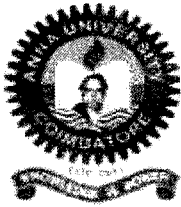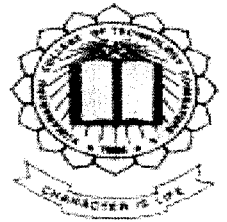P-2769

PARIYUR AMMAN SPINNING MILL
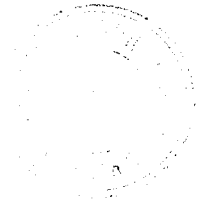
P LTD,GOBI :

A STUDY OF EMPLOYEE WORK PRODUCTIVITY

A PROJECT REPORT

submitted by

P.V.MUTHUMALINI
Reg. No. 0720400021

In partial fulfillment of the requirements
for the award of the degree

of

MASTER OF BUSINESS ADMINISTRATION

April, 2009

KCT Business School

Department of Management Studies

Kumaraguru College of Technology

(An autonomous institution affiliated to Anna University, Coimbatore)

Coimbatore-641 006

CERTIFICATE

PARIYUR AMMAN SPINNING MILLS (P) LTD.

POLAVAKKALIPALAYAM (P.O). GOBICHETTIPALAYAM - 638 476

27th April 2009

Project Completion Certificate

This is to certify that Miss P.V.Muthumalini (Reg No. 0720400021) a student of KCT Business school, Kumaraguru Collage of Technology, has undergone a project work in our company between Jan 2009 – Apr 2009 titled " A study of Employee work productivity "

During the tenure her performance was found to be good.

For Pariyur Amman Spinning Mill Limited

Mill Manager

DEPARTMENT OF MANAGEMENT STUDIES

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE – 641006

BONAFIDE CERTIFICATE

Certified that this project report titled "Pariyur Amman Spinning Mill P Ltd,Gobi : A Study of Employee Work Productivity" is the Bonafide work of Ms. P.V.MUTHUMALINI (Reg No. 720400021) 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.
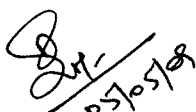
Faculty Guide

Director

Evaluated and Viva Voce conducted on ___05.05.09___

INTERNAL EXAMINER

KCT BUSINESS SCHOOL
KUMARAGURU COLLEGE OF TECHNOLOGY
COIMBATORE - 641 006

EXTERNAL EXAMINER

DECLARATION

DECLARATION

I, hereby declare that this project report entitled as "PARIYUR AMMAN SPINNING MILL P LTD,GOBI : A STUDY OF EMPLOYEE WORK PRODUCTIVITY" has undertaken for academic purpose submitted to Anna University, Coimbatore 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 Hema Nalini.R, Lecturer, MBA Department during the academic year 2007-2008.

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

Date: 2.5.09

Place: Coimbatore

P.V.muthumalini

(P.V.MUTHUMALINI)

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

It is inevitable that thoughts and ideas of other people tend to drift into subconscious when one feels to acknowledge helping derived from others. I acknowledge to all those who helped me in the preparation of this project work.

I wish to express my sincere thanks to **Dr.C.Ramasamy**, President, Kumaraguru College of Technology for the facilities provided to complete my project work.

I wish to express my deep gratitude to **Dr.Joseph V. Thanikal** Principal, Kumaraguru College of Technology for the facilities provided to complete my project work.

I wish to express my sincere thanks to **DR.S.V.Devanathan** – Director, KCT Business School, for his continuous encouragement throughout my project.

I owe my heartfelt gratitude to **Mrs. R.Hema Nalini**, Lecturer KCT Business School, for his help and valuable guidance given to me throughout my project.

I also extend my heartfelt thanks to all the faculty members of KCT Business school, for their support in completing my project.

I express my sincere thanks to **Mr. S.Sankarabaham**, Mill Manager, Pariyur Amman Spinning Mill P Ltd,Gobi for granting permission to do my project work.

CONTENTS

CONTENTS

LIST OF TABLES

LIST OF TABLES

LIST OF CHARTS

LIST OF CHARTS

ABSTRACT

ABSTRACT

In today's fast paced business environment, executives have numerous challenges facing them daily. In addition to their day-to-day responsibilities, they have to constantly look out for upgrading their way of doing things. Employee productivity has gained wide recognition in recent days.

The project deals with the study of employee productivity at Pariyur Amman Spinning mill P Ltd.

Initially the t test conducted revealed that there are significant difference in the current productivity and optimum productivity of the employees. hence there was scope for further improvement.

The productivity barriers identified were ranked by their relative weights. The barriers to optimum productivity were recognized based on CARERS Model. They are lack of reward and recognition, environment, ability, less clarity and focus, lack of support and unhealthy relationships. The productivity barriers varied from department to department. These barriers can be removed by understanding the gaps in productivity of the employees and bridging it. The skill matrix has been formulated for the spinning department to identify the various skills that are required to improve from the existing current productivity level.

Multiple correlation analysis has been conducted to identify the degree of association between the factors of CARERS model. Employee productivity can be improved by more attractive pay. Employer should build a culture that nourishes employee loyalty. Challenging jobs should be designed to keep the employees always on the move. Apart from needs based training, employers should provide learning opportunities to the employees. This will not only improve the knowledge base of the employees but also enable easy up gradation that is the main characteristic of today's successful organizations.

INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 ABOUT THE STUDY:

Globalization is forcing many organizations to find new ways to increase productivity just show that they can remain competitive. A company's success is visible in its annual revenue figures, which also shows the dedication with which its employees work. To get the best from one's employees it is important for them to be a happy workforce in order to perform well. However, it is not easy to achieve optimum productivity as there are various factors that act as huddles for an employee to give his best. It is therefore essential for the management, and the HR to locate the barriers and remove them as soon as possible.

Productivity is defined as the combination of efficiency and effectiveness. Employee's productivity is one of the most common criteria used for personal decisions of personnel decisions of crisis, promotion and termination. Every organization has barriers to productivity, but few organizations address them, despite an almost daily challenge to increase productivity. With intense international competition everyone is facing the challenge of producing more, after higher level of quality and at a lower cost. The human resource function has tried using compensation to motivate, offered new types of training and even tried hiring and internal transfers and promotions. But no matter what gets tried, little changes.

Since the purpose of the study is to find out the current productivity level of the employees and to identify the various barriers to optimum productivity. The findings will be helpful to the organization to remove those productivity barriers thereby establishing a climate favorable for optimum productivity and remaining ahead in the fierce competitive world. The amount of output per unit of input (labor, equipment, and capital). There are many different ways of measuring productivity. For example, in a factory productivity might be measured based on the number of

hours it takes to produce a good, while in the service sector productivity might be measured based on the revenue generated by an employee divided by his/her salary.

1.1.1 LABOUR PRODUCTIVITY:

Labour productivity is generally speaking held to be the same as the "average product of labor" (average output per worker or per worker-hour, an output which could be measured in physical terms or in price terms). It is not the same as the marginal product of labor, which refers to the increase in output that result from a corresponding increase in labor input. The qualitative aspects of labor productivity such as creativity, innovation, teamwork, improved quality of work and the effects on other areas in a company are more difficult to measure.

1.1.2 MANAGEMENT MODELS:

Allan Mackintosh is a Training and Development Professional who has had over twenty two years' experience in Industry. During his twenty years in the pharmaceutical industry, there are hundreds of management theories and models; in fact there are so many that it can be very confusing for the busy manager.

Allan Mackintosh has studied a good number of theoretical performance management models, 'Management Models that Work!' he has compiled what he feels are the most simple but most effective models that a manager should be using in their quest to manage and support the performance of their people.

In addition to the traditional models he has developed five innovative coaching models that enhance the traditional models that have been used historically in the performance management of people.

- **OUTCOMES ®**   model of performance coaching
- **CHANGES ™**   model of coaching people through their challenges
- **CARERS ™**   model of performance block identification
- **TREAT ™**   model of contracting

- **DIAMOND MOTIVATION™** making motivation simple to understand.

Using each of these models where appropriate can ensure that the manager or coach supports their employees and teams to raise their performance in the workplace.

1.1.3 USING THE RIGHT TOOLS:

Many managers are not given the correct theoretical management tools and models in order that they can support enhanced performance of their teams and people. In 'Management Models that Work!,' Allan Mackintosh has chosen a number of essential workable theories that can support managers to get the best from their people. They are easy to understand and easy to implement and this e-book will show you how, where and when to use them.

- **BEHAVIOURAL STYLES** – how to build rapport quickly and effectively
- **CONTRACTING** – cementing the working relationship
- **THE CAPABILITY / MOTIVATION GRID** – using the appropriate developmental approach
- **DIAMOND MOTIVATION** – a simple but extremely effective motivational tool
- **GROW, CHANGES** and **OUTCOMES** coaching models
- **CARERS** model to get to the root-cause of under-performance.

There are numerous reasons as to why a person may not be performing to their potential but what does not help is the inability of management to properly identify what the "root cause" of the lack of performance is. Too many managers make quick and ill-informed judgements; in other words they "jump to conclusions" and as a result make hasty decisions about what the corrective course of action is. Judgements such as "just lazy", "not got it", "troublemaker", "not up to the job", "can't take the pressure" and "can't cope with the new environment" are just a few comments.

The managers do not spend enough time with employees to fully understand their personality style, their motivators, their strengths and how they are actually progressing with their work objectives. Their judgements are based on a lack of knowledge, understanding and skill.

One area of skill that lacks in a lot of managers is the ability to actually identify what is the real cause of the lack of performance. Simply asking the question "What do you think is causing your lack of performance?" is better than immediately jumping to an ill-informed conclusion but this may only illicit a superficial response in the form of an "excuse". Examples of these are; "marketplace is bad just now", "The customers cannot be seen anymore", "Our prices are too high" . Some of the "excuses" may have some validity but more often than not there is a different, more valid, reason as to their lack of motivation and performance.

Managers need to probe further and they must take time to do this if they are to get their employee back on track. Allen Mackintosh have developed a framework that managers can use to structure their time with the employee. The framework is called CARERS, and all a manager needs to do is to outline to the employee that he or she will take them through a series of questions covering certain areas of their work with a view to supporting them to identify what areas they can work on together in order to get the individual remotivated and performing to the level that they have worked to or aspire to.

There are some pre-requisites to CARERS™ being effective. Firstly, if the manager is the actual "root cause" in that their behaviours are causing the issues, then there will be little trust between the two and as such there will be little honesty in the answers given by the employee. Secondly, if the manager is not a listener and is prone to do a lot of "advice giving" then again the chances of getting a good result will be low. Thirdly, the manager must go in with an open mind Finally, the manager must know when to "refer" onwards. The manager must know when to refer to the appropriate professional.

C	**Clarity & Focus**	How clear is the role? Does the employee understand exactly what their objectives are? Do they know how to move the objectives forward? Do they know how they are going to be measured?
A	**Ability**	Have they the ability to fulfil the role and the objectives? Is there a development plan in place to support them? Is there a commitment to the Development Plan?
R	**Relationships**	How are their relationships with the manager, peers and customers?
E	**Environment**	Is the culture conducive to the effective working of the employee? (e.g. dictatorial v empowering) Is there a clear development pathway for the employee? Is there a company commitment to training? Is the training appropriate and of good quality? Are there company benefits available? e.g. pension, health plan, flexible working etc? Is there any aspect of change affecting the employee? e.g. merger, downsizing, role rotations etc.
R	**Reward & Recognition**	Is the employee's efforts and expertise being rewarded and recognised? Is the employee being valued? Are there opportunities for bonus payments etc? What about promotion prospects?
S	**Support**	Does the manager regularly support the employee through both good communication and coaching? Has the employee been given the right tools/equipment to do the job?

Firstly if there is a performance issue then time must be put aside to sit down with the person concerned. At least 1-2 hours. This person must be made to feel that the manager is there to support them and not to discipline them. The process is about reversing the lack of performance by mutual discussion and positive action. Discipline procedures only come after agreed objectives have not been met within an agreed time frame and performance has stayed low or even declined. The manager simply explains that, informally, they are going to explore some key organizational areas that are vital in motivation and productivity with a view to seeing what may be causing the lack of performance and then agreeing a plan of action that will help the person to improve their performance. It should be stated that this plan will be supported and also be monitored to help them along.

Then it is simply a case of taking the person through the various steps in an informal and supportive way, suspending judgements and attempting to understand fully what is happening with the individual. The manager should take a coaching approach, always ensuring that the person answers questions and formulates their own way forward. The manager may in some cases have their own actions as a result because it may be that some of the factors that cause demotivation lie with them and the organization. It will also find that in some cases the cause may be a "given" (e.g. organizational policy – car policy!) and that the employee will just have to live with it. The manager needs to understand the issue here but not agree with the employee. If it is a "given", then a way forward should be worked out that works around this "given".

1.1.4 SKILL MATRIX:

Skills Management is the practice of understanding, developing and deploying people and their skills. Well-implemented skills management should identify the skills that job roles require, the skills of individual employees, and any gap between the two. The skills involved can be defined by the organization concerned, or by third party institutions. They are usually defined in terms of a skills **framework**, also known as a **skills matrix**. This consists of a list of skills,

and a grading system, with a definition of what it means to be at particular level for a given skill.

To be most useful, skills management needs to be conducted as an ongoing process, with individuals assessing and updating their recorded skill sets regularly. Skills management systems record the results of this process in a database, and allow analysis of the data. Skills management provides a structured approach to developing individual and collective skills, and gives a common vocabulary for discussing skills.

As well as this general benefit, three groups of employees receive specific benefits from skills management:

Individual Employees: As a result of skills management, employees should be aware of the skills their job requires, and any skills gaps that they have. Depending on their employer, it may also result in a personal development plan (PDP) of training to bridge some or all of those skills gaps over a given period.

Line Managers: Skills management enables managers to know the skill strengths and weaknesses of employees reporting to them. It can also enable them to search for employees with particular skill sets (e.g. to fill a role on a particular project).

Organization Executives: A rolled-up view of skills and skills gaps across an organization can enable its executives to see areas of skill strength and weakness. This enables them to plan for the future against the current and future abilities of staff, as well as to prioritize areas for skills development.

1.1.5 IMPLEMENTATION OF SKILL MATRIX:

There are five steps for implementing the skill matrix on an employee,

This includes five steps:

> ➤ Identify all the attributes and skill required in the job of that person.

> ➤ Quantify the level of achievements.
> ➤ Train the person on the given skill and attributes.
> ➤ Evaluate and judge the status.
> ➤ If behind the maximum level, retrain and evaluate.

1.1.6 SKILL CHART

The skill chart has been put for the spinning department. Both the required and the existing skill level for the employees have been known from the supervisors. A skill chart between the expected and the required level for the employees has been prepared for the spinning department.

The fourteen skills have been identified essential for the spinning operators are as follows:

1) Spinning operation
2) Spinning tool settings
3) Knowledge on emergency preparation
4) Handling instruments
5) inspection
6) Products and materials knowledge
7) Process knowledge
8) Knowledge on safety
9) Abnormality identification
10) Knowledge on quality standards
11) 5S/Kaizen
12) Loss identification and documentation
13) Multi machine operations
14) Knowledge in multi operations

1.2 ABOUT THE INDUSTRY:

The world economy at present (from 2007 onwards) travels slowly towards deep recession. Since several big companies in the U.S. suffered from the financial crisis a few months past, retailers and manufacturers all around the world have shown their concern over the consumer confidence and spending. The markets of apparel products and non-apparel products such as home textiles also affected from this impact. Fortunately, the recent decrease of the fuel price has slightly boosted up the consumer spending. People are starting to buy things again. They feel that the worst inflation has already happened. Luxury consumers are buying, but in a different way.

1.2.1 WORLD MARKET

The WTO 2005 World Textile Market Report has shown that USA was the biggest importer of home textile products with a share of 34.3%, followed by Germany 11.6%, Japan 10.9%, UK 8.3%, France 6.5%, and Canada 4.2%. On the contrary, the biggest exporter of home textile products was China with the world market share of 33.4%, followed by Pakistan 12.1%, India 9.7%, Turkey 6.6%, Portugal 4.8%, and Mexico 4.5%. At the moment, it is strongly believed that China will remain the world leader in exports while it is uncertain that USA will be the biggest importer of home textile products due to its current financial crisis. It is estimated that the world home textile industry is worth US$25 billion.

The two main competitors for the textile exports from India from the Asian region are,

1.2.2 THAILAND

Based on the export data distributed by the Customs Department of Thailand and those complied by the Thailand Textile Institute, it can be seen that in 2007 Thailand exported US$332.5 million of home textiles, 17.3% increased from 2006. During the first seven months of 2008, its export increased 15.2% from the same period of 2007.

Last year US$127.1 million of home textile products was exported to USA, 4.1% increased from 2006. In addition, exports to ASEAN increased 44.4% to a value of US$29.6 million, exports to China increased 2.3% to US$9 million, and exports to Vietnam increased 60% to US$2.4 million. On the other hand, exports to Japan decreased 2% to US$44.3 million and exports to EU decreased 0.5% to US$19.6 million. During January to July this year, Thailand increased its export to all these countries as; to ASEAN increased 23.9%, EU 16.4%, USA 27%, China 51.2%, Vietnam 66.7%, and Japan 8%.

1.2.3 CHINA

Based on the Chinese Customs Statistics, it was found that in 2006 China exported US$18.56 billion of home textile products, 20.63% increased from 2005 and its import increased 2.8% to US$1.3 billion. In 2006, China exported 22% of the country production of home textiles while the rest 78% of the production was consumed locally. During January to June of 2007, China increased 13.05% of its export to a value of US$8.55 billion.

Last year it was found that the residential living space in China increased to 170 million m^2. With this reason, the demand for better quality and for higher amount of home textile imported products was boosted up. In 2007, China increased 25% of its import to US$80 million. Of all home textile products, imports of bedding and toweling products held for the highest rise. Bed linen products held for 40% of home textile import and accounted for a value of US$32 million while towel products were worth US$ 4 million in trade.

1.2.4 RECENT TREND:

USA imports of Textiles are Shrinking in the recent years have been on the higher side. Recent data on Imports of Apparels & Textiles in USA, published by OTEXA for the Year-to-Date February 2009 have shown reduction of (-) 13.5% in value term (US $ Millions) and of (-) 13.8% in volume term (Square Metre Equivalent) over same period of 2008.

1.2.5INDIAN INDUSTRY OVERVIEW:

Indian Textile Industry contributes about 11 percent to industrial production, 14 per cent to the manufacturing sector, 4 percent to the GDP and 12 per cent to the country's total export earnings. It provides direct employment to over 33.17 million people, the second largest provider of employment after agriculture. Besides, another 54.85 million people are engaged in its allied activities. It has a total market size of US $52 billion ($32 billion as domestic household consumption and $20 billion as exports). Market size potential for the industry is envisaged at USD 110 billion by 2012. This would create 12 million job opportunities - 5 million direct jobs in textile industry and 7 million jobs in allied sectors.

1.2.6 STRENGTH OF THE INDUSTRY:

The fundamental strength of this industry flows from its strong production base of wide range of fibres / yarns from natural fibres like cotton, jute, silk and wool to synthetic /man-made fibres like polyester, viscose, nylon and acrylic. We can just track the strong multi-fibre strong base by highlighting the following important positions reckon by this industry across globe are:

1. **Cotton** – Second largest cotton and cellulosic fibres producing country in the world.

2. **Silk** – India is the second largest producer of silk and contributes about 18% to the total world raw silk production.

3. **Wool** –India has 3rd largest sheep population in the world, having 6.15 crores sheep, producing 45 million kg of raw wool, and accounting for 3.1% of total world wool production. India ranks 6th amongst clean wool producer countries and 9th amongst greasy wool producers.

4. **Man-Made Fibres**- the fifth largest in synthetic fibres/yarns.

5. **Jute** – India is the largest producer and second largest exporter of the jute goods.

1.2.7 DECLINE IN YARN EXPORTS:

The decline in production for textiles has started from June onwards from 2006. After a reasonable growth of 7.3 per cent in May 2008, the growth in the Index lowered to 6.6 per cent in June, became either zero or negative from July and onward that is, (-) 1.8 per cent in July, (-) 6.0 per cent in August, 0.6 per cent in September and (-) 7.1 per cent in October 2008. By the month of October, negative growth in all sub sectors of textiles was driving cumulative growth down and again for December.

