecting them with string or wires called *heddles* to another bar, called the *shaft* (or *heddle bar* or *heald*). Heddles, shafts and the *couper* (lever to lift the assembly) are called the *harness* — the harness provides for mechanical operation using foot- or hand-operated *treadles*. (Multiple harnesses can be used, connected to different sets of warp threads in a *draw-loom*.)

Sleying is the process of threading the warp yarn through the reed. Usually one speaks of "sleying the reed". You *set* (verb) the warp at X ends per inch and then you can say that its *sett* (noun) is X ends per inch.

Process

The first step in weaving is to make a warp, the threads that run lengthwise perpendicular to you. By hand this is done with the help of a warping board. The length the warp is made is about a quarter to half yard more than the amount of cloth they will be able to get off the loom, because of waste at the beginning and end. Since with smaller lengths of

warp means a higher percentage of wasted yarn, and since threading the loom can be tedious, most weavers put on many yards at a time. The weaver decides what length of a warp to put on the loom, then measures it out on the warping board. Warping boards come in a variety of shapes, from the two nearest door handles to a board with pegs on it, or a tall umbrella swift like device.

Machine processing: fabric formation

Knitting

A circular knitting machine.

Close-up on the needles.

Knitting by machine is done in two different ways; warp and weft. Weft knitting is what can be seen in the pictures, and is how hand knitting is done. The cloth is made from one yarn and the stitches are all connected to each other horizontally. In a warp knit there are many pieces of yarn and there are vertical chains, zigzagged together by crossing the yarn.

Warp knits do not stretch as much as a weft knit, and it is run-resistant. A weft knit is not run-resistant, but stretches more and is slightly more common. The average t-shirt is a weft knit.

Future Scenario Of The Clothing Industry

Information revolution promises to bring the world closer to cohesion. In the emerging face of fast moving information, technological transfer is bound to take place at a higher speed .

As the International borders blur Supply Chain Management and Information Technology take a crucial role in Apparel manufacturing. Global partners in the clothing supply chain are exchanging information electronically, thus the need for Indian Clothing Industry to spruce up.

Upcoming technologies for mass customization such as three dimensional non-contact body measurement and digital printing ought to be discussed thoroughly and implemented fast. This mass customization shall be successful for meeting unpredictable demand levels, for luxury goods, uncertain customer wants and for heterogeneous demand. It is to be noted that mass customization is different from mass production

The future requires generation of real value service for the customers, comprehensive study of multifaceted and multi-layered supply chain, and global integration of supply system in a cost and time effective manner. Inventory planning, sales forecasting, manufacturing strategy, distribution network and transportation management are some of the areas which need improvement. The economic scene of US and its trade partners need to be eyed carefully if India is to survive in the faster and throat cut competition of 21st century.

Data Analysis and Interpretation

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

Table 4.1
Customers' brand preference

Brands of choice	No: of respondents	Percentage %
Newport	32	26
Peter England	20	18
Tibre	8	8
Van Heusen	12	20
Others	28	28

100

Inference:

From the above table it is inferred that 8% of the respondents prefer the brand *Tibre*, 26% prefer New Port, 18% prefer Peter England, 20% prefer Van Heusen, 28% prefer other Brands.

Interpretation:

Thus it is known that very low as, 8% of the respondents' only use the Brand *Tibre*.