After enjoying almost uninterrupted growth in yarn production each month over the last five years, Indian mills pared back output at an accelerating pace over the last four months in response to weaker downstream demand. Total yarn manufacturing slid -9.3% in October from a year earlier—its worst fall in five and a half years—to 307.0 million kilograms, its worst showing in twenty-eight months. Pure cotton yarns pulled total volume lower, sinking -9.3% from October 2007, its steepest decline in more than eight years of recordkeeping.

The Steepest Declines in Indian Yarn Output in Years...

Indian Cotton Yarn Production Sees only Modest November Growth
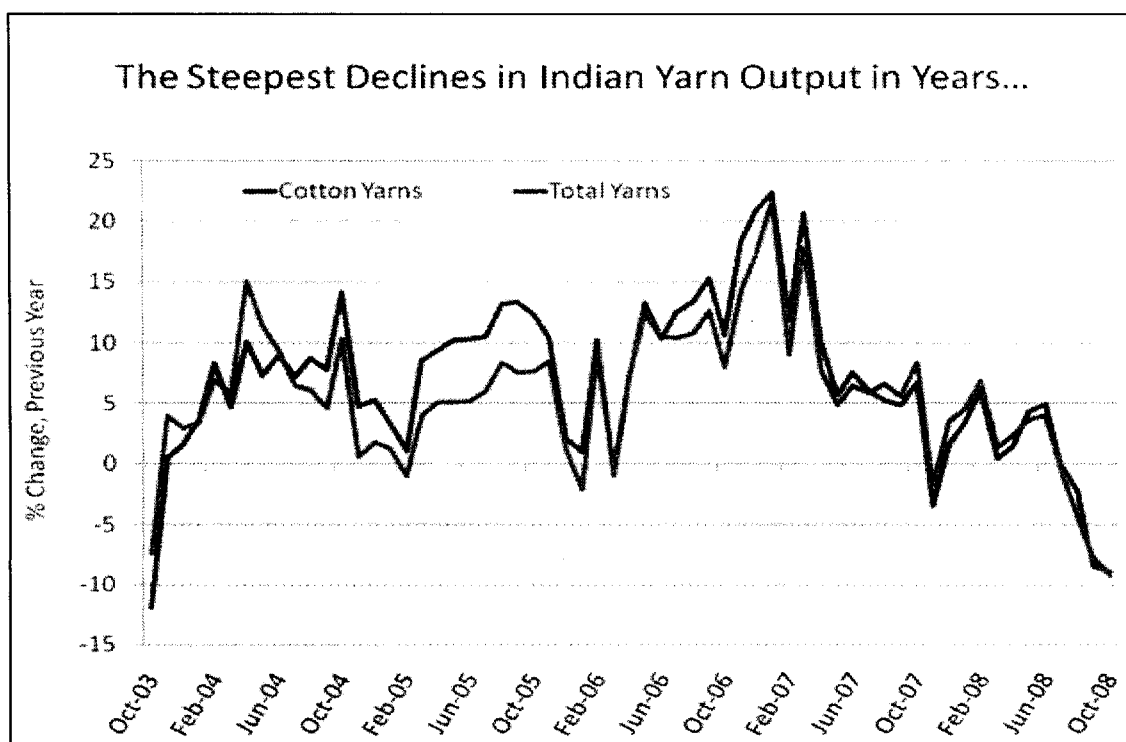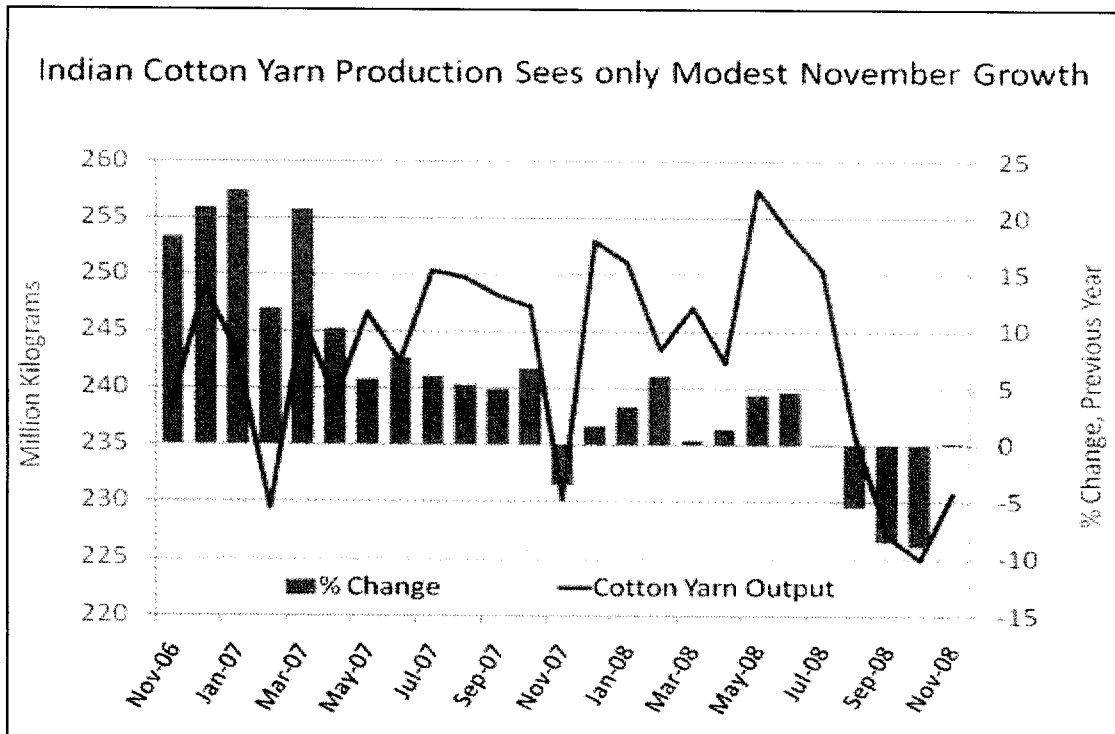
Estimates from Production data of O/o Textiles Commissioner, Mumbai Weak performance by Indian yarn mills in the latest month threatens to weigh on cotton mill demand in 2008/09, pointing to the largest annual decline in cotton usage in the country in six years. Total cotton yarn output slid for the fifth straight month, down -1.2% from twelve months ago to 309.4 million kilograms. The loss was due to a steep -9.6% decline in blended yarn production, while cotton and non-cotton yarns posted modest gains. After four months of losses, mills' output of 100% cotton yarn turned mostly flat in November, rising a tepid 0.2% from a year earlier to 230,740 metric tons. Through the first four months of the marketing year, cotton yarn output is down -5.8% from the same period last year to 918,740 tons.

1.3 ABOUT THE COMPANY

1.3.1 MANAGEMENT

The Management team at Pariyur Amman Spinning Mills Private Limited comprises of highly qualified, motivated and skilled persons who are always striving hard to produce better and innovative quality products for the sake of better prospers. The company's shares are held by the three persons who are directors and their family members residing at and around Gobichettipalayam. Thus it is a very closely held company.

The three directors of Pariyur Amman Spinning Mills private limited are P.M. Palanisamy, P.M. Viswanathan and P.M.D. Kaliamal during the first decade of the management then the management has been taken care by their next generation. They have been very successful under the guidance of their parents with their rich experience. The rush of new blood to the firm makes the Organization more lively and the adoption of new technologies have made them very competitive and very successful than any other firms present around the area.

The day to day affairs has been taken care by Mr. Baskaran, the Technical Director. After taken over, the present management removed the entire bottleneck and converted the unit as a profit making unit. It has attained marvelous achievements in the field of textiles with the best of its vision and dedication. Now it has transformed into a dynamic manufacturer and leading Exporters of Cotton Yarn. They are producing and supplying various counts of cotton yarn to various companies for their respective brand names.

The distinction from others is just dedication to our work, quality products and timely commitments. A dedicated and skilled workforce always delivers fruitful results as hardworking leads towards perfection and assurance. The motive of Pariyur Amman Spinning Mills Private Limited is to satisfy our valued customers.

The present management has about 30 years of experience in running this unit and as natural business decision; they decided to expand with latest machineries. But after taking into consideration the problems of labour, location and cost involved, the directors instead of expanding in the same company have decided to put up a new unit under a new company near Gobichettipalayam which is their native area.

1.3.2 Company Mission:

- ➢ To manufacture yarns of different counts at international quality.
- ➢ To accommodate and use the best available technology across various levels of the department more effectively.
- ➢ To integrate the best management practices and to support the product innovation activities across all areas of the department.

1.3.3 Company Vision:

To excel in all aspects of the processing area and to thrive for the best in all sectors of the mill, right from raw materials to finished goods, and consistently improving on the process parameters and to yield more returns for the shareholders.

1.3.4 Company Goal:

The goal statement of the Pariyur Amman Spinning Mills Private Limited is as follows:

"At Pariyur Amman Spinning mills Private limited, we strive to achieve a consolidated, sustained and independent growth in the international market that ensures long-term business success."

1.3.5 History Of The Organization:

M/s Lakshmi Amman Spinning and Weaving mills Private Limited was registered in October 1989 by the two promoters Mr.P.Venkatachalam and Mr. V. Veeraiyan. After registration of the company, they obtained license from the Textile Commissioner Bombay for 25000 spindles and not want to go ahead with the project

due to large financial commitments. At that moment the present management, who were planning for a new mill had decided to save time and cost in registering a new company and obtaining license from the textile commissioner, So, they took over this company by acquiring the entire shareholding from the original promoters.

The company was originally incorporated with the name of Lakshmi Amman Spinning and Weaving Mills Private Limited and due to sentimental reasons the name has been now changed to " **PARIYUR AMMAN SPINNING MILLS PRIVATE LIMITED**" as the family deity of the promoters is Goddess Pariyur Amman held in high reverence in the local area around Gobichettipalayam.

1.3.6 Facilities Available At the Mill:

1.3.6.1 Location Of The Mill:

The factory is located two kilometer from Gobichettipalayam town on the Erode-Gobi main road – about 35km from Erode at the place called "Kullampalayam", water is available in plenty labour is comparatively cheaper and availability in plenty.

1.3.6.2 Transport Facilities:

There are two buses regularly looking after the pick up's and drops for the employee for the three shifts on a continuous basis around the local area which is well supported by two vans. There are also Lorries for purchasing of raw materials for their production activities and also for the shipment of the goods produced.

1.3.6.3 Hostel Facilities:

There are also hostels for the employees of the mill both for ladies and gents separately. The Organization has also taking care of the food for the employees by arranging cook and getting materials for cooking. The mill is charging very little for all these expenses for the out station employees at their hostel. They are doing this for the welfare of the employees.

1.3.6.4 Other Facilities

Medical Facilities:

The organization has got its own hospital under the name **Seetha Lakshmi Hospital,** apart from the ESI and PF benefits offered to the employees, the organization has been offering free rooms for the treatment of its employees. Only the doctor fees have to be paid on the part of the employee.

Canteen Facilities:

The organization has also got the canteen for its employees and for the management staff. They offer tea tokens at the reduced rate. They are also offering the snack items at the reduced rate. They are also providing the employees for keeping credit for a period of two months at a maximum.

The organization also has got the **Seetha Lakshmi Thirumana Mandapam**, which they rent at a low cost for the employees of the organization.

1.3.7 Production Facilities:

Textile technology in spinning covers blow room, carding, draw frame comber, speed frame, ring frame, winding, fibre testing, yarn testing, etc. All the important operations of the mill have been categorized based on the department. For any production activity, it starts with the purchase of the raw material. The purchase of the raw material for Pariyur Amman Spinning Mills Private Limited has been on the following basis,

EVALUATION of cotton quality is generally based more on experience rather than scientific testing of characteristics only.

TIMING of purchase depends on comprehensive knowledge about various factors which affect the prices.

CHOOSING the supplier for reliability of delivery schedules and ability to supply cotton within the prescribed range of various parameters which defines the quality of Cotton.

BARGAINING for lowest price depends on the buyer's reputation for prompt payment and accepts delivery without dispute irrespective of price fluctuations.

ORGANISING the logistics for transportation of goods and payment for value of goods will improve the benefits arising out of the transaction.

Influence of quality of raw material is very important in producing quality Yarn. But, quality of yam is a compound effect of quality of raw material, skills of work-force, performance of machines, process know-how of Technicians and management expertise. A good spinner is one who produces reasonably priced yarn of acceptable quality from reasonably priced fibre. Buying a high quality, high priced cotton does not necessarily result in high quality Yarn or high profits.

The Various processes involved in the Pariyur Amman Spinning Mills Private Limited are as follows:

1.3.7.1 BLOWING ROOM

Basic operations involved in the blowroom of this mill have been as identified as,

1. opening
2. cleaning
3. mixing or blending
4. micro dust removal
5. uniform feed to the carding machine
6. Recycling the waste

Blow room is the process which takes care of opening, cleaning and blending of different fibres used in the mixing. The technological improvements are remarkable in this process. High production carding has now become an established practice for

short-staple fibres. Production capacity in this mill has been increased using the recent carding machines which substantially increase the capacity without deterioration in quality.

1.3.7.2 CARDING PROCESS

The Carding process has been adopted by the mill for the following purposes,

1. to open the flocks into individual fibres
2. cleaning or elimination of impurities
3. reduction of neps
4. elimination of dust
5. elimination of short fibres
6. fibre blending
7. fibre orientation or alignment
8. sliver formation

1.3.7.3 Metallic Card Clothing:

Metallic card clothing has been adopted by the mill which is playing an important role to improve the production rates on revolving flat cards. High production card would not have been possible without the Metallic card clothing. Modern metallic wire is designed for optimum carding performance during the processing of many tonnes of fibre at the highest production rates possible, and with the least amount of maintenance.

1.3.7.4 Draw Frame:

Drawframe contributes less than 5% to production cost of yarn to the mill. But its influence on quality is very big, because drawing is the final process of quality improvement in the spinning mill and quality of draw frame sliver determines the final yarn quality.

1.3.7.5 Combing Process:

Combing is the process which is used to upgrade the raw material. It influences the following yarn quality in the mill,

1. yarn evenness
2. strength
3. cleanness
4. smoothness
5. visual appearance

In addition to the above, combed cotton needs less twist than a carded yarn.

The Pariyur Amman Spinning Mills Private Limited has been adopting the comber for improving the product quality. The comber of the mill has been performing the following operations,

1. elimination of short fibres
2. elimination of remaining impurities
3. elimination of neps

The mill is going for the Combed yarn, to make the yarn stronger, more uniform, to have greater shine and to make smoother and purer. The quality improvements are obtained at the cost of additional expenditure on machines, floor and personnel, together with a loss of raw material.

1.3.7.6 Packing:

Roving bobbin is the ideal package form for supply of material to the ring spinning frame. It is very convenient for transport and storing. Even though draw frame produces a sliver that already exhibits all the characteristics required for making the yarn, the roving frame is forced upon a spinner as a necessary evil for two reasons. They are,

1. Higher draft,

2. Drawframe while feeding creates more problems.

The ring spinning will continue to be the most widely used form of spinning machine in the near future, because ring spinning still offers the greatest flexibility in application and supplies yarns of a quality that cannot be equaled by the new technologies owing to technological reasons. The Pariyur Amman mill has been planning to adopt to ring spinning in the near future.

1.3.7.7 WINDING

Winding is the process which results in producing a good package of long length and fault free yarn. Most of the spinning mills use automatic winding machines. The Pariyur Amman Mills have been using the automatic winding machine. Quality of yarn and package and winding machine production are improving day by day. The requirements of package quality and yarn quality are also very high for the present knitters and weavers.

Essential Characteristics to find co-relation between Yarn quality and Cotton quality that has been practiced in this mill are as follows:

- **Staple Length:** If the length of fiber is longer, it can be spun into finer counts of Yarn which can fetch higher prices. It also gives stronger Yarn.
- **Strength:** Stronger fibers give stronger Yarns. Further, processing speeds can be higher so that higher productivity can be achieved with less end-breakage.
- **Fiber Fineness:** Finer Fibers produce finer count of Yarn and it also helps to produce stronger Yarns.
- **Fiber Maturity:** Mature fibers give better evenness of Yarn. There will be less end - breakages . Better dyes absorbency is additional benefit.
- **Elongation:** A better value of elongation will help to reduce end-breakages in spinning and hence higher productivity with low wastage of raw material.

- **Non-Lint Content:** Low percentage of Trash will reduce the process waste in Blow Room and cards. There will be less chances of Yarn defects.
- **Sugar Content:** Higher Sugar Content will create stickiness of fiber and create processing problem of licking in the machines.
- **Moisture Content:** If Moisture Content is more than standard value of 8.5%, there will be more invisible loss. If moisture is less than 8.5%, then there will be tendency for brittleness of fiber resulting in frequent Yarn breakages.
- **Feel:** If the feel of the Cotton is smooth, it will be produce more smooth yarn which has potential for weaving better fabric.
- **Class:** Cotton having better grade in classing will produce less process waste and Yarn will have better appearance.
- **Yellowness:** When value of yellowness is more, the grade becomes lower and lower grades produce weaker & inferior yarns.
- **Neppiness:** Neppiness may be due to entanglement of fibers in ginning process or immature fibers.

1.3.8 Products:

16s (Combed/Carded)	30s (Spandex yarn)
20s (Combed/Carded)	34s (Cotton core (Combed/Carded))
25s (Combed/Carded)	40s (Combed/Carded)
30s (Combed/Carded)	40s (Cotton spandex core yarn)

1.3.9 Quality Policy:

The Quality policy of the Pariyur Amman Spinning Mills Private Limited has been stated as:

"We at Pariyur Amman Spinning Mills Private Limited are committed to quality as a way of life through continuous improvement in customer satisfaction."

To assure quality and to maintain quality standards, they are having modernized Quality Control Department in their spinning division. The Quality Control Lab has USTER5 machine to test the yarns and silvers. Quality is always given top priority and the main focus is at every stage of work.

1.3.10 Social Environmental Responsibility

- Air Cooled & Well Lit Facilities
- Fire Safety Measures
- Subsidized Canteens
- Subsidized wind mills
- Prohibition of Child Labour
- First-Aid Facilities
- Encourage Recycling of Resources
- Equipped with energy efficient devices.

MAIN THEME OF THE PROJECT

CHAPTER 2

MAIN THEME OF THE PROJECT

2.1 OBJECTIVES OF THE PROJECT

- To study the current productivity level of the employees in the company.
- To identify the barriers to optimum productivity.
- To provide solutions to improve the productivity.

2.2 SCOPE OF THE STUDY

- This study will help in identifying the productivity level of the employees.
- It will help to identify the barriers to optimum productivity among the employees.
- The study will be confined to only Pariyur Amman Spinning mill P Ltd.
- This study will help to increase productivity of the organization and help the employee for future development.

2.3 LIMITATIONS OF THE STUDY

- The findings are based on the opinion given by the respondents and hence there is chance for bias.
- Due to the busy state of the respondents, the accuracy of the data may be affected.
- The main limitation was the time constraint in data collection.

2.4 RESEARCH METHODOLOGY

Research Methodology is a way to systematically solve the research problem. It may be understood as a science how research is done scientifically.

2.4.1 TYPE OF THE STUDY

The nature of the study was descriptive and exploratory.

A descriptive study describes the characteristics of a group in a given situation offers ideas for future research and helps in understanding the aspects of a situation systematically.

An exploratory study is undertaken because of not much is known about the situation and extensive interviews and observation has been conducted to gain familiarity with the phenomenon in the situation.

2.4.2 SAMPLE DESIGN

Initially 30 employees were selected for the Hypothesis testing for finding out the Optimum productivity. The mill has got ten department and 20% of the employees of each department has been selected as the respondents for identifying the barriers to optimum productivity.

2.4.3 SAMPLE SIZE

Hypothesis testing = 30

Identifying the barriers to optimum productivity = 82

2.4.4 SAMPLING TECHNIQUE

For the initial productivity study which dealt with the hypothesis testing and for the second round research work, for identifying the barriers to optimum productivity of the employees, simple random sampling was employed as the sampling technique.

2.4.5 DATA COLLECTION TECHNIQUE

Primary data was obtained through the questionnaires.

Secondary data was obtained through the journals, articles and internet.

2.4.5 TOOLS USED

- t test

- Percentage analysis

- Weighted average

- Chi-square

- Multiple correlation

- Skill matrix

2.4 REVIEW OF LITERATURE

Maynard(1990)[1], discuss about the various concept like value engineering, work sampling, methods of time measurement, wage system Audits, Measurement of repetitive work etc. in the value engineering he explained that value engineering is a method for improving product value by improving the relationship between the function of a product and its cost. He explained how industrial engineers can use task groups to bring together the diverse specialists who contribute value. So that they can relate each element of product worth to its corresponding elements of product cost, in order to provide the function of the product at least cost in resources. He discussed about the ways for maintaining consistent performance like revise standards as method change, establish different standard for different amount

---

[1] *Maynard*, Industrial engineering handbook, Third edition, page:10-50, publisher: Mc Graw-Hill,year:1990

of repetition, use the equitable bonus plan or the equivalent establish a single standard and a decreasing learning factor etc.

Potty N.P(1999)[2], has illustrated the application of a spreadsheet model for workload computation in a multiproduct, multidiscretional environment involving firm as well as anticipated orders. This application makes the scheduling process simple. The models enables to simulate the effect of rescheduling the tasks to different periods and arrive at an acceptable optimum plan taking into account the surplus or deficit capacity in each shop.This analysis in an important prerequisite for evolving a corporate plan in such an environment.

Michnel D. Shinnick, Walter W.Erwin(1989)[3], report that Ford motor company employees are combining efforts to improve quality and productivity. It is rapidly moving from the age of applied science and technology towards a new consciousness of reponsibilityof productivity and quality improvements among operators, supervisors, union committee members, engineers and managers. The common language for understanding this shared responsibility in MODAPTS and acronym for "modular arrangement of predetermined time standards". Fluency in the system provides Ford with a mechanism to achieve increased efficiency, profits and employee participation.

---

[2] *Potty N.P*, Computerised workload analysis for Corporate planning-a spreadsheet model, Industrial engineering journal, Indian institute of indo engineering, pg.12, volume xviii, issue: 10, October 1999.

[3] *Michnel D. Shinnick, Walter W.Erwin*, work measurement system creates shared responsibility among workers at Ford, Institute of Industrial Engineering Atlanda, page 28, volume 21,issue: 8, Aug 1989,

Hutchinson, John G(1983)[4], discusses the ways of preventing deterioration in the productivity control plans that are applied throughout industry. Such plans include the various forms of wages incentives plus the non incentive application of work measurement that are referred to as measured day work. He also formulated the framework of the control plans which includes clear written procedures, the concept of pace in relation to bonus earnings, consistency of application, reliance on tested concepts etc. he explained about the possible deterioration of wage plans like gradual changes in framework of the plan, effects of increased mechanization, changing significance of indirect work, lack of uniform application and miscellaneous practices.

Paliwal M.C, kimsthi(2000)[5], discuss that most of the textile mills are using the conventional method for allocating spindles per winder and the production. This remain the main hurdle makes the textile industries to limit the productivity improvement. ATIRA has given a table for optimum number of spindles per winder and the production. This table also provides the Constant volume for non-automatic winding machines. The elemental timings assumed for calculation by ATIRA are found to be on higher side when comparing with the elemental timings of the majority of the mills.

Uris, Auren(1995)[6], discusses the importance of work simplification and also he discuss the three parts that the work simplification should have like the philosophy of work simplification, the work simplification pattern-the tools and techniques and the plan of action- the actual program. The tools like flow process

---

[4] *Hutchinson, John G*, Managing a fair day's work, university of Michigan, Bureau of industrial relations, Ann Arbor,page:6-159 to 6-165,year:1983

[5] *Paliwal M.C, kimsthi*, Process control in weaving, ATIRA, Ahemedabad, 2nd edition, year: 2000.

[6] *Uris, Auren*, work simplification is working miracles' factory, page 45-55, year 1995

chart, flow diagram, multiple activity chart, procedure flow chart, gang chart etc. he also says that work simplification always introduces the human element it's always designed for foreman and employee participation. And also he concluded that only by having an active three phase program can work simplification be a substantial factor in containing improvement in any organization.

Laitinen, Erkki K., Gin Chong (2006)[7] reports the results of questionnaire surveys with companies that hire less than 20 employees in Finland the UK on how performance be measured. The results are: First, both the Finnish and UK companies rely on employees, production lines and activities to formulate their performance measurement system. Second, both the Finnish and UK companies use both the financial and non-financial variables to measure their performance despite the UK companies tend to emphasise more on the financial variables. Third, factor analysis shows that environmental and nonhuman production factors play a major part on the performance of these small companies. The results make major contributions to the business community and managers in decision-making processes. Future research could expand the sample size and include other methods of capturing data for analysis

McGuinness, Seamus, Bennett, Jessica(2006)[8] utilizes data from a comprehensive survey of construction firms in Northern Ireland to investigate the extent to which industry level skill shortages arise either as a result of a mismatch between existing industry employment structure and training provision and/or a

---

[7] *Laitinen, Erkki K., Gin Chong;* "How do Small Companies Measure Their Performance?"article of Problems & Perspectives in Management, Issue 3, p49-68, 20p, 2006.

[8] *McGuinness, Seamus, Bennett, Jessica,* "Examining the link between skill shortages, training composition and productivity levels in the construction industry: evidence from Northern Ireland", International journal of Human Resource Management; vol. 17 Issue 2, p265-279, 15p, 12 charts, feb2006,

general failure among training providers to keep pace with technological change within the industry. It was found that while there was some limited evidence linking imbalances in the existing structure of craft training with skill shortages, the incidence of unfilled vacancies was much more heavily related to a failure to keep pace with the increased demand for a more multi-skilled approach to training driven by the rise in prefabricated building techniques within the industry. However, it also found that a large scale shift towards multi-skilled training might be costly as it would tend to reduce worker productivity levels.

Iranzo, Schivardi, Tosetti (2008)[9] studied the relation between workers' skill dispersion and firm productivity using a unique data set of Italian manufacturing firms with individual records on all their workers. they measure skill is the individual worker's effect from a wage equation. Author finds that a firm's productivity is positively related to skill dispersion within occupational status groups (production and nonproduction workers) and negatively related to skill dispersion between these groups. Consistently, most of the overall skill dispersion is within and not between firms. These findings are consistent with some recent hierarchical models of the firms' organizational structure.

Paul Lyons (2003)[10] provides a brief exposition on the general definitions and features of skills and competence in organizations, presents an overview of skill charting, offers specific methods to demonstrate training for skill development using constructivist approaches (skill charting/competency mapping); and then presents the results of a brief study that encompasses the approaches

[9] *Iranzo, Schivardi, Tosetti*, "Skill Dispersion and firm Productivity: An Analysis with Employer-Employee Matched Data", Journal of Labour Economics; Vol. 26 Issue 2, p247-285, 39p, 7 charts, 7 graphs, Apr2008.

[10] *Paul Lyons*, "Influencing performance improvement using skill charting", Journal of European Industrial Training, Vol. 27, Issue 8, p398 – 404, 2003.

discussed. The findings of the study indicate that the skill charting methods have value, promise, and that they require further study

Kazaz, Manisali, Ulubeyli (2008)[11] discussed that the Human resource today has a strategic role for productivity increase of any organization, and this makes it superior in the industrial competition. With the effective and optimum usage of it, all the advantages supplied by the productivity growth can be obtained. This usage is just possible by establishing clear and understandable criteria for the factors affecting labour. Therefore, it is aimed in this study that the factors influencing construction labour productivity in Turkey are determined, defined, and examined in detail. A survey was applied to 82 firms to obtain required data. According to results, the most effective factors group is organizational factors.

Grafton, R.,Kompas, Owen, P. (2007)[12] contributes to the explanation of the large differences in cross-country productivity performance by modelling and testing the effects of social barriers to communication on productivity and capital accumulation. In an optimal growth model, social barriers to communication, which impede the formation of knowledge connections, are shown to reduce both transitory and steady-state levels of total factor productivity (TFP), per capita consumption and reproducible capital. Empirical testing yields a robust and theoretically consistent result: linguistic barriers to communication reduce productivity and capital accumulation. The findings provide an explanation for cross-country differences in TFP, and fresh insights into how productivity 'catch up' may be initiated.

---

[11] Kazaz, Manisali, Ulubeyli, "Effect of Basic Motivational Factors on Construction Workforce Productivity in Turkey" , Journal of Civil Engineering & Management; Vol. 14 Issue 2, p95-106, 12p, 5 charts,1 diagram, 2008

[12] Grafton, R.,Kompas, Owen, P., "Bridging the barriers: knowledge connections, productivity and capital accumulation", Journal of Productivity Analysis, Vol. 28 Issue 3, p219-231, 13p, 5 charts, Dec2007

Doloi, Hemanta (2007)[13] presents the findings of a questionnaire survey conducted on the motivational factors affecting worker's productivity in Australian spinning mill. A framework has been developed by establishing a benchmark of the critical motivational attributes found in current management practices. The framework facilitates devising appropriate schemes by incorporating socio-economic motivational factors in overall decision-making processes. A total of 25 influencing parameters have been identified to study the relationships and impacts of worker motivation in selected projects. Based on the user's preferences and knowledge base from past projects, a ranking of these attributes has been established in the order of relative importance in motivating workers to optimum productivity. Statistical analysis such as factor analysis has been performed on these motivational project attributes and four major factors have been extracted. Further analysis indicates that the most critical motivational factor associated with worker productivity is the basic work environment and employment contract, which comprises 12 major subfactors.

K. Shyjith, M. Ilangkumaran, S. Kumanan (2008)[14] focus on the use of analytic hierarchy process (AHP) and technique for order preference by similarity to ideal solution (TOPSIS) to select an optimum maintenance strategy for a textile industry.The relative importance of multiple evaluation criteria and the extension of the TOPSIS are prioritized using AHP. The TOPSIS method is applied to compensate for the imprecise ranking of the AHP in the selection of a maintenance policy mix. An efficient ranking of alternatives can be achieved for

---

[13] *Doloi, Hemanta*, "Twinning Motivation, Productivity and Management Strategy", Engineering Management Journal; Vol. 19 Issue 3, p30-40, 11p, 8 charts, 2 diagrams, Sep2007

[14] *K. Shyjith, M. Ilangkumaran, S. Kumanan*, "Multi-criteria decision-making approach to evaluate optimum maintenance strategy in textile industry", Journal of Quality in Maintenance Engineering, vol. 14, p375 – 386, 2008

maintenance strategy selection through the combination of AHP and TOPSIS. He highlights a new insight into multi-criteria decision-making techniques to select an optimum maintenance policy for a process industry with the use of a case study.

Steve Garrett (2007)[15] Skill charting is a tool to assist managers and employees to improve performance quality by focusing on improving skills and knowledge. It is especially relevant to behavioral performance. Skill charting is based on what is called a constructivist approach to employee learning and change in which new knowledge is constructed or created over a foundation of prior knowledge. The approach has features in common with other quality control methods, such as the relations diagram and the affinity diagram.

---

[15] *Steve Garrett*, "Charting Skills for Quality Improvement", Journal for Quality and Participation vol. 30 issue 1, March 2007

ANALYSIS AND INTERPRETATION

CHAPTER 3

DATA ANALYSIS AND INTERPRETATION

This chapter consists of six broad sections.

Section 3.1 deals with t test.

Section 3.2 deals with the percentage analysis.

Section 3.3 deals with the weighted average value of the barriers to productivity.

Section 3.4 deals with identification of barriers to optimum productivity in the organization.

Section 3.5 deals with the department wise identification of barriers to optimum productivity.

Section 3.6 deals with skill matrix for spinning department.

Section 3.7 deals with multiple correlation.

Section 3.8 deals with chi-square analysis.

3.1 t test

T-Tests are tests for statistical significance that are used with interval and ratio level data. T-tests can be used in several different types of statistical tests like to test whether there are differences between two groups on the same variable, based on the mean (average) value of that variable for each group etc. If the t-score lies inside the acceptance region the research hypothesis will be rejected.

Hypothesis: There is no significant difference between the current productivity and optimum productivity.

Table 3.1.1 shows the output table of t test

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
VAR0000 1	30	68.0333	20.94736	3.82445

One-Sample Test

	Test Value = 105					
	t	Df	Sig. (2-tailed)	Mean Difference	90% Confidence Interval of the Difference	
					Lower	Upper
VAR0000 1	-9.666	29	.000	-36.96667	-43.4649	-30.4684

The t-test was done with a significance level of 10%

Acceptance region lied in -1.699 ≤ +1.699

The calculated value was equal to -9.666

The obtained value was outside the acceptance region, the hypothesis was rejected. Hence there is a difference between the employee's current productivity and optimum productivity.

3.2 PERCENTAGE ANALYSIS

The Percentage analysis is the simplest tool to identify the frequency or the composition over the selected factor. It gives a vivid picture about the distribution pattern of the respondents/responses and it assists to find out the effective frequency among the list of factors.

3.2.1 AGE:

Table 3.2.1: The percentage distribution of the respondents based on their age

Age	No. of Respondents	Percent
Below 20 years	16	19.51
20 - 30 years	28	34.15
31 - 40 years	21	25.61
41 - 50 years	13	15.85
Above 50 years	4	4.88
Total	82	100.00

Chart 3.2.1: The percentage distribution of the respondents based on their age
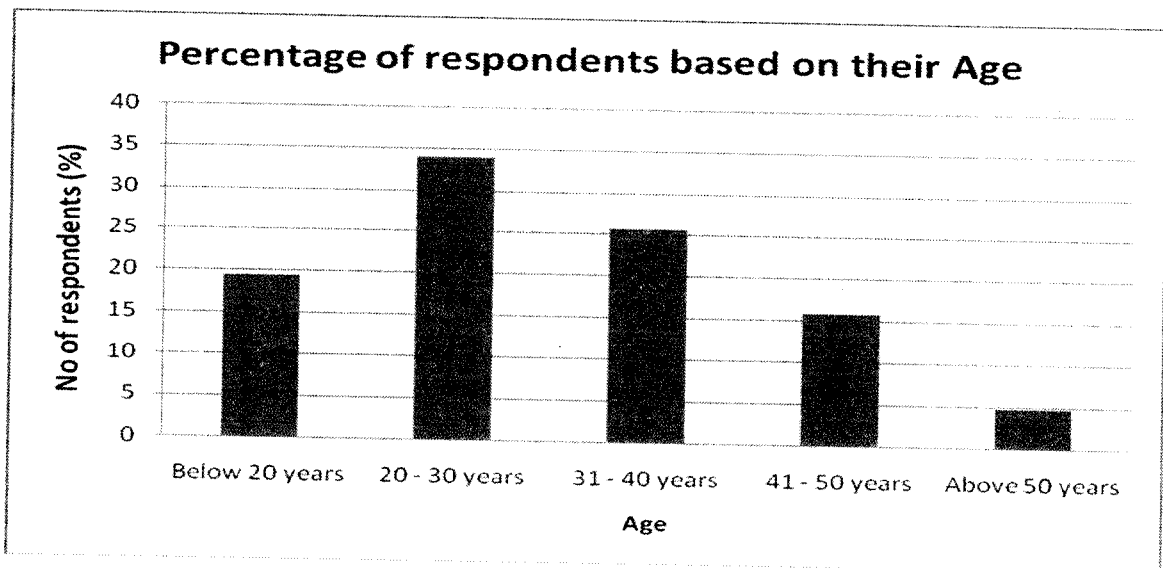
INTERPRETATION:

From the above table 3.2.1, it has been inferred that the employees are mostly in the age group of 20-30 years. The employees working in the age group of 31-40 years has been contributing the second largest share of the employees. The company is also having the employees in the above 50 years age group.

Thus, it is evident that the company has got the employees in all the age groups having freshers, employees with less experience and also with rich experiences. This shows the company has got less attrition rate.

3.2.2 DEPARTMENT:

Table 3.2.2: The percentage distribution of the respondents based on their Department.

Department	No. of Respondents	Percent
Preparatory	3	3.66
Spinning	7	8.54
Cone winding	12	14.63
Auto coner	3	3.66
Cheese winding	5	6.09
Doubling	8	9.76
Soft winding	5	6.09
Tube winding	27	32.93
Packing	9	10.98
Technical staff	3	3.66
Total	**82**	**100.00**

Chart 3.2.2: The percentage distribution of the respondents based on their Department.

**classification of the respondents based on the department**
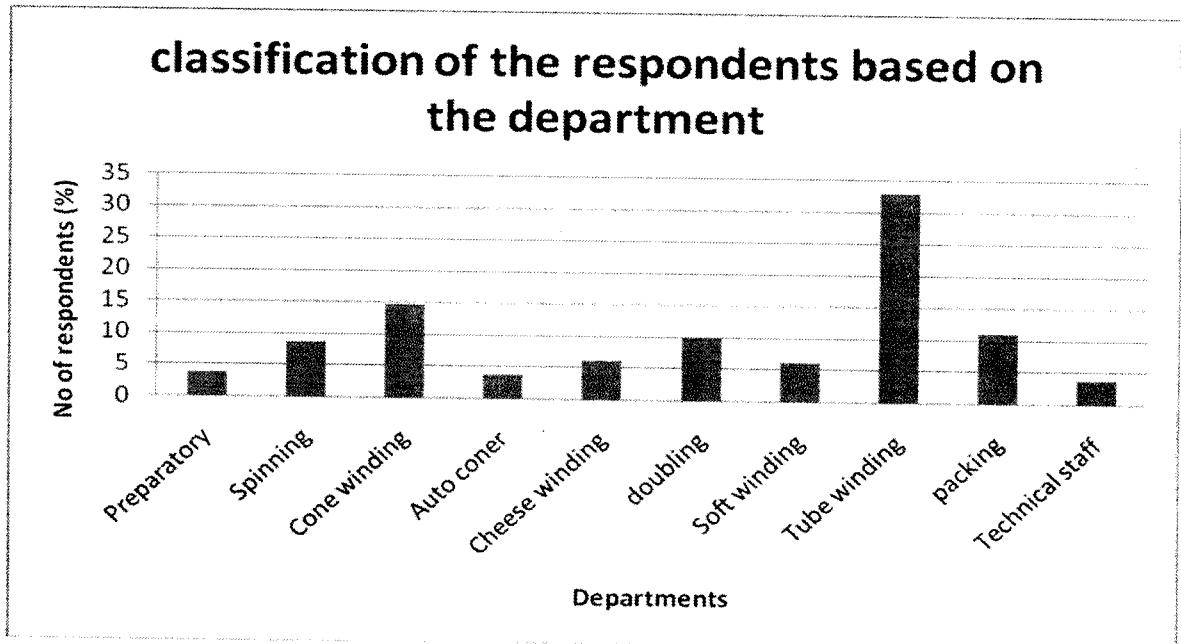
INTERPRETATION:

The chart 3.2.2 reveals the ten departments and the fifteen percentages of respondents from each department for the selection of respondents for the questionnaire. It is revealed that the tube winding department shares the maximum number (32.93) of respondents, since it is the most labour intensive department among all. The cone winding department shows the next higher percentage of respondents.

Thus, it is evident that the numbers of respondents are more for the more labour intensive departments.

3.2.3 GENDER: Table 3.2.3: The percentage distribution of the respondents based on their Gender

Gender	No. of Respondents	Percent
Male	46	56.09
Female	36	43.91
Total	**82**	**100.00**

Chart 3.2.3: The percentage distribution of the respondents based on their Gender
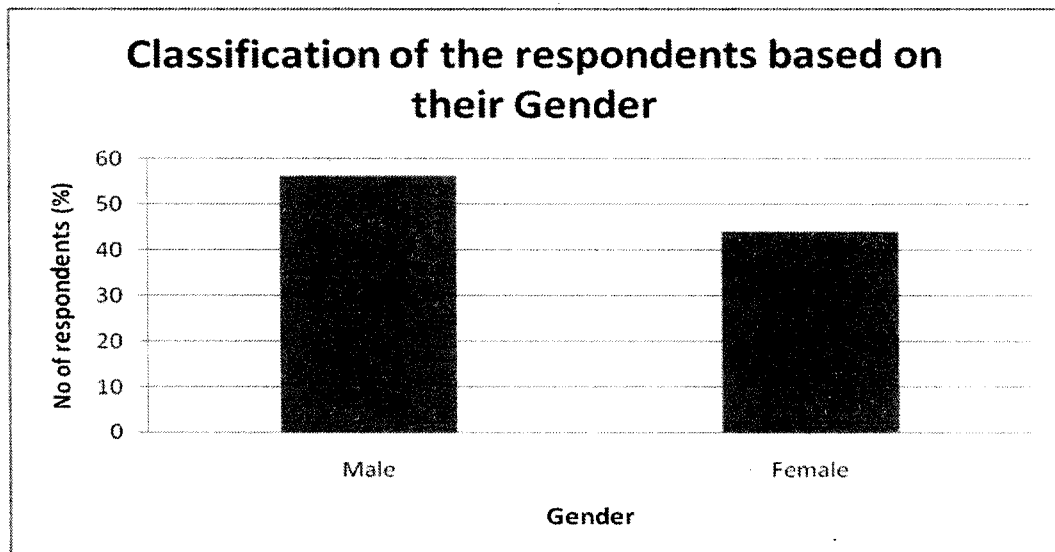
INTERPRETATION:

From the above table 3.2.3 it is observed that 56.09% of the respondents are male and 43.91% of the respondents are female.