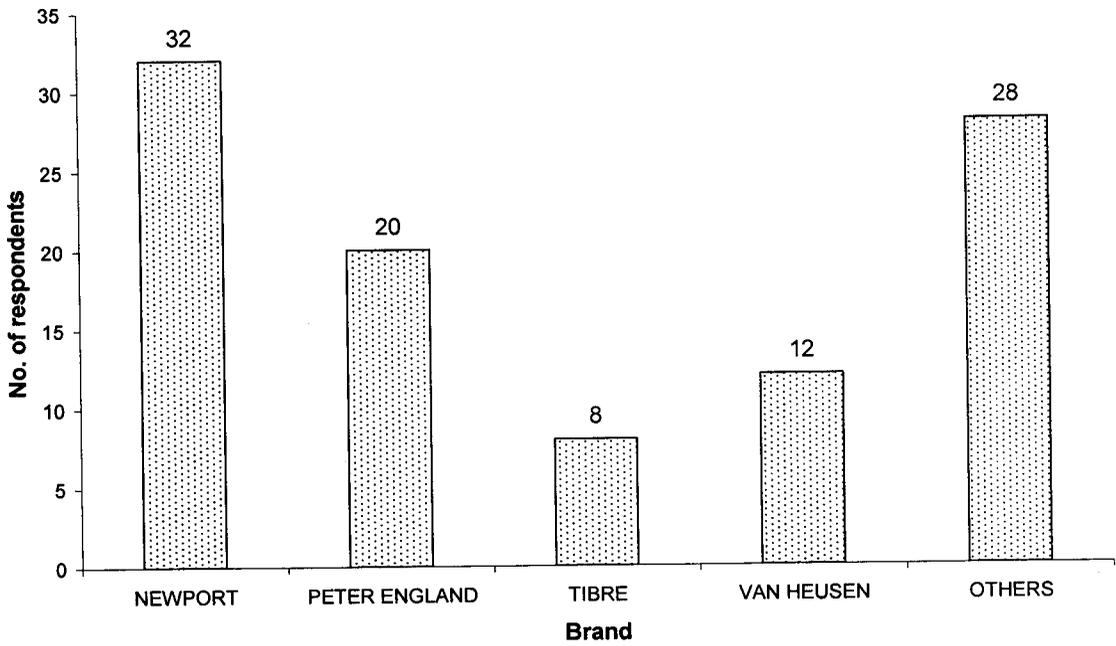
Chart-4.1**Distribution based on customers' brand preference**

Table 4.2**Brand awareness with respect to pant size of the customers**

Size of the customers	Preference to <i>Tibre</i>	Awareness of the brand
28 – 30	2	17
32 – 34	4	18
36 – 38	1	13
40	1	9

Inference:

From the above table it is known that, the customers who fall under the size 32 – 38 prefer for more for the brand *Tibre*, and they are customers who are more aware of the brand, then falls comes the customers who fall under the sizes 28 – 30.

Interpretation:

Thus it is known that the customers who fall under the sizes 32 – 34 are those who are most aware of the product and prefer it.

Chart-4.2

Distribution based on brand awareness with respect to pant size of customers

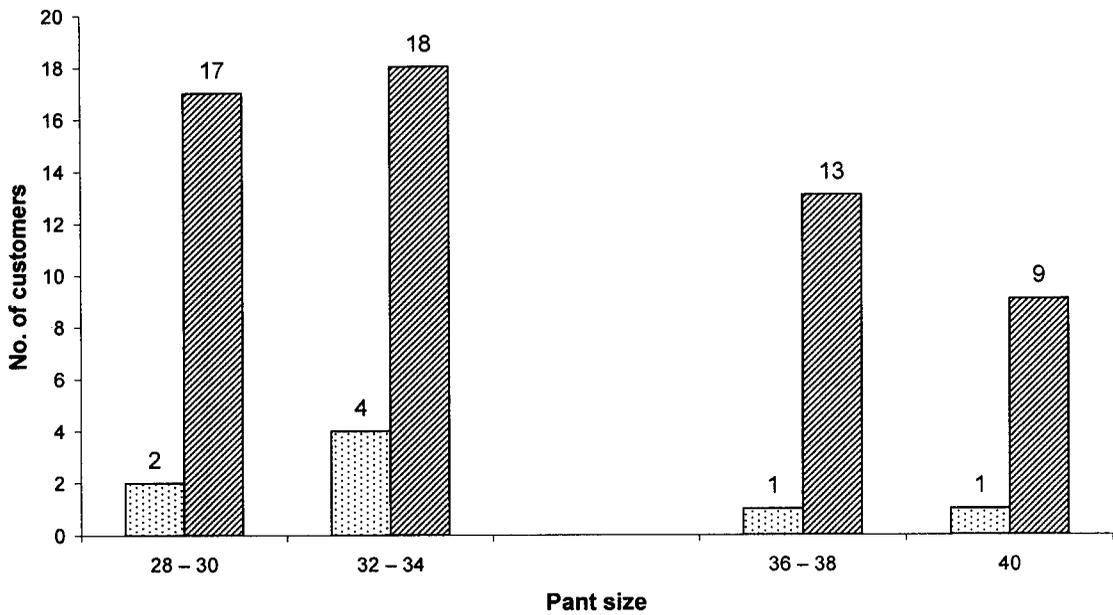


Table 4.3
Factors which customers expect in a pant

Factors expected in a Pant	No: of respondents	Percentage %
Shade	18	18
Price	23	23
Comfort	17	17
Brand Name	19	19
Quality	23	23

Inference:

From the above table it is known that 23% of the respondents are cost conscious and Quality conscious, 17% expect comfort and 18% expect shade, 19% expect Brand Name.