The female respondents are less because of the more physical works involved in the job and also the females in that area showing less interest towards working. Thus it is evident that the male respondents are more when compared to the female respondents.

3.2.4 EXPERIENCE:

Table 3.2.4:The percentage distribution of the respondents based on their Experience.

Working Experience	No. of Respondents	Percent
Less than 2 years	17	20.72
2 - 4 years	30	36.59
4 - 6 years	17	20.73
6 – 8 years	9	10.98
Above 8 years	9	10.98
Total	**82**	**100.00**

Chart 3.2.4:The percentage distribution of the respondents based on their Experience.

Classification of respondents based on their Experience
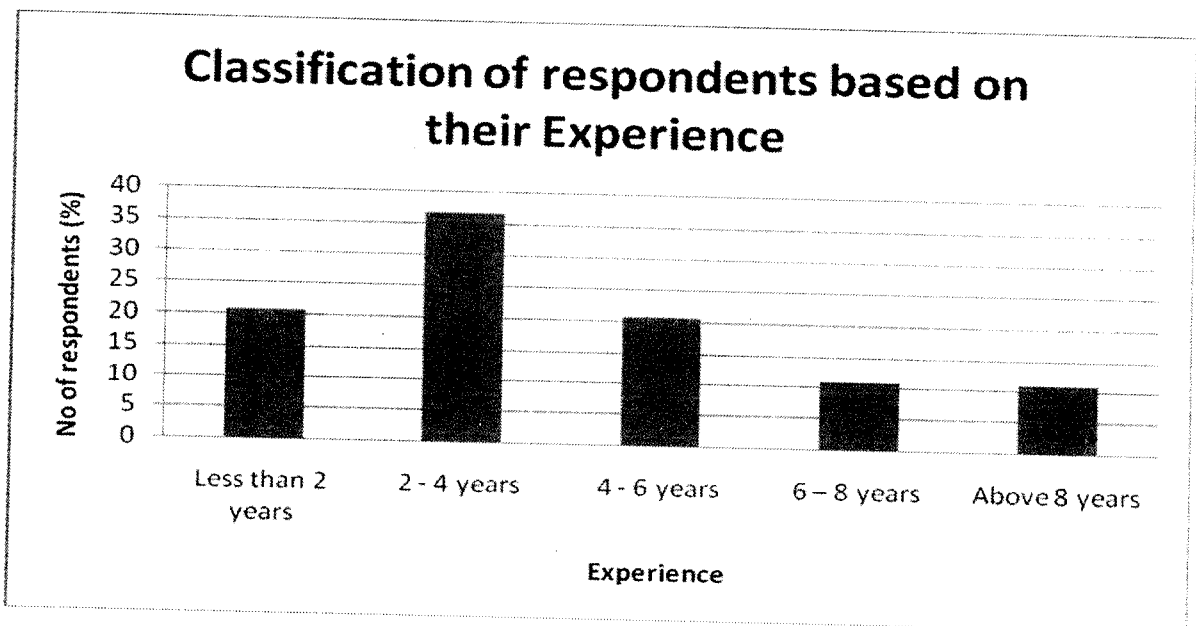
INTERPRETATION:

The chart 3.2.4 reveals the fact that the number of respondents having the work experience of 2-4 years are higher when compared to the other experienced category.The number of percentage of employees in the less experienced category and the 4-6 year category contributes the second major share of respondents.

Thus, it is more evident that the percentage of respondents are from all the levels of the experience categories.

3.3 WEIGHTED AVERAGE VALUE FOR THE BARRIERS TO OPTIMUM PRODUCTIVITY

The weighted average method is adopted to find the relative weights assigned to the productivity barriers by the respondents. Based on the weights, ranks were assigned to the barriers. Rank one was given to the barrier with the highest weight.

The following table shows the weighted average value of the various barriers to productivity in the organization.

Table 3.3 weighted average value for the barriers to optimum productivity

SI.NO	BARRIERS TO PRODUCTIVITY	WEIGHTED AVERAGE VALUE	RANK
1	Insufficient salary package	6.043796	1
2	Inadequate rewards	5.080292	2
3	Lack of growth opportunities	5.051095	3

4	Improper goal setting	4.817518	4
5	Unhealthy relationship with the head	4.583942	5
6	No recognition	4.437956	6
7	Lack of open communication with managers, peers and subordinates	4.408759	7
8	Work life imbalance	4.350365	8
9	Organizational changes	4.350365	8
10	Organizational culture	4.350365	8
11	Lack of planning	4.321168	11
12	Shortage of relevant skills	4.291971	12
13	Office politics	4.058394	13
14	Improper goal setting	4.0291971	14
15	Personal conflicts	3.941606	15
16	Lack of team work	3.824818	16
17	Improper infrastructure	3.824818	16
18	Lack of managerial motivation	3.79562	18

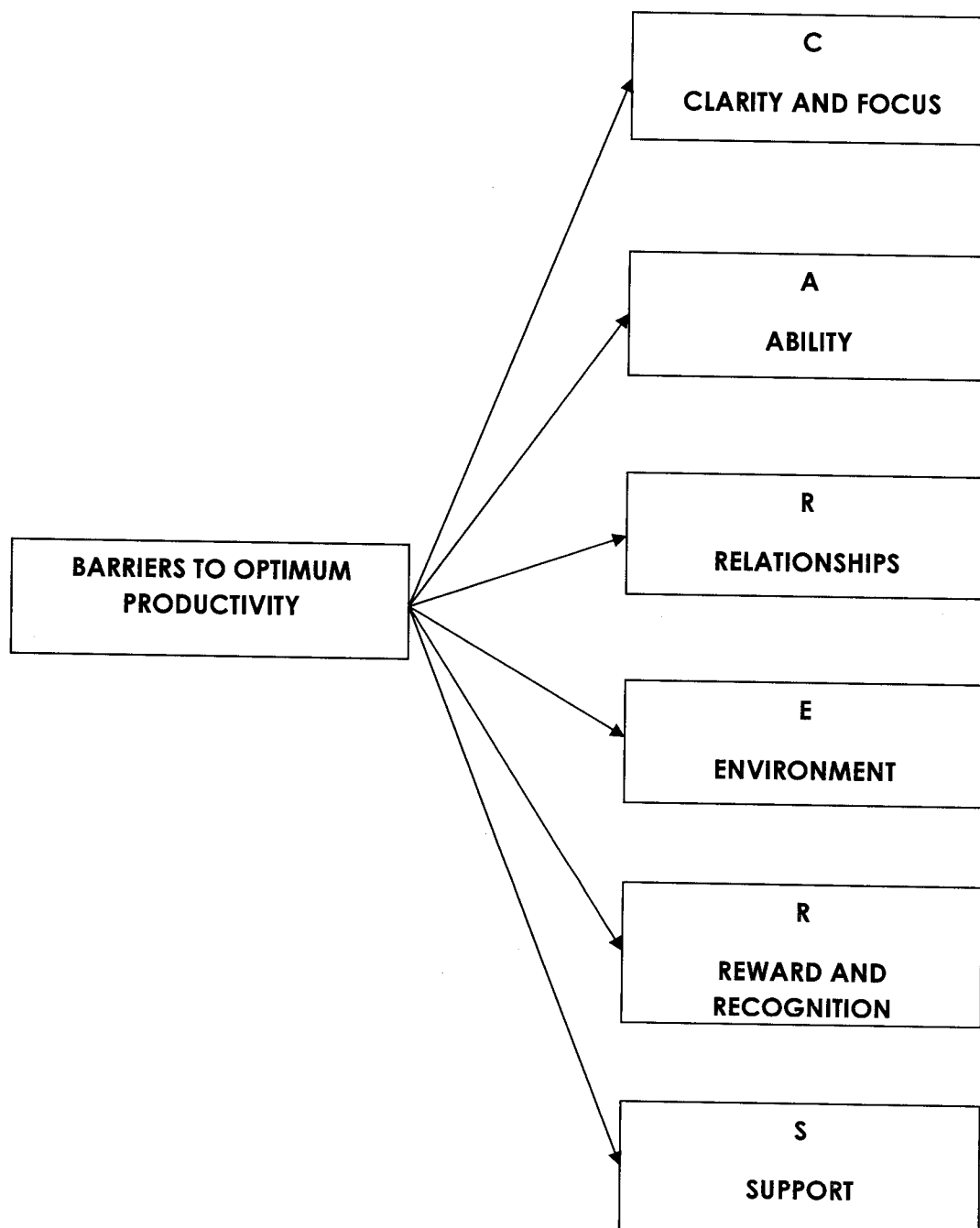| 19	Insufficient training	3.79562	18
20	Role ambiguity	3.649635	20
21	Not clear about the manager's expectations	3.532847	21
22	Lack of career planning	3.532847	21
23	Scarcity of office tools and equipments	3.50365	23
24	Lack of family support	3.445255	24

INTERPRETATION

The overall weighted average value for the barriers of optimum productivity has shown the factors insufficient salary package (6.04) and the inadequate rewards (5.08) have been ranked top two positions among the other factors. This has been the two prime barriers for the optimum productivity and it has been ranked based on the weighted average value. The scarcity of tools and equipments factor and the lack of family support factor have been ranked last because the firm has got enough facilities in terms of tools and equipments and also the family support does not have much influence as compared to other factors.

Thus, it is revealed that the overall weighted average value for the insufficient salary package and the rewards have been vital in determining the optimum productivity.

3.4 BARRIERS TO OPTIMUM PRODUCTIVITY

There are basically six modules identified as barriers to optimum productivity by Allan Makintosh. He developed a framework that managers can use to structure their employee performance. The framework is called CARERS. Each six modules consist of four important factors they are as follows

```
                                        ┌──────────────────────┐
                                        │          C           │
                                        │   CLARITY AND FOCUS  │
                                        └──────────────────────┘

                                        ┌──────────────────────┐
                                        │          A           │
                                        │       ABILITY        │
                                        └──────────────────────┘

┌──────────────────────┐               ┌──────────────────────┐
│  BARRIERS TO OPTIMUM │               │          R           │
│     PRODUCTIVITY     │───────────────│    RELATIONSHIPS     │
└──────────────────────┘               └──────────────────────┘

                                        ┌──────────────────────┐
                                        │          E           │
                                        │     ENVIRONMENT      │
                                        └──────────────────────┘

                                        ┌──────────────────────┐
                                        │          R           │
                                        │     REWARD AND       │
                                        │     RECOGNITION      │
                                        └──────────────────────┘

                                        ┌──────────────────────┐
                                        │          S           │
                                        │       SUPPORT        │
                                        └──────────────────────┘
```

Each six modules consist of four important factors they are as follows

C - CLARITY AND FOCUS

- Role ambiguity
- Not clear about the manager's expectations
- Lack of career planning
- Improper goal setting

A - ABILITY

- Poor time management
- Shortage of relevant skills
- Work life imbalance
- Lack of planning

R - RELATIONSHIPS

- Lack of open communication with managers, peers and subordinates
- Lack of team work
- Personal conflicts
- Unhealthy relationship with the head

E - ENVIRONMENT

- Insufficient training
- Office politics
- Organizational changes
- Organizational culture

R - REWARD AND RECOGNITION

- No recognition
- Lack of growth opportunities

- Insufficient salary package

- Inadequate rewards

S - SUPPORT

- Scarcity of office tools and equipments

- Improper infrastructure

- Lack of managerial motivation

- Lack of family support

3.4.1ORGANIZATIONAL PRODUCTIVITY BARRIERS

The overall organizational process begins with the preparatory operations and ends with the packing operations. On an overall, all the processes requires complete knowledge about the operations involved and in simple terms it requires the CARERS model for the entire mill operations.

Cart 3.4.1.1 depicts the weighted average of all the productivity barriers identified in the organization
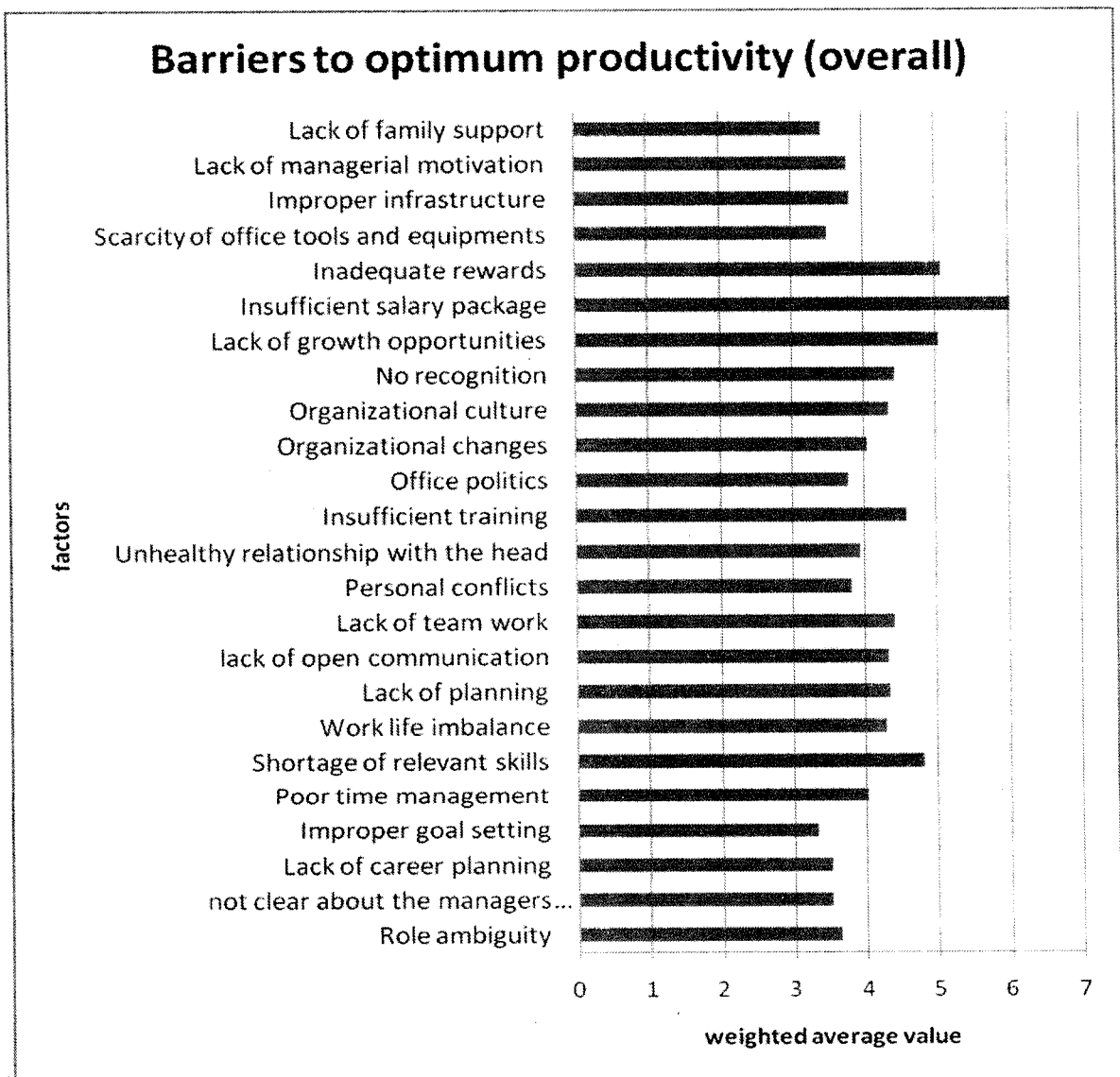
INTERPRETATION:

From the overall productivity barriers chart 3.4.1.1 of the organization it has been found that the insufficient salary package being the foremost barrier affecting the overall optimum productivity. Followed by that, the inadequate rewards have been the vital factor for the barriers to optimum productivity.

Thus the lack of growth opportunities seen in the mills have been the important factor influencing the productivity to a major extent.

Chart 3.4.1.2 depicts the overall picture of the barriers to optimum productivity in the organization
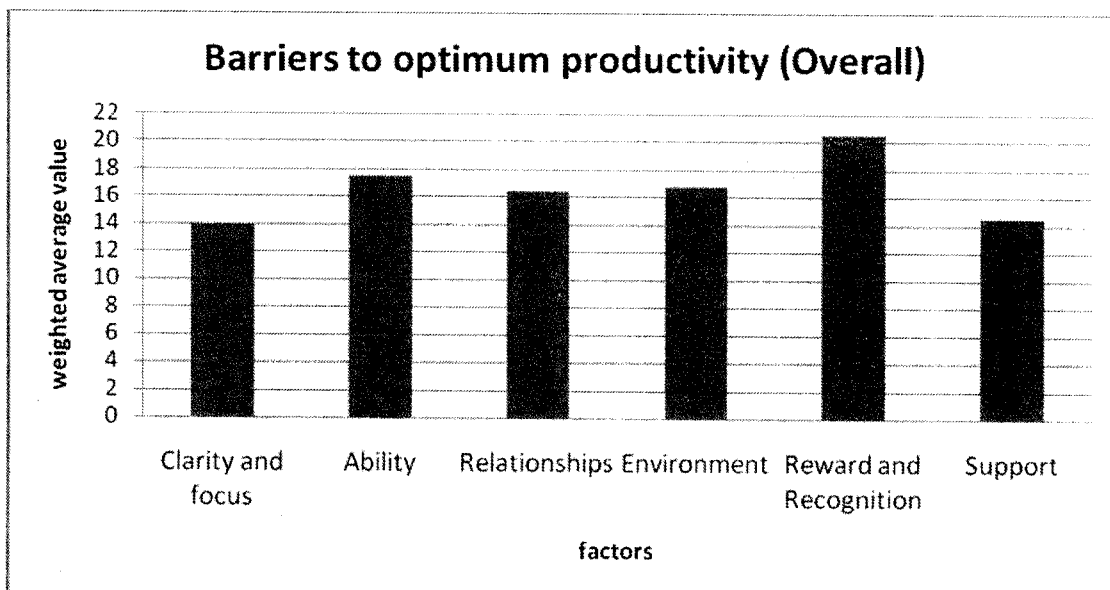
INTERPRETATION:

The overall picture of the CARERS model of the organization depicts the reward and recognition is the elemental factor in the barriers to the optimum productivity. The ability factors come next and then the environmental factors. These are the key factors which act as the hindrance and it has to be managed properly to achieve the overall productivity.

3.5 DEPARTMENT WISE IDENTIFICATION OF BARRIERS TO OPTIMUM PRODUCTIVITY

3.5.1 Preparatory department

The preparatory department involves the blow room, carding, drawing and simplex operations. The department plays the pivotal role in determining the quality of the yarn. The employees of this department must have knowledge about all the processes involved and also should have technical knowledge.

Chart 3.5.1.1 depicts the weighted average of all the productivity barriers identified in Preparatory department.

Chart: Preparatory department — weighted average value (x-axis 0 to 8), factors (y-axis): Lack of family support, Lack of managerial motivation, Improper infrastructure, Scarcity of office tools and equipments, Inadequate rewards, Insufficient salary package, Lack of growth opportunities, No recognition, Organizational culture, Organizational changes, Office politics, Insufficient training, Unhealthy relationship with the head, Personal conflicts, Lack of team work, lack of open communication, Lack of planning, Work life imbalance, Shortage of relevant skills, Poor time management, Improper goal setting, Lack of career planning, not clear about the managers..., Role ambiguity.

INTERPRETATION:

In the preparatory department, the weighted average for the barriers of optimum productivity is projecting the role ambiguity to be the principle barrier affecting the optimum productivity. The insufficient training and the lack of open communication have been the next factors affecting the productivity of an employee.

Both the open communication and training are needed at this department to have a clear specification and how to do of the job.

Chart 3.5.1.2 depicts the overall picture of the barriers to optimum productivity in preparatory department
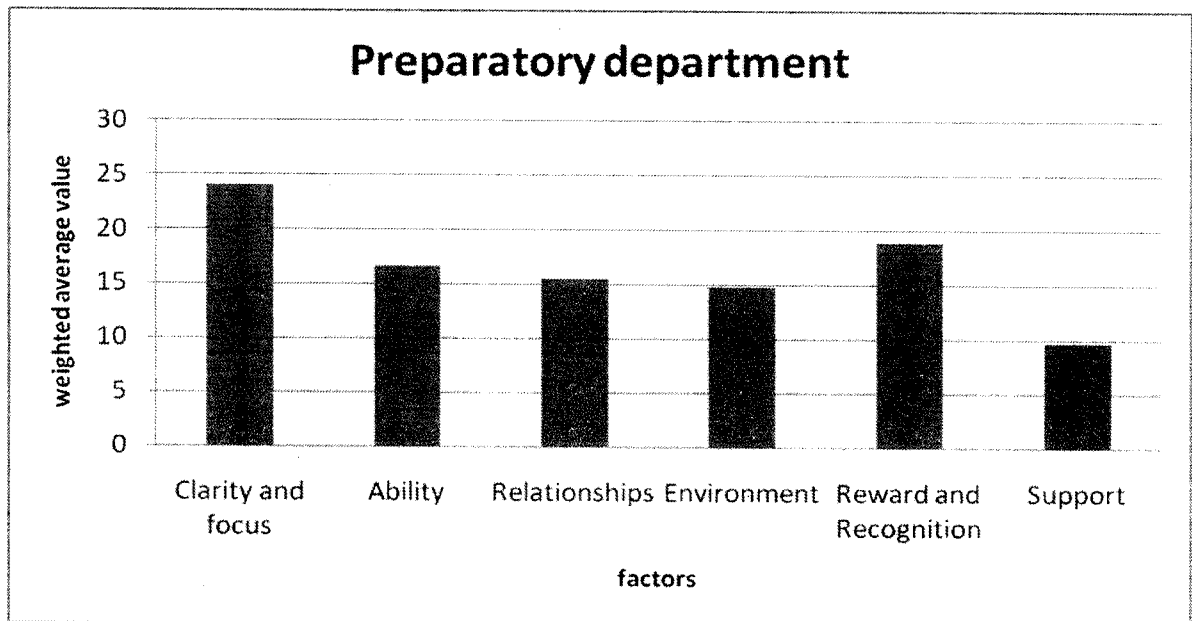
INTERPRETATION:

The overall picture of the barriers to the optimum productivity depicts Clarity and focus as the foremost barrier which encompasses the Role ambiguity. The next important barrier is the reward and the recognition. The role of the job has not been that much clear contributing to the barriers of optimum productivity. The rewards and recognition of this department is also lacking and hence the productivity level of the employees of the department is getting down drastically.

3.5.2 SPINNING DEPARTMENT

In the spinning department, the spinning machines take the roving, thin it and twists it, creating yarn which it winds onto a bobbin. The yarn is twisted through the spinning of the bobbin as the carriage moves out, and is rolled onto a cop as the carriage returns. The spinning department holds the key for the prime activities of the mill. The employees of this department have to be very agile and the selection of the employees for the department holds the success of the firm.

Chart 3.5.2.1 depicts the weighted average of all the productivity barriers identified in Spinning department.
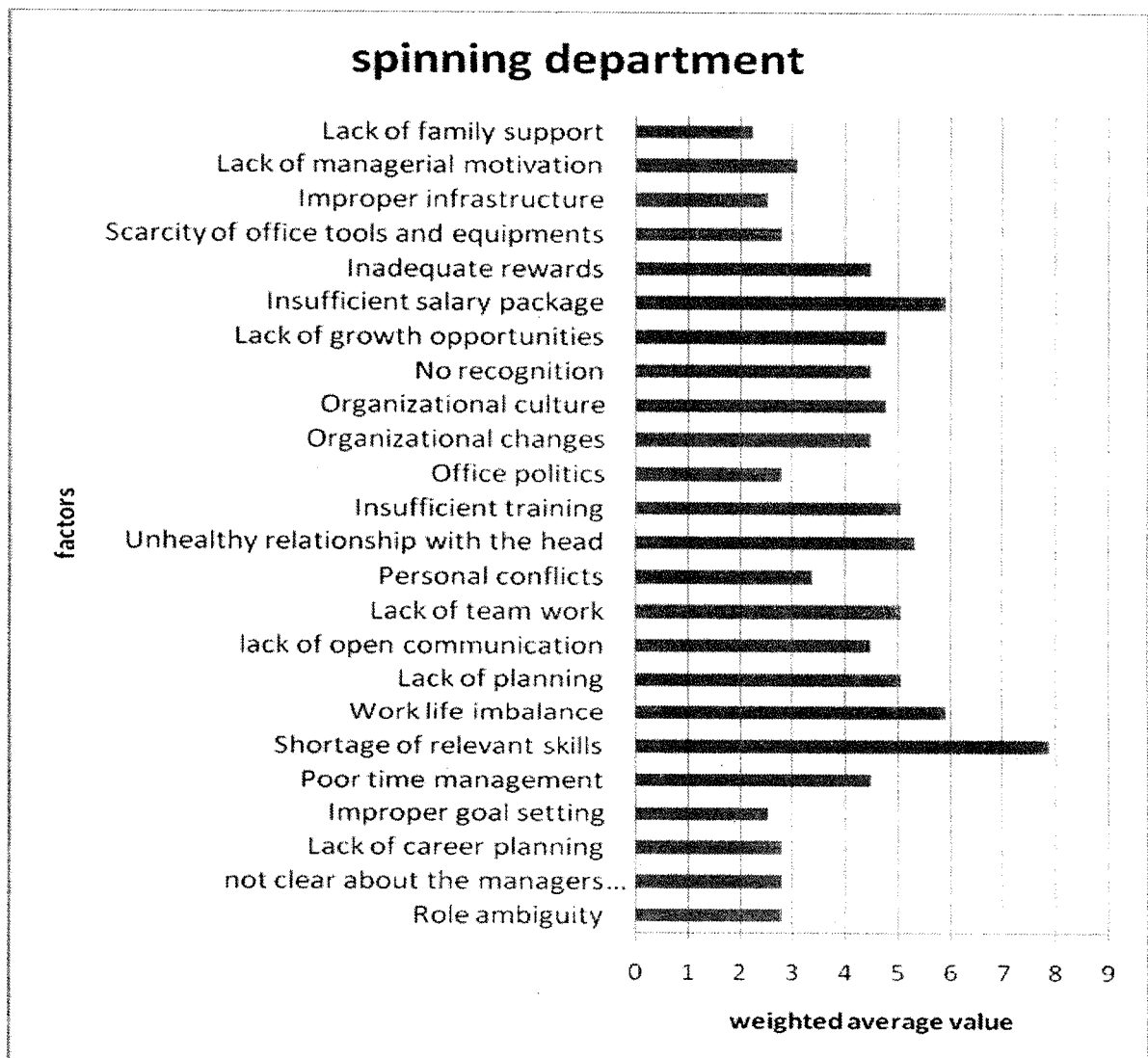
INTERPRETATION:

The shortage of relevant skills factor identified shows the employees are carrying out their work in a traditional manner without any hope for improvement and the work life imbalance which disrupts the employees in achieving the optimum productivity. The insufficient salary package has also been the third factor which keeps off the employees trying for the optimum level in productivity from their current level.

The shortage of relevant skills and work life imbalance are the first two factors which have been identified as the barriers to productivity in the spinning department.

Chart 3.5.2.2 depicts the overall picture of the barriers to optimum productivity in Spinning department.
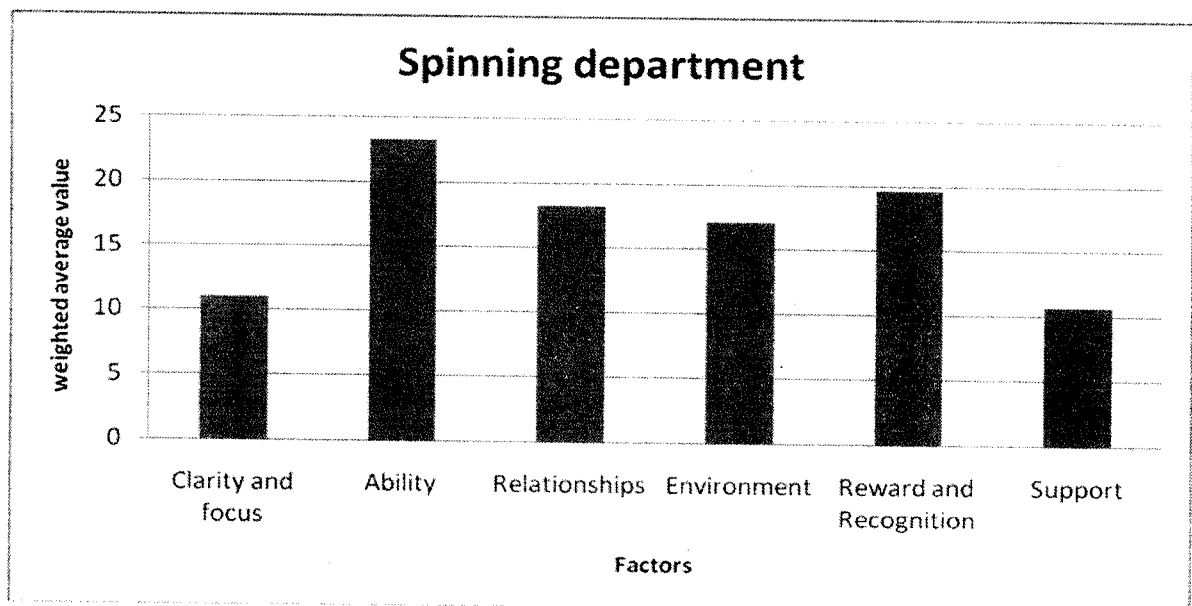
INTERPRETATION:

The ability factors of the CARERS model have been the top most factors for the barriers to optimum productivity. The reward and the recognition factor and the relationship factor occupy the next two positions for the barriers to optimum productivity. The organization should have to put in the extra efforts to dilute these factors in order to achieve the targeted productivity.

3.5.3 CONEWINDING DEPARTMENT

To manufacture a package with acceptable quality features such as stability, constant density, constant package stiffness, etc., the yarn winding tension must be controlled during winding operations. The main criteria for successful high speed yarn winding are maintaining yarn tension variations at a level sufficiently high to achieve package stability while at the same time keeping tension fluctuations to a minimum.

Chart 3.5.3.1depicts the weighted average of all the productivity barriers identified in conewinding department.

Conewinding department
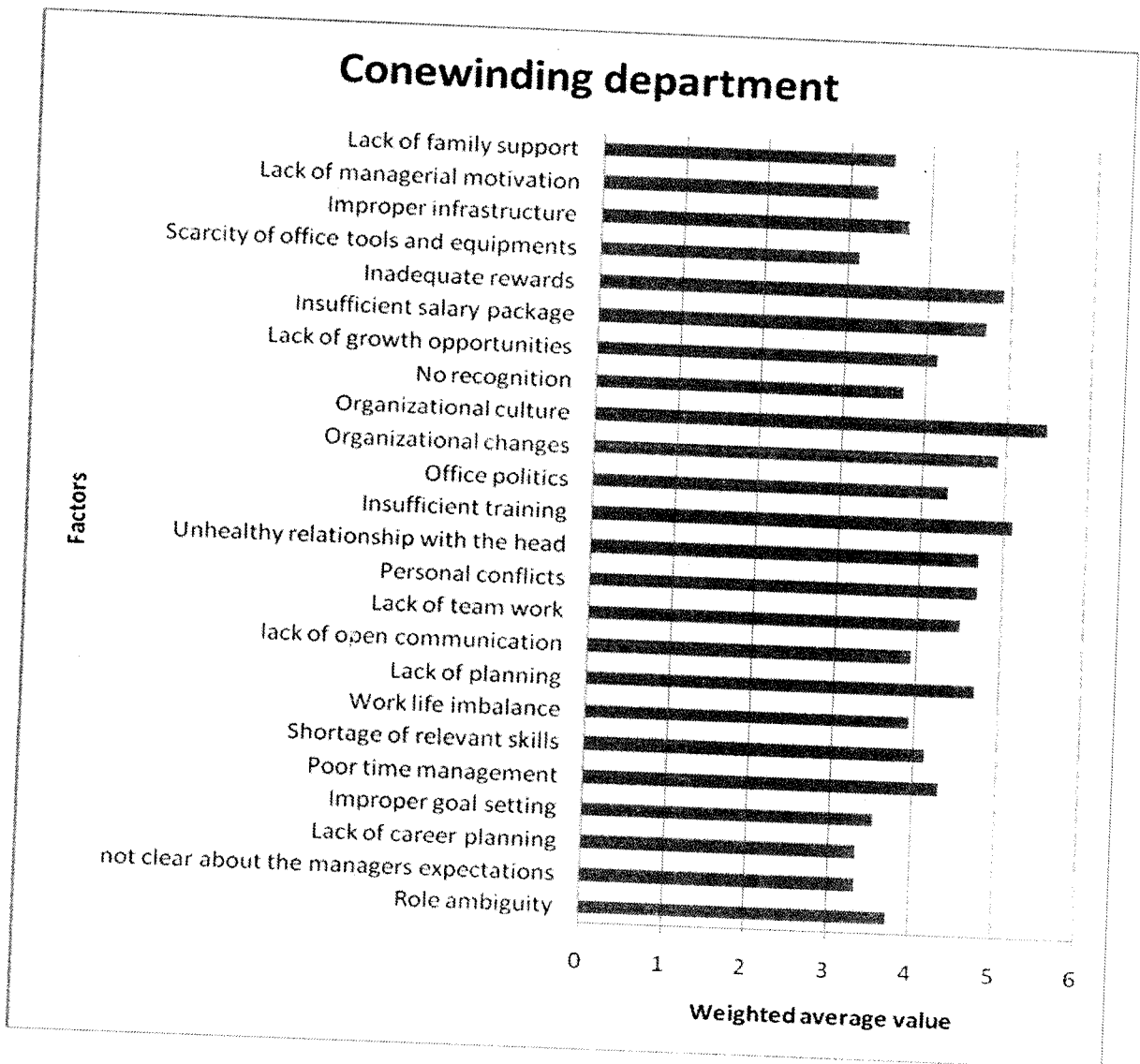
INTERPRETATION:

The chart 3.5.3.1 shows the barriers to the productivity in the cone winding department. The organization culture, insufficient training and the inadequate rewards have been the three important factors which affect the productivity level of this department. The care should be given to provide the required training and to change the organizational culture in order to have a optimum productivity of this department.

It is more evident that the productivity has been greatly influenced by the rewards, training and organizational culture in the cone winding section of the mill.

Chart 3.5.3.2 depicts the overall picture of the barriers to optimum productivity in Conewinding department.
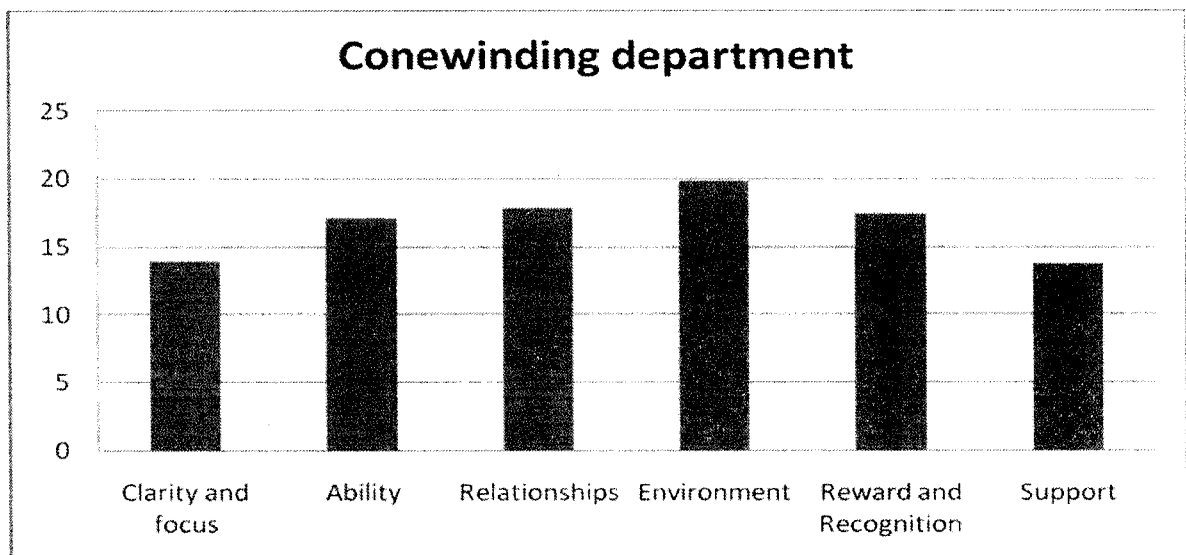
INTERPRETATION:

The chart 3.5.3.2 depicts the factors which affects the productivity in the cone winding department have been ranked based on their contribution to the barriers are environmental, reward and recognition and the relationship factors respectively. The environmental factors have been the most influencing barrier which has lead to the employees not finding the right path to achieve the optimum productivity. The relationship factors which have created unwanted problems are affecting the morale of the employee to proceed towards the optimum productivity.

3.5.4 AUTOCONER DEPARTMENT

The Winding is the process which results in producing a good package of long length and fault free yarn. Most of the spinning mills use automatic winding machines. Quality of yarn and winding machine production are improving day by day. The employees working in this department should have the awareness in the automatic machineries and also in the processes involved.

Chart 3.5.4.1 depicts the weighted average of all the productivity barriers identified in Autoconer department.

Autoconer department
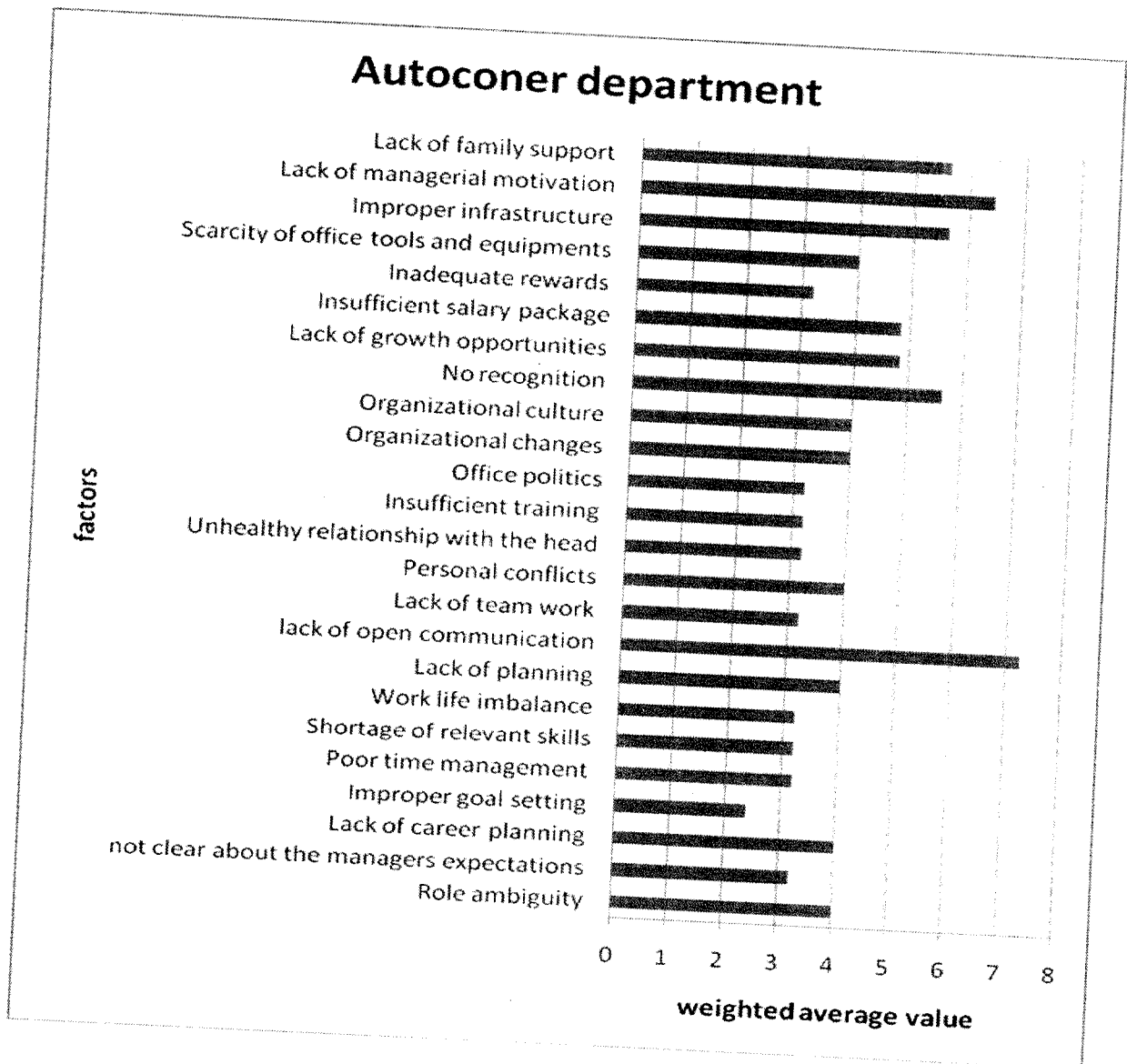
INTERPRETATION:

From the chart 3.5.4.1 it has been found out that the lack of open communication acts as a main barrier in the autoconer department else the employees will put in that extra "discretionary effort" when they are kept informed openly .The lack of motivation from the senior management has been the second important barrier to productivity. The third being the lack of recognition which have made the employees of the autoconer department to limit their productivity skills.