Interpretation:

Thus it is known as most customers expect Quality and Price.

Chart-4.3

Distribution based on the factors which customers expect in a pant

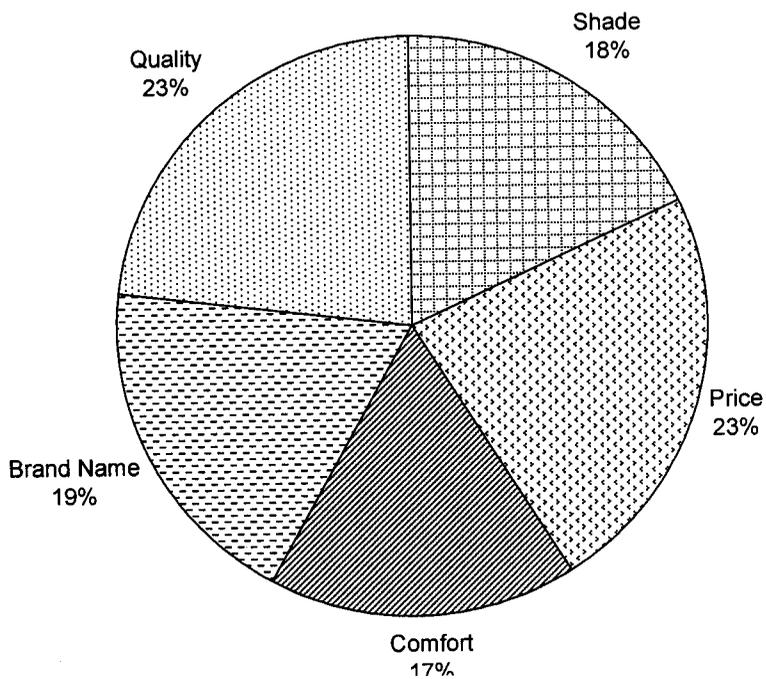


Table 4.4
Customers' option for a brand

Factors of the Brand	No: of respondents	Percentage %
Price	23	23
Style	18	18
Durability	17	17
Design	23	23
Availability	19	19

Inference:

From the above table it is known that 23% of the respondents are cost conscious and Design conscious, 17% expect Durability and 18% expect style, 19% expect Availability.

Interpretation:

Thus it is known that most customers expect Design and Price.

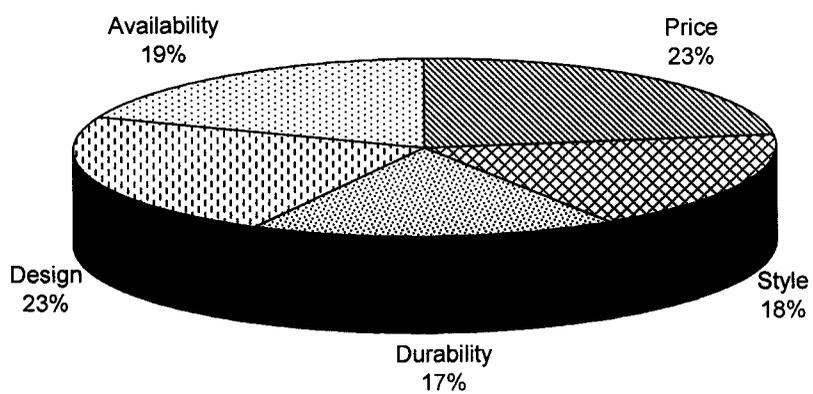
Chart-4.4**Distribution based on the customers option for the brand**

Table 4.5
Customers' awareness of the brand

Factors through which customers are aware	No: of respondents	Percentage %
Friends	29	29
Relatives	19	19
Shoppers	18	18
Out door	22	22
Print Media	12	12

Inference:

From the above table it is known that 29% of the respondents are aware of the product through friends, 19% through relatives and 18% through shoppers, 22% through out door media and 12% through Print media.

Interpretation:

Thus it is known as most customers know about the product through their friends and out door advertisements.