Thus, it is concluded that the lack of open communication and managerial motivation has been the negatively influencing factor to the optimum productivity.

Chart 3.5.4.2 depicts the overall picture of the barriers to optimum productivity in Autoconer department.
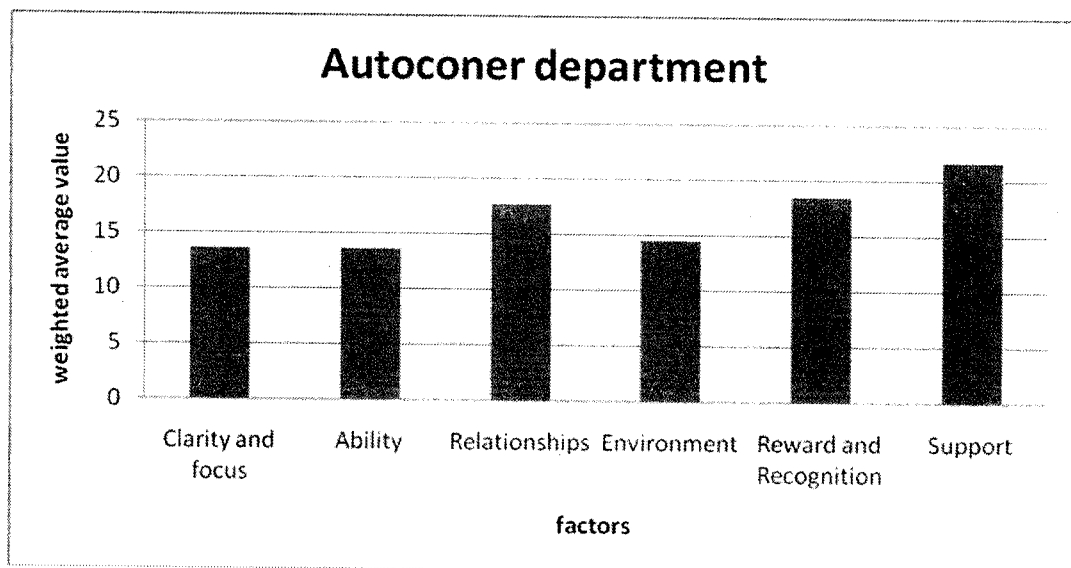
INTERPRETATION:

From the CARERS model(chart 3.5.4.2)for the autoconer department has predicted the support factor plays the major barrier to optimum productivity. The factor reward and recognition has been the next dominating factor among other factors as an important barrier to optimum productivity. The employees have been failed to get the level of motivation and recognition required for achieving the optimum productivity.

3.5.5 CHEESE WINDING DEPARTMENT

The Cheese winding department has been the most important department when it comes to packing of the yarn. The purpose of cheese winding is to make the yarn more even and soft during the winding operation and it removes any dust that has been associated with the yarn during the production activities.

Chart 3.5.5.1 depicts the weighted average of all the productivity barriers identified in Cheese winding department

Cheesewinding department
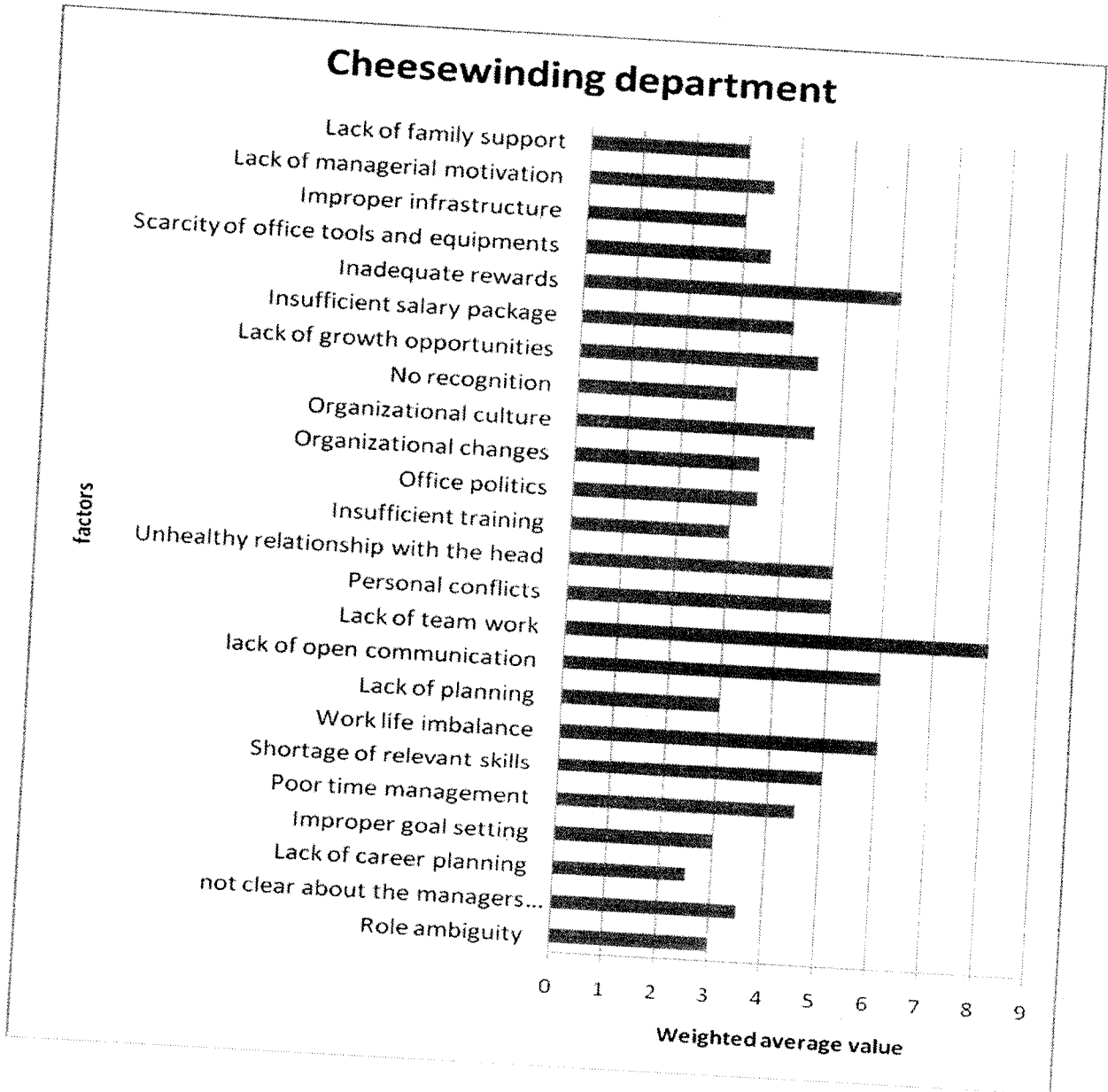
INTERPRETATION:

It has been depicted (chart 3.5.5.1) that the Cheese winding department lacks in team work being the top ranked barrier to the optimum productivity. The rewards have also been the next main factor influencing the optimum productivity and it is not at the level required to achieve the optimum level of productivity. The employees working in this department has been vastly influenced by the work life imbalance and this is evident from the chart that it catches the third position among the barriers to productivity.

The team work and work life imbalance of the employee has been affecting the optimum productivity of this department.

Chart 3.5.5.2 depicts the overall picture of the barriers to optimum productivity in Cheesewinding department.
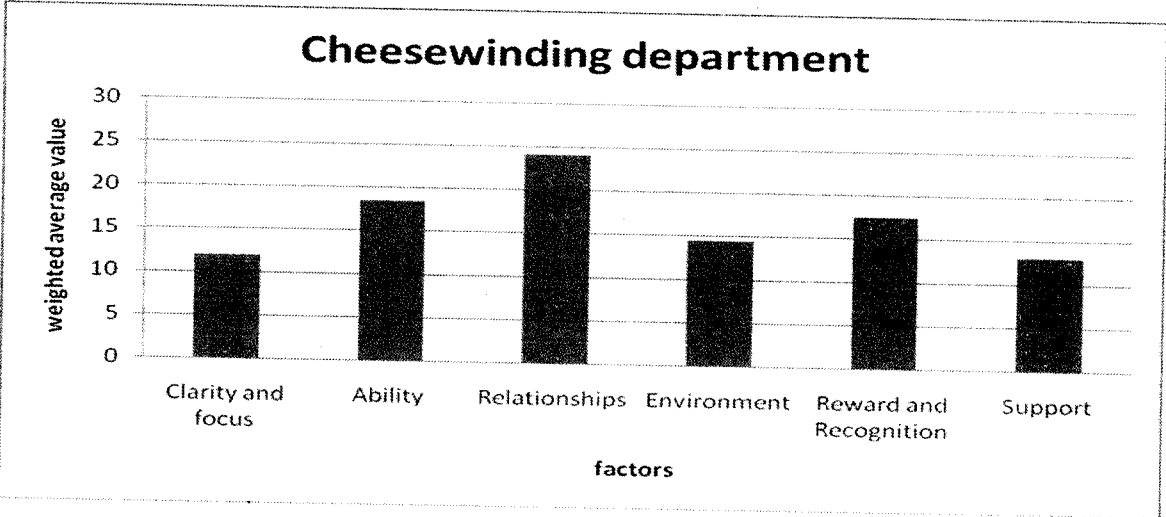
INTERPRETATION:

The chart 3.5.5.2 reveals the relationship factor is the most negatively influencing factor to optimum productivity. The next being the ability of the employees which comes to the forefront in determining the productivity level, but not so in the case of the cheese winding department . The reward and the recognition factors occupy the third major element in determining the optimum productivity.

3.5.6 DOUBLING DEPARTMENT

The Doubling department takes care of the yarn to be produced with particular quality and with the strength needed. The department does it by twisting the two yarns and combining the properties of the two yarn.

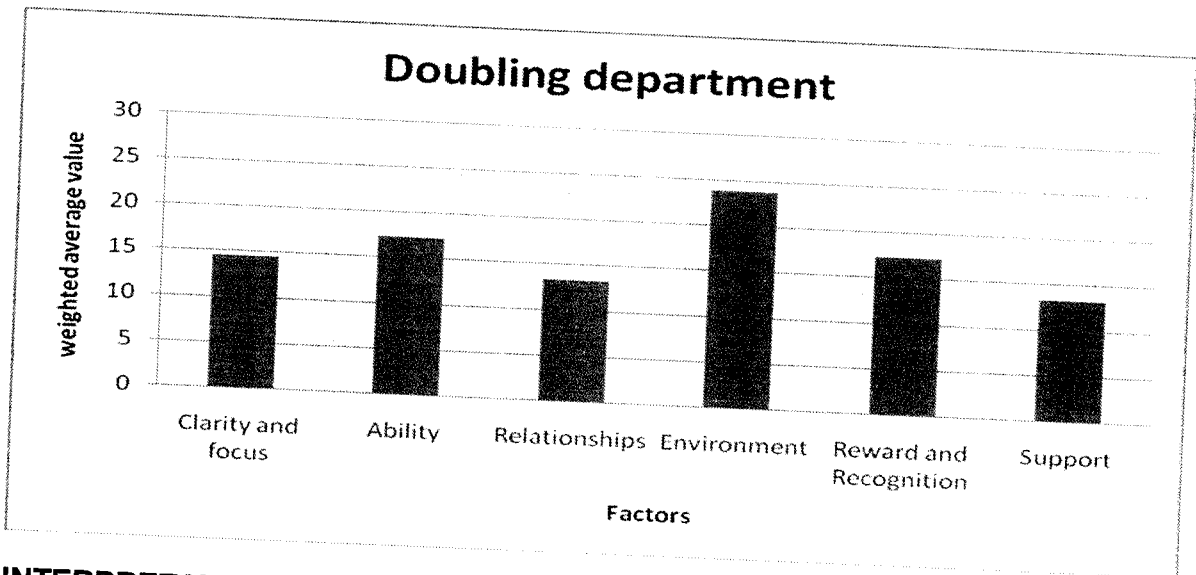**Chart 3.5.6.1 depicts the weighted average of all the productivity barriers identified in Doubling department.**
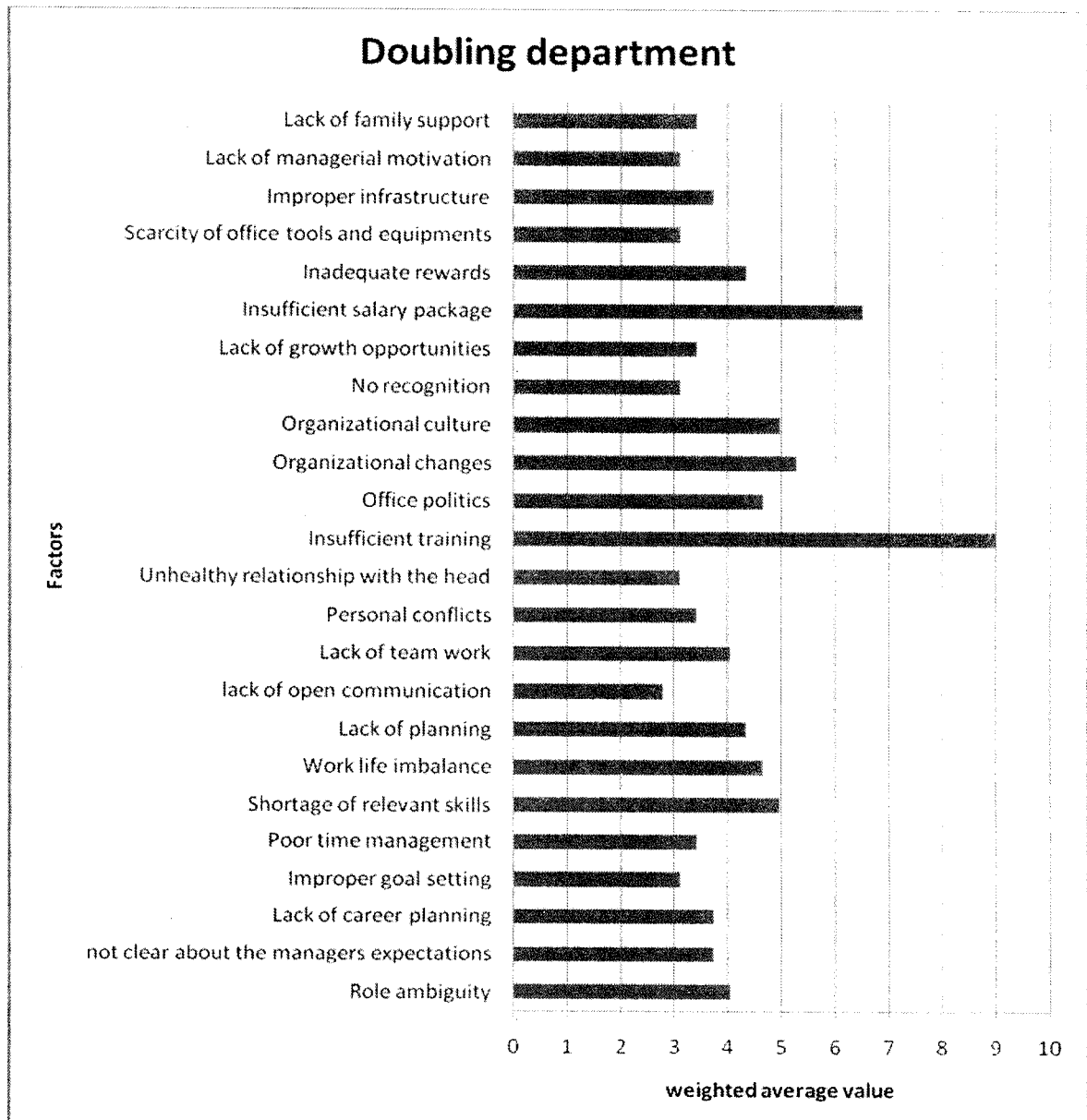
INTERPRETATION:

From the chart 3.5.6.1 it is inferred that the insufficient training ranks high among other barriers to optimum productivity. For grappling with a constantly changing marketplace and internal reorganizations, the training is required to counter the problem. Insufficient salary package has also been the next important barrier for the productivity. The lack of organizational change is the third barrier that has made the organization fails to adapt to the rapid and continual innovation in technology.

The factors training, salary package and adoption to the organizational change plays the vital role in determining the optimum productivity has been revealed from the chart.

Chart 3.5.6.2 depicts the overall picture of the barriers to productivity in Doubling department.

Doubling department — bar chart with y-axis "weighted average value" (0 to 30) and x-axis "Factors": Clarity and focus, Ability, Relationships, Environment, Reward and Recognition, Support.
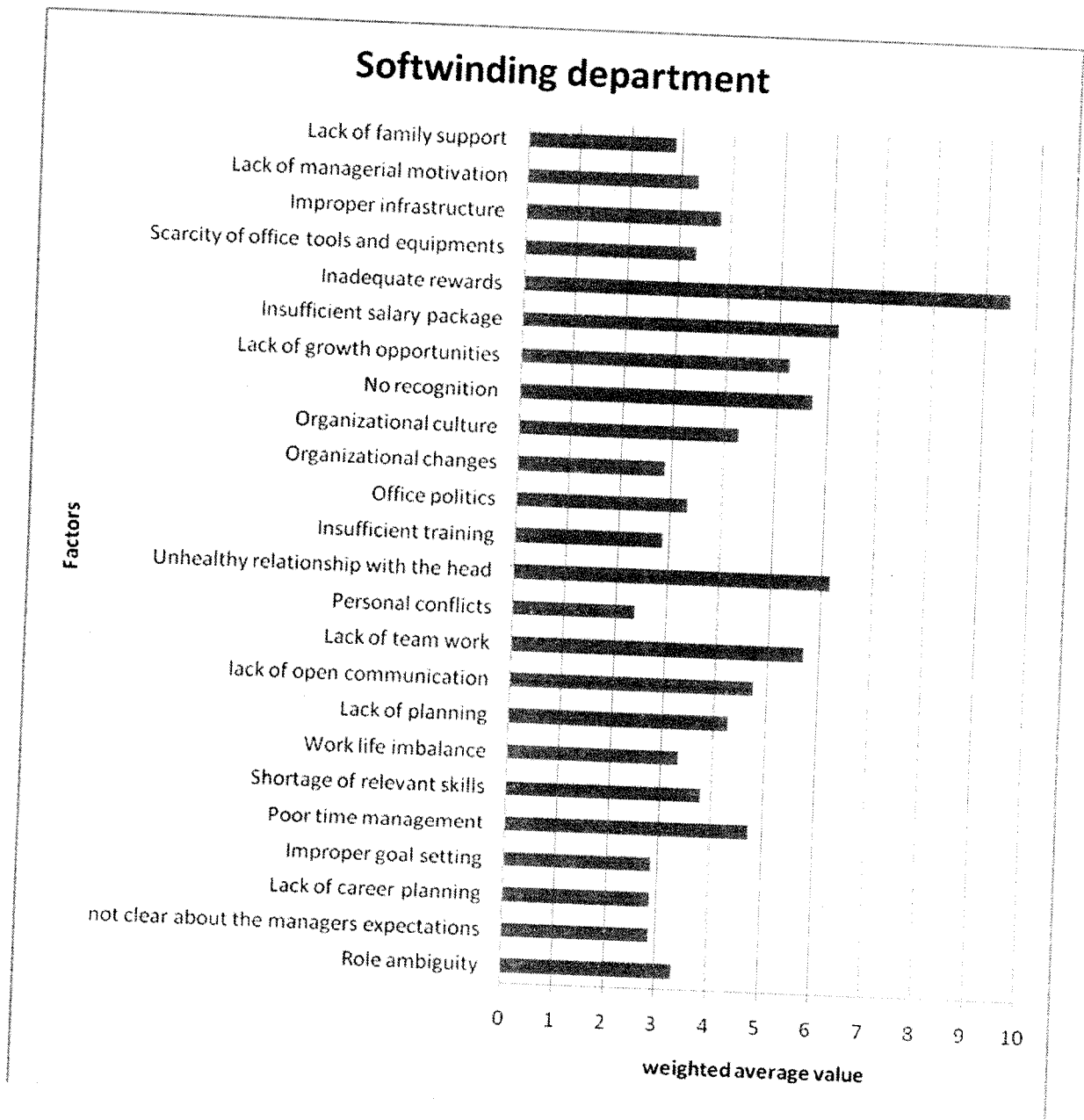
INTERPRETATION:

The chart 3.5.6.2 depicts the environmental factors been instrumental in determining the productivity level and it is the most important barrier in the doubling department. The reward and recognition factors contribute next to the environmental factors. The ability factors ranks third among the barriers in the doubling department also has not been at the affordable level to support the optimum productivity at this department.

3.5.7 SOFTWINDING DEPARTMENT

The soft winding department winds the yarn on the cone with the required tension and density which allows the dyeing of the yarn to be carried out easily. The adjustment of the tension factor holds the key in determining the quality of the yarn.

Chart 3.5.7.1 depicts the weighted average of all the productivity barriers identified in Softwinding department.


Softwinding department

Factors vs weighted average value

INTERPRETATION

The chart 3.5.7.1 reveals the first three important barriers to optimum productivity are inadequate rewards, insufficient salary package and the unhealthy relationship with the head. The insufficient salary package is also enhancing the problems to optimum productivity. The head should be able to command the resources, attention of the employees and should have a strong commitment to the success of the program and the unhealthy relationship with the head will lead to more troubles and affects productivity in a major level.

It has been found that the rewards and the unhealthy relationship with the head have been the barriers found in this department to the optimum productivity.

Chart 3.5.7.2 depicts the overall picture of the barriers to optimum productivity in Softwinding department.
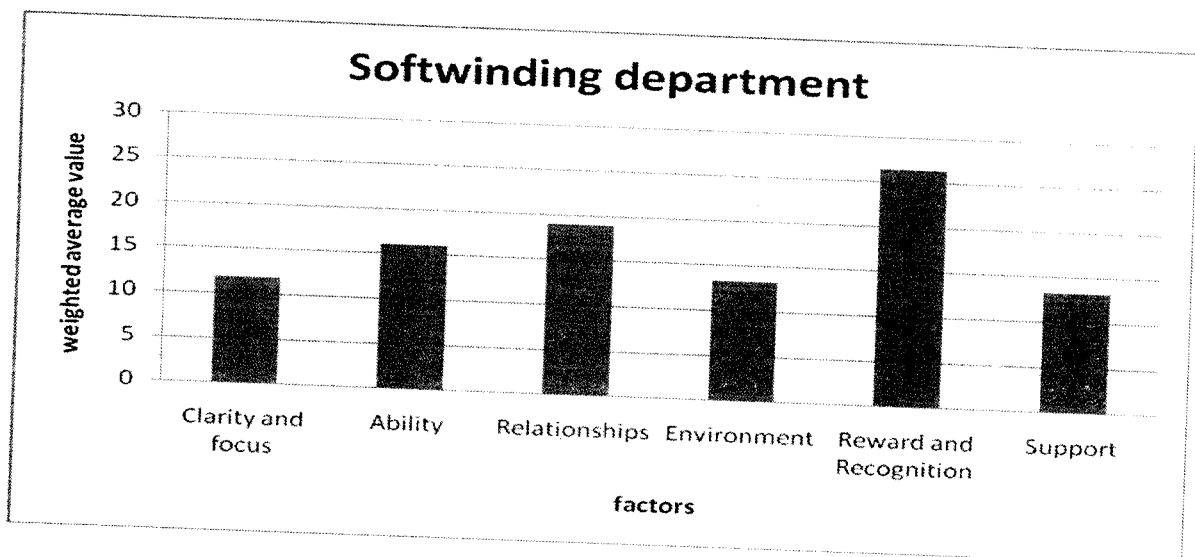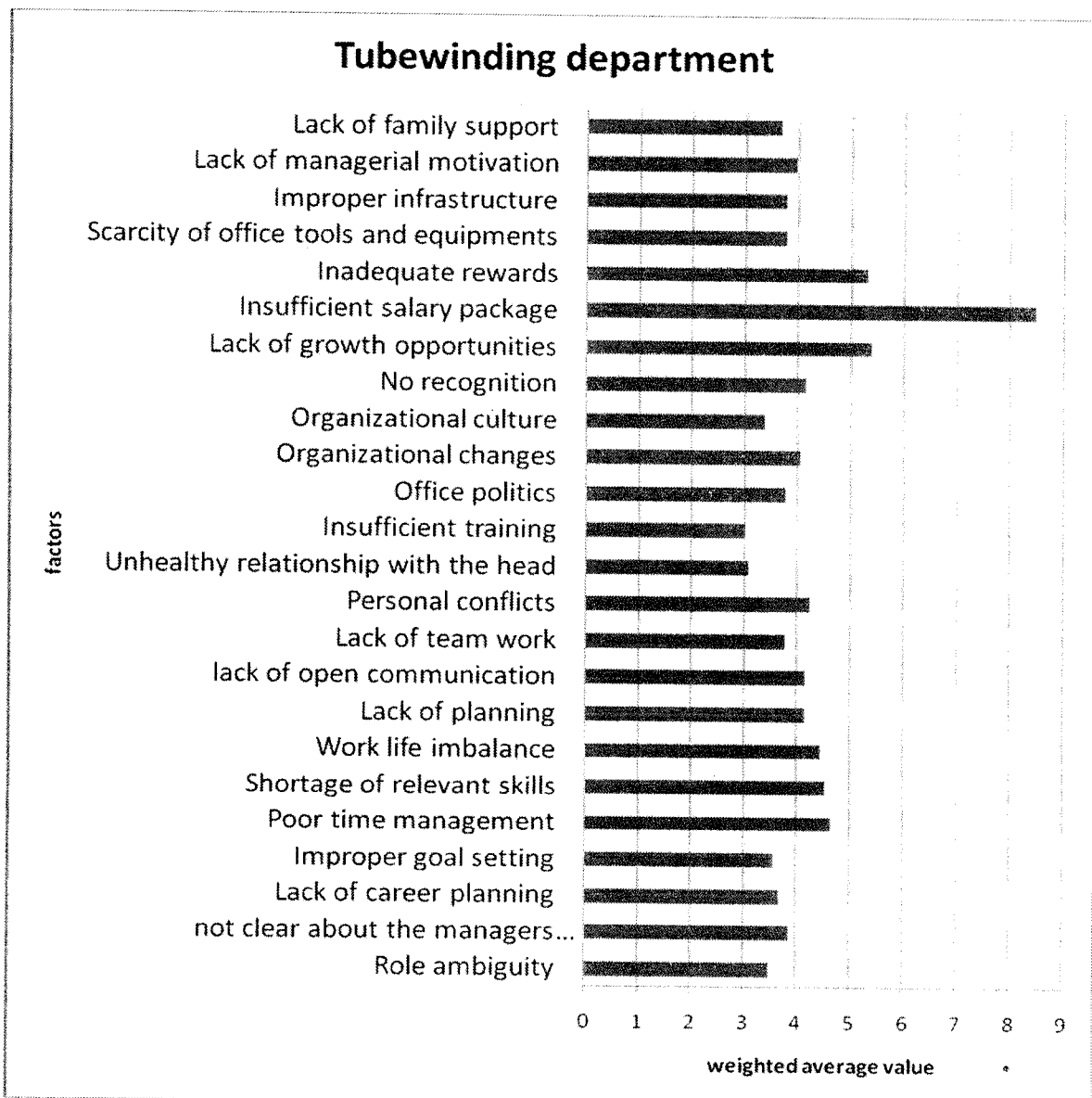

INTERPRETATION:

The chart 3.5.7.2 conveys the reward and the recognition factors, relationship factors and the ability factors has been the top three barriers to optimum productivity. The relationship between the employees and the head of the department is still aggravating the lower productivity level. The lack of training to the employees has been added to the failure in honing the skills of the employees towards optimum productivity.

3.5.8 TUBEWINDING DEPARTMENT

The winding department has got the control over the tube winding section of the department. In tube winding they have been winding the yarn of required density on to the required tubes. The tube winding section has been among the orders throughout the year, because it has got more demand among the garment factories.

**Chart 3.5.8.1 depicts the weighted average of all the productivity barriers identified in Tubewinding department.**

Tubewinding department

INTERPRETATION:

From the barriers identified(chart 3.5.8.1) in the tube winding department, it has been found that the insufficient salary package, inadequate rewards and the lack of growth opportunities have been the first three important barriers to optimum productivity. The organization has failed to give the appropriate salary package that has ruined the productivity level of the employee. The lack of rewards and the growth opportunities found in the department has been the vital force in demoralizing the employees to forward their skills to achieve optimum productivity.

The rewards and the salary package are the key motivating factors that would increase the productivity along with the growth opportunities. But these factors are acting as a barrier to optimum productivity.

Chart 3.5.8.2 depicts the overall picture of the barriers to optimum productivity in Tubewinding department.
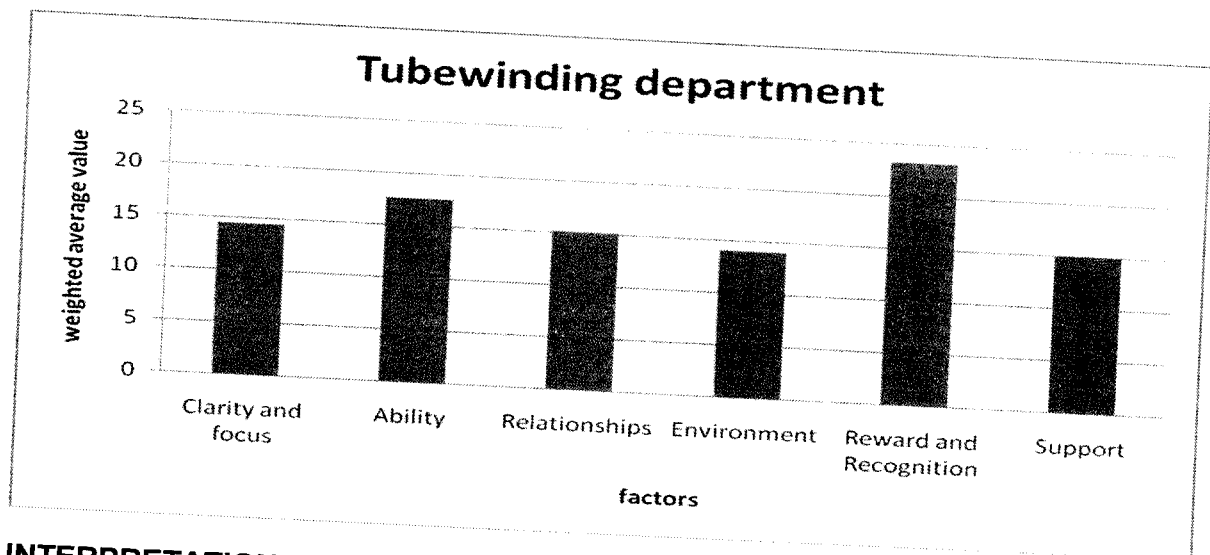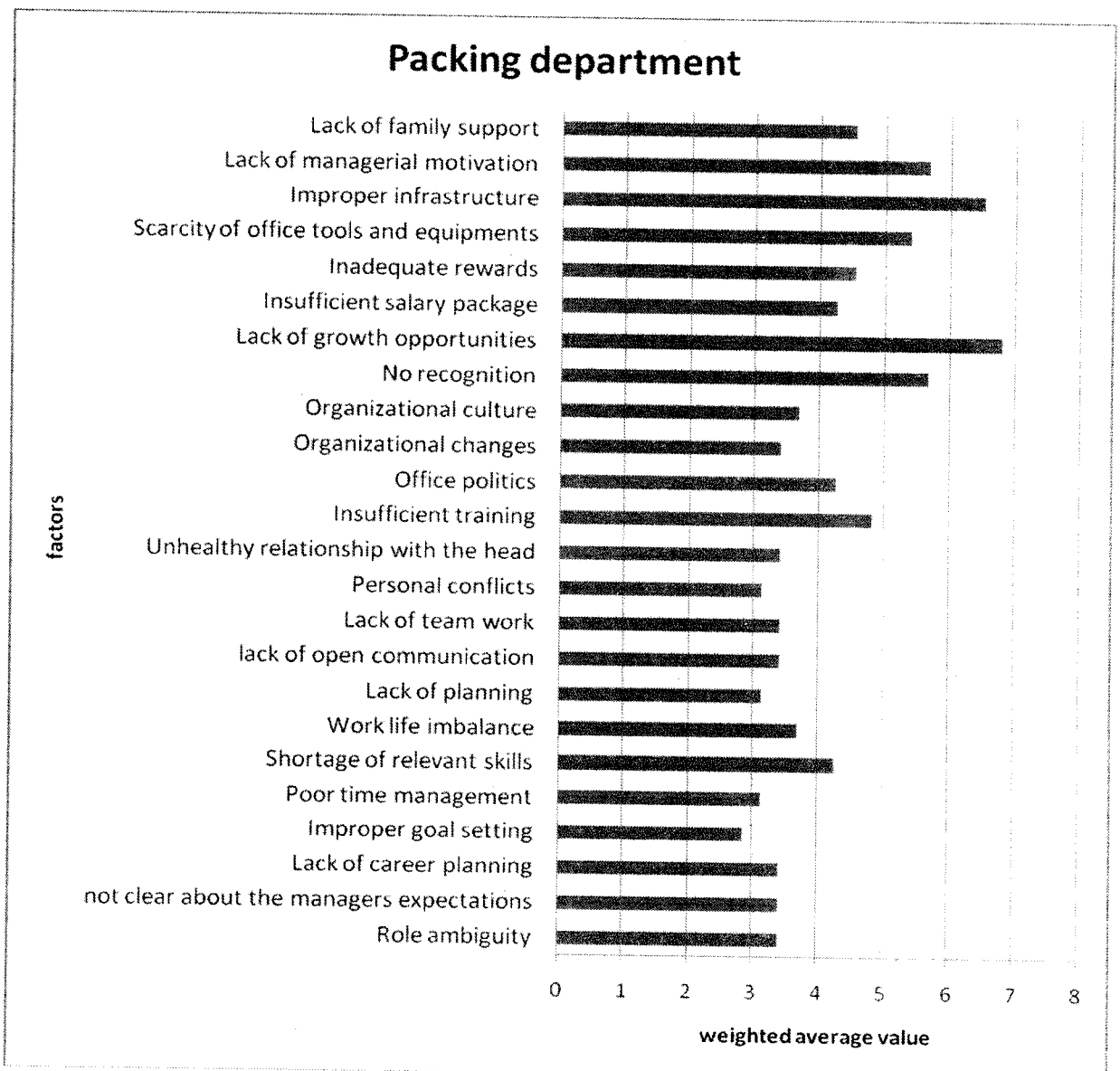

INTERPRETATION:

The overall picture of the optimum productivity suggests the reward and the recognition, ability and the support are the three factors influencing the productivity level of the employees in a vast way. This shows the organization has not been at its best to counter these factors which accounts for the major barriers for optimum productivity at this department.

3.5.9 PACKING DEPARTMENT

The Packing department plays a most important hand in the shipment of goods and in the sales. The mode of packing has got a strong influence on increased sales and the product reach. Now a days, each mills have been giving the packing department more weightage than for the other departments.

**Chart 3.5.9.1 depicts the weighted average of all the productivity barriers identified in Packing department.**

Packing department

INTERPRETATION:

The chart 3.5.9.1for the packing department, it is evident that the lack of growth opportunities, managerial motivation and improper infrastructure ranks top among the other barriers to the optimum productivity. For any packing department, it is fact that there are no great opportunities ahead so the mills have to be much aware in creating growth opportunities and also should focus on the infrastructure to have an effective growth rate in obtaining optimum productivity.

It is clearer that the packing department lacks in growth opportunities and lacks in managerial motivation and thus affecting the productivity of the department.

**Chart 3.5.9.2 depicts the overall picture of the barriers to optimum productivity in Packing department.**
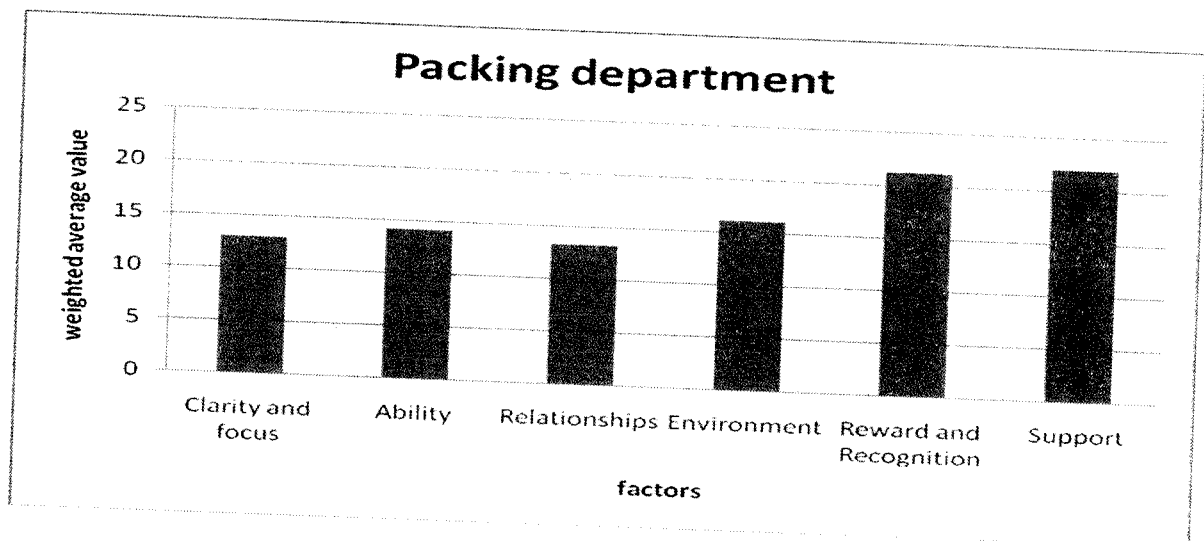
INTERPRETATION:

From the overall picture(chart 3.5.9.2) it is inferred that the reward and the recognition factor and the support factor are the first two barriers in achieving optimum productivity. The rewards are essential for the employees to improve their performance and the support factors are still more essential for the employees to keep them continuously improving throughout.

3.5.10 TECHNICAL STAFF

The technical staff of the organization acts as the deciding factor in determining the productivity level of the machineries and also on the employees by means of training to them. They have to upgrade their knowledge and skills on order to keep in pace with the technological innovation .

Chart 3.5.10.1 depicts the weighted average of all the productivity barriers identified in Technical staff.
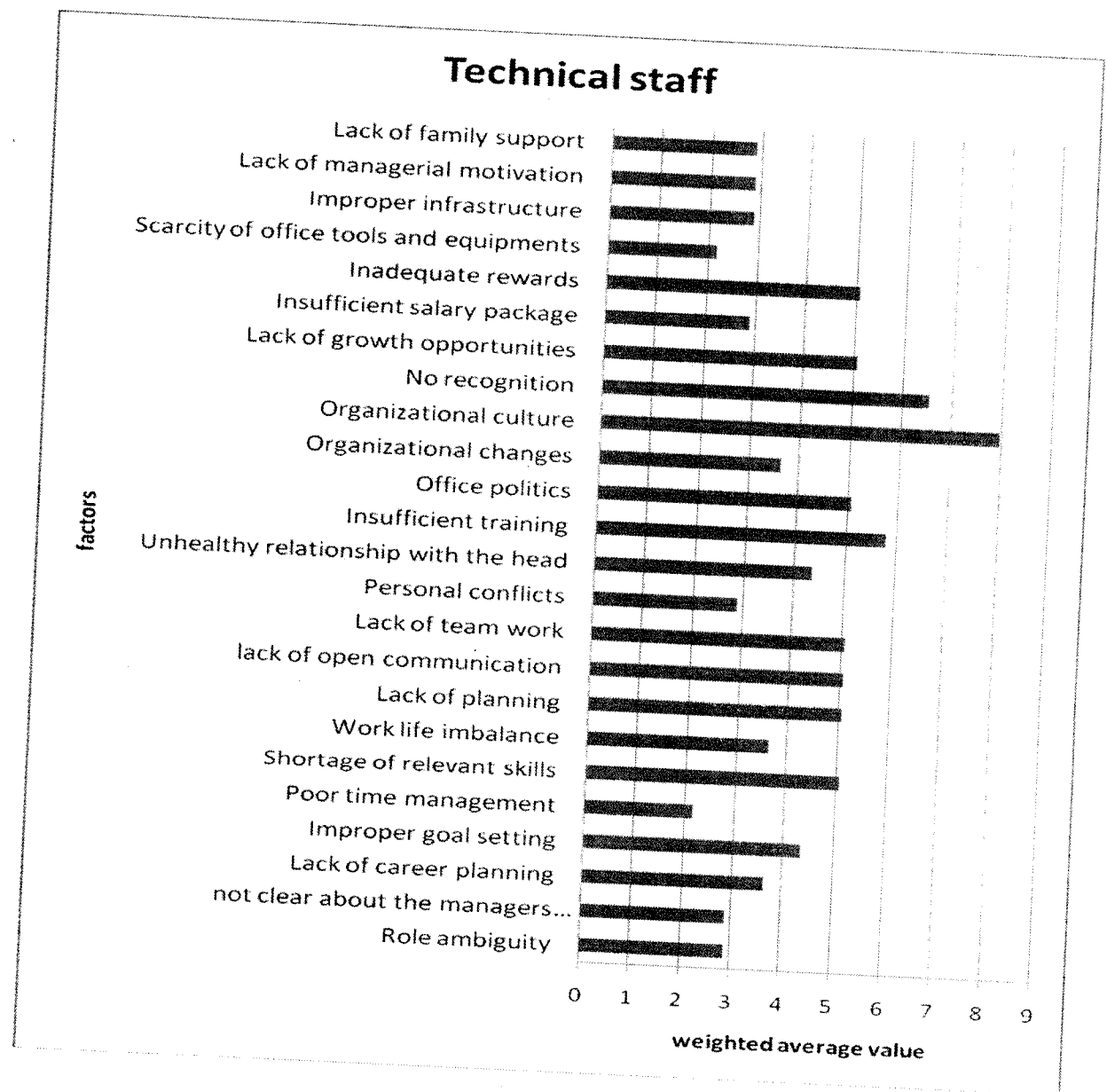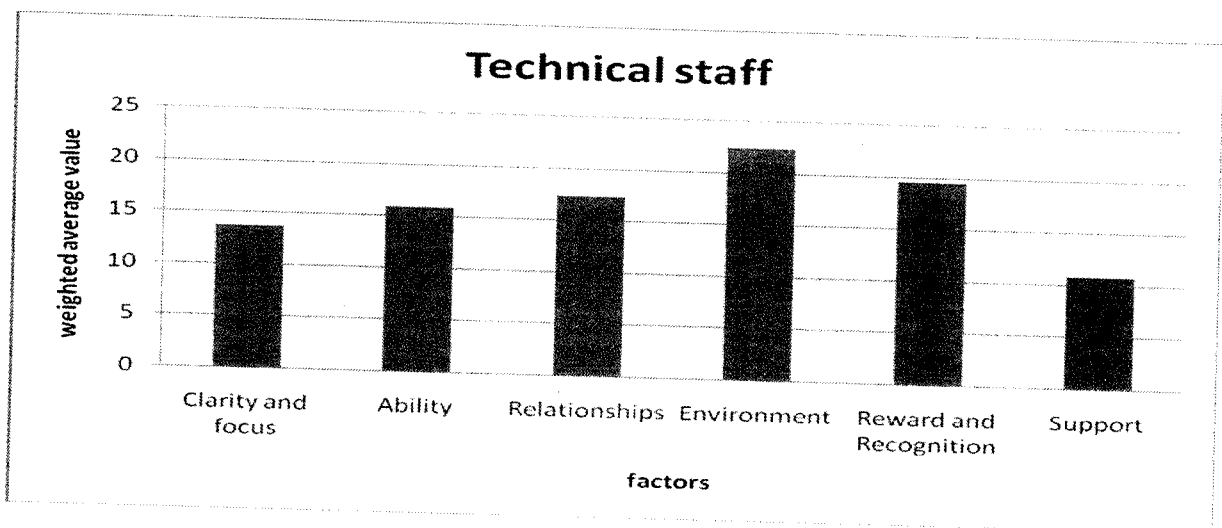

Technical staff

INTERPRETATION:

The chart 3.5.10.1 brings out the factors such as organizational culture, no recognition and insufficient training contributes to the barriers in achieving the optimum productivity. For the technical staffs the organizational culture has to be appropriate in order to have an effective coordination and communication for conveying their ideas and sharing their knowledge. The training has to be given periodically to have them updated against any new technological innovation.

The recognition has been the most essential element for a technical staff else it would affect the productivity level.

Chart 3.5.10.2 depicts the overall picture of the barriers to optimum productivity in Technical staff.

INTERPRETATION:

The chart 3.5.10.2 reveals the environmental factors strongly influences the productivity level of the technical staff as the nature of their work is based on the mind over the matter concept. The next important factor is the reward and the recognition factor as it has been the aspiration for every technical staff to receive rewards . With the absence of these factors, surely the productivity level of the technical staff gets down and hence the big failure in achieving the optimum productivity.

3.6 INTRODUCTION TO SKILL MATRIX

Well-implemented skills management should identify the skills that job roles require, the skills of individual employees, and any gap between the two. The skills involved can be defined by the organization concerned, or by third party institutions. They are usually defined in terms of skills matrix.

3.6.1 SKILL REQUIREMENT FOR SPINNING OPERATORS:

The fourteen skills have been identified essential for the spinning operators are as follows:

1) Spinning operation
2) Spinning tool settings
3) Knowledge on emergency preparation
4) Handling instruments
5) inspection
6) Products and materials knowledge
7) Process knowledge
8) Knowledge on safety
9) Abnormality identification
10) Knowledge on quality standards
11) 5S/Kaizen
12) Loss identification and documentation
13) Multi machine operations
14) Knowledge in multi operations

3.6.2 INTRODUCTION TO SKILL CHART

The skill chart has been put for the spinning department. Both the required and the existing skill level for the employees have been known from the supervisors. A skill chart between the expected and the required level for the employees has been prepared for the spinning department.
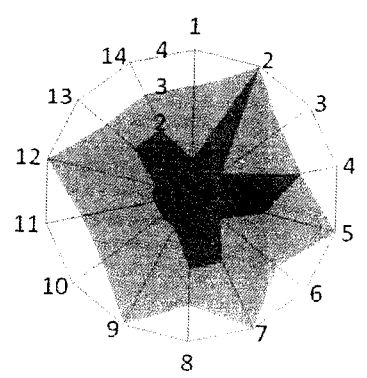
SKILL RADAR CHART

	Si.No	1

Maximum level		Required level		Current level	Date	

Name		R. Rangaraj	Name		C.Krishnan
Department		Spinning	Department		spinning
Ticket.no		143	Ticket.no		155
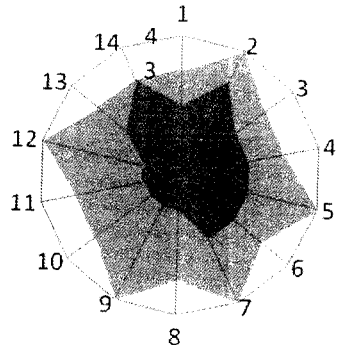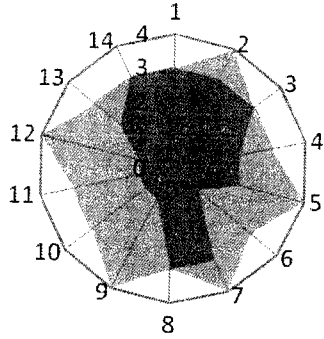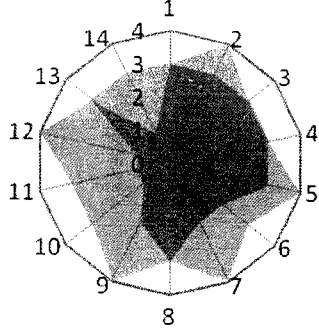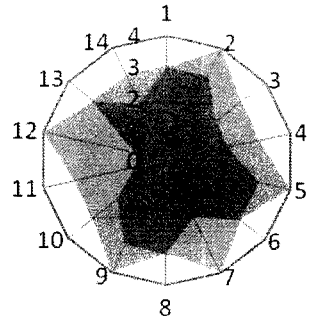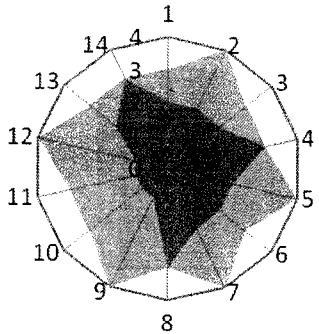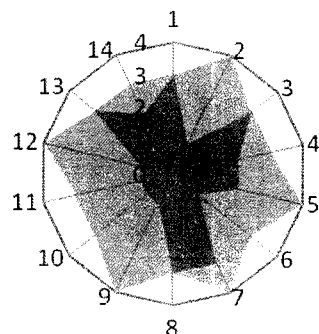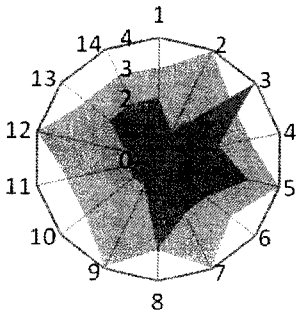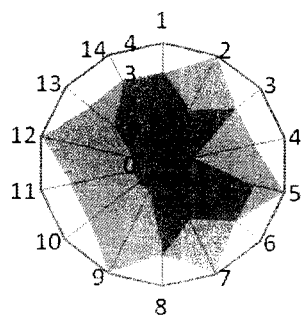
Name		D.Kannan	Name		V.Vasudevan
Department		Spinning	Department		Spinning
Ticket.no		157	Ticket.no		168
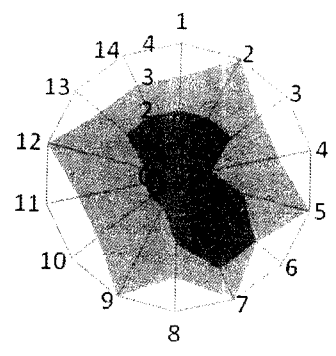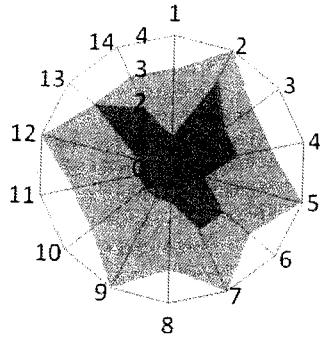
Name		O.Gobi	Name		S.Ramu
Department		Spinning	Department		Spinning
Ticket.no		172	Ticket.no		176
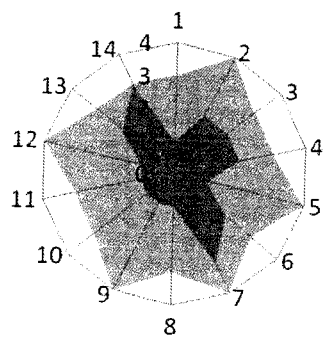
SKILL RADAR CHART

					Si.No	2
					Date	

Maximum level		Required level		Current level	

Name	S.Appusamy	Name	K.Perumal
Department	Spinning	Department	spinning
Ticket.no	179	Ticket.no	180

Name	P.Gurumurthi	Name	S.Kavitha
Department	Spinning	Department	Spinning
Ticket.no	184	Ticket.no	186

Name	M.Latha	Name	N.Prakash
Department	Spinning	Department	Spinning
Ticket.no	199	Ticket.no	205

SKILL RADAR CHART

| Si.No | 3 |

| Maximum level | | Required level | | Current level | | Date | |

Name	R. Rajkumar	Name	M. Rathinasamy
Department	Spinning	Department	spinning
Ticket.no	221	Ticket.no	234
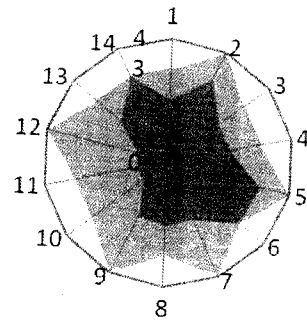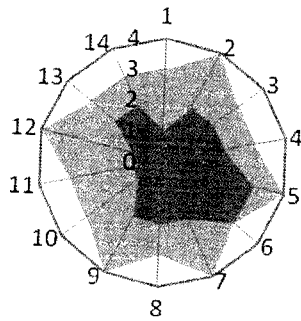
Name	R. Subramaniam	Name	C.Raj
Department	Spinning	Department	Spinning
Ticket.no	239	Ticket.no	243
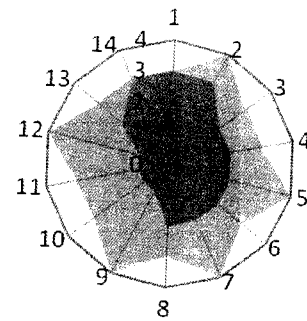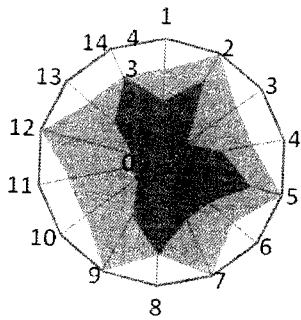
Name	M.Malathi	Name	G.Dhanabal
Department	Spinning	Department	Spinning
Ticket.no	252	Ticket.no	253
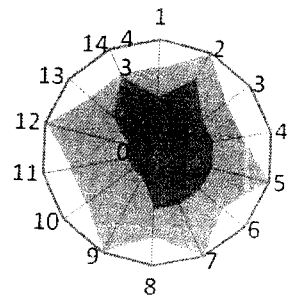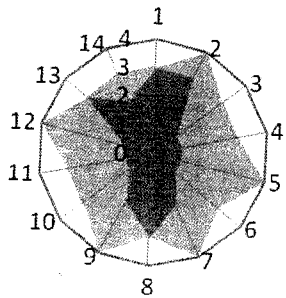
SKILL RADAR CHART

				Si.No	4
				Date	

Maximum level		Required level		Current level	

Name	R. A.Hussain	Name	D.Karthikeyan
Department	Spinning	Department	spinning
Ticket.no	256	Ticket.no	266
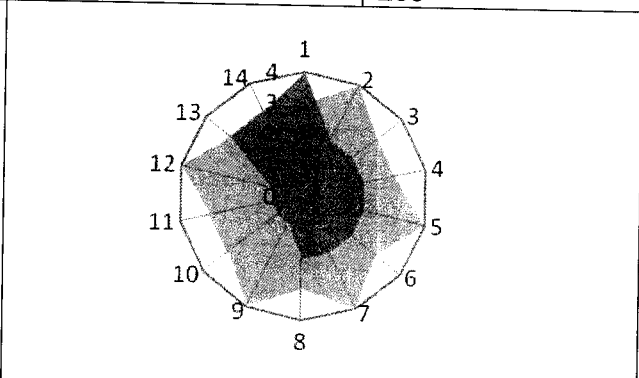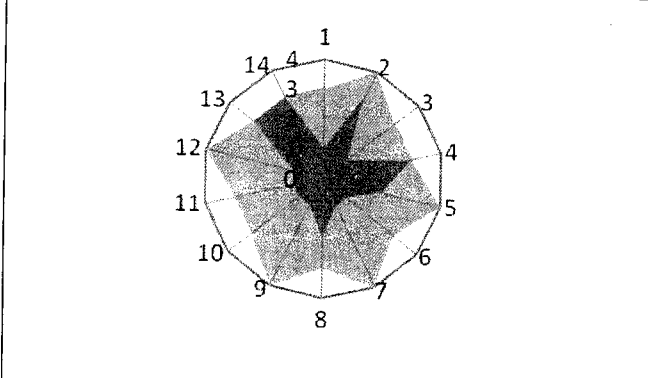
Name	V.Sundraraj	Name	V.Vasanth
Department	Spinning	Department	Spinning
Ticket.no	268	Ticket.no	269
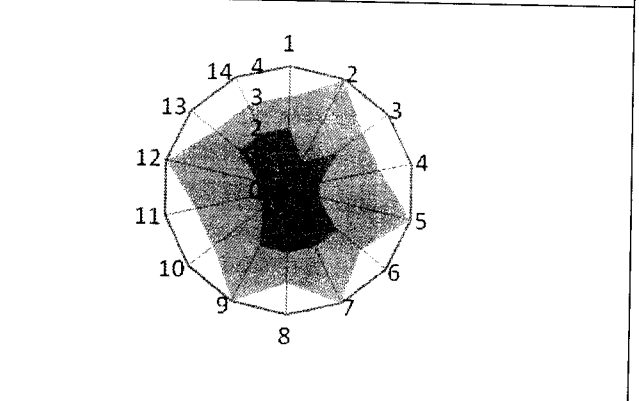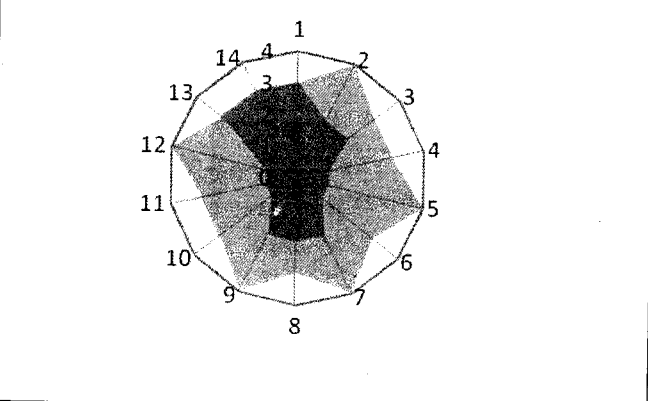
Name	M.Kumarimuthu	Name	P.Ramusamy
Department	Spinning	Department	Spinning
Ticket.no	271	Ticket.no	273
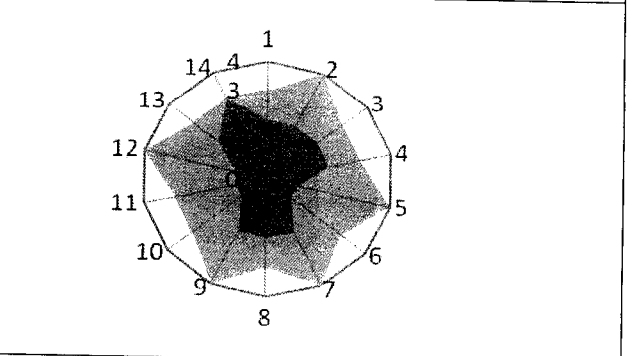