Chart-4.5

Distribution based on the factors through which customers are aware of the brand

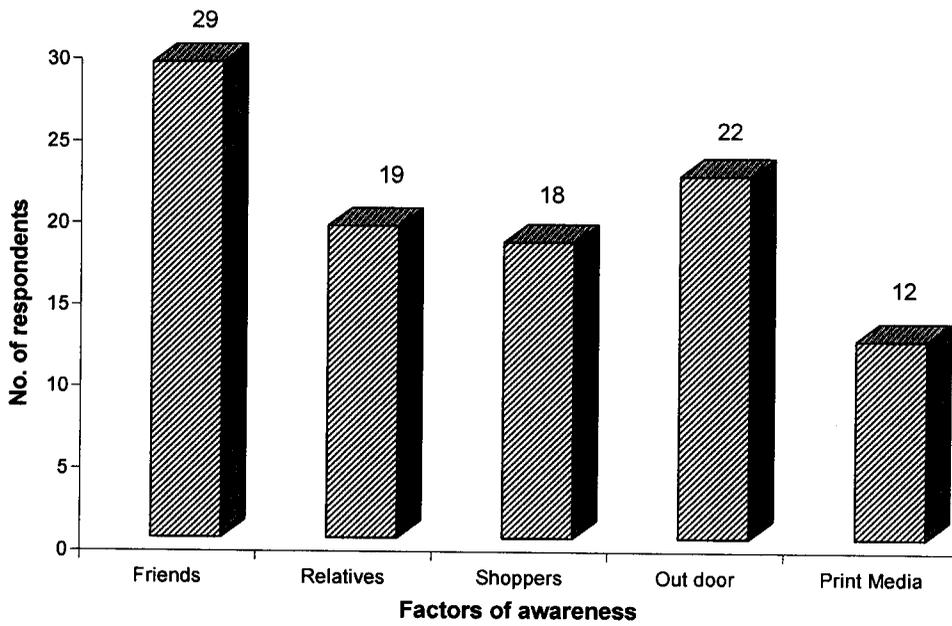


Table 4.6
Customers' opinion over the availability of the brand

Factors of availability	No: of respondents	Percentage
Always	68	68
Sometimes	28	28
Never	4	4

Inference:

From the above table it is clear that, 68% of the respondents have responded that the brand is always available, 28% have responded that the brand is available only sometimes, and only 4% have responded that the brand is not at all available in the stores.

Interpretation:

Thus it is clear that the brand is made available almost in all the stores in the city.

Chart-4.6

Distribution based on the customers opinion over the availability of the brand

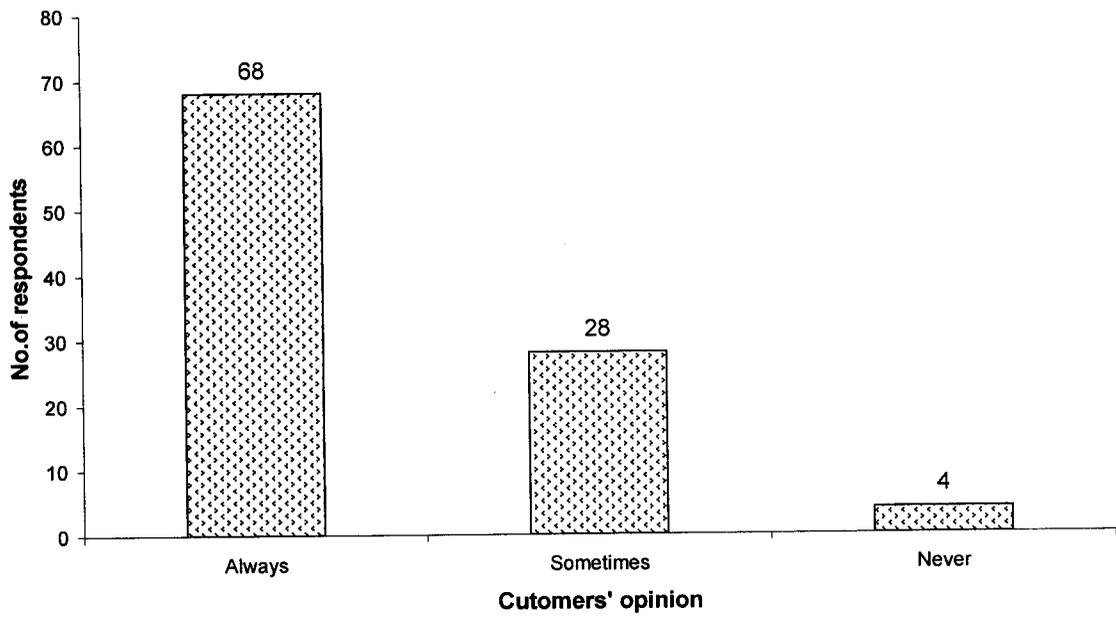


Table-4.7

Chi-Square analysis to find the relation between the Number of pants purchased per year and Amount spent on Purchase of dress materials per year.

Ho: There is no significant relation between the amount spent by the respondents on the purchase of pants and the number Pants Purchased by them.

H1: There is a significant relation between the amount spent by the respondents and the number of Pants .

Purchase No: Of Pants Purchased	Amount spent				Total
	1500 - 3000	3001 - 5000	5001 - 7000	7001 - 10,000	
<3	6	8	7	8	29
3 - 5	6	11	9	6	32
6 - 8	5	4	6	7	22
>8	4	2	4	7	17
Total	21	25	26	28	100

Since the calculated value 5.263 is less than the table value(14.68), we reject the null hypothesis(H0) and accept the Alternative Hypothesis.

Inference:

There is a significant relation between the amount spent by the respondents and the number of Pants purchased by them.

Conclusion & Suggestions

CHAPTER 5

CONCLUSION

5.1 FINDINGS

- It is known that very low as, 8% of the respondents only use the Brand *Tibre*.
- It is known that the customers who fall under the sizes 32 – 34, are those who are most aware of the product and prefer it.
- It is known as most customers expect Quality and Price.
- It is known as most customers expect Design and Price.
- It is clear that the brand is made available almost in all the stores in the city.
- It is known as most customers know about the product through their friends and out door advertisements.

5.2 SUGGESTION

- As the company has a huge untapped market, it should take good promotional activities and brand availability to the customers.
- As the study shows that only a segment of people is covered, the uncovered segment can be tapped by knowing the recent trends.
- As most of the customers are quality and cost conscious, the brand should be able to provide products with good quality and nominal price.
- The product should be associated with style and trends so that it appeals to the youth and the brand name should be developed as a fashion statement among the customers.
- Brand preference should be created through feel good advertisements. There should be a tone of freshness, style and energy conveyed through advertisements.
- A promotional scheme such as discount and free offers with purchase is suggested to increase sales of the branded men's wear.
- Another study should be conducted to study the impact of POP material and salespersons in brand selection.

5.3 CONCLUSION

A brand aims to segment the market in order to differentiate supply and fulfill the expectations of specific groups of customers. Products cannot speak for themselves; the brand is what gives them meaning and speaks for them.

Today, brands are considered to be among the greatest strengths of a company and the brand image is very important. It is what people remember, if they remember at all. Brand image is built with logo, name and slogan all consistently speaking about the USP of the brand. Strong brands command premium, they do well during economic slowdown and can be extended to new businesses with ease.

Based on the study the major conclusions drawn by the researcher are set out below:

- Quality is an important factor that draws consumers towards branded products. Branded products are accepted as good quality products.
- Media is a key constituent in promoting and influencing a brand.
- Spending power among the Consumers has increased.
- Although unbranded products sometimes give same satisfaction as branded products, customers would still prefer to purchase a branded product.
- Advertisement has maximum impact in creating brand awareness and it has more influence on purchase decision of customers.

Appendix

QUESTIONNAIRE

NAME:

ADDRESS:

OCCUPATION:

AGE:

1. Number of members in your family:
2. Number of pants purchased per year:
a) less than 3 b) 3-5 c) 6-7 d) more than 8
3. Amount spent on purchase of dress each year:
a) 1500 Rs – 3000Rs b) 3001 Rs - 5000 Rs
c) 5001 Rs – 7000Rs d) 7001 Rs - 10000 Rs
4. Do you make dress purchases only on special occasions?
a) Yes b) No
5. What brand do you prefer?
a) Newport b) Peter England c) Tibre d) Van heusen e) others
6. What brands do you prefer?
a) 28-30 b) 32-34 c) 36-38 d) 40
7. Have you ever used the brand Tibre?
a) Yes b) No
8. If no will you use in future?
a) Yes b) No
9. What factors do you expect in a pant?
a) Shade b) Price c) comfort d) Brand name e) Quality
10. Why do you opt for the Brand?
a) Price b) Style c) Durability d) Design e) Availability
11. Do you know about the brand TIBRE?
a) Yes b) No

12. If yes, how do you know about that brand?

a) Friends b) Relatives c) Out door ad d) Print media e) Shoppers

13. If price is low will you choose TIBRE?

a) Yes b) No

14. If the attributes & quality are better will you go for TIBRE.

a) Yes b) No

15. Do you get the brand TIBRE, in the shops where you make your purchase?

a) Always b) Sometimes c) Never

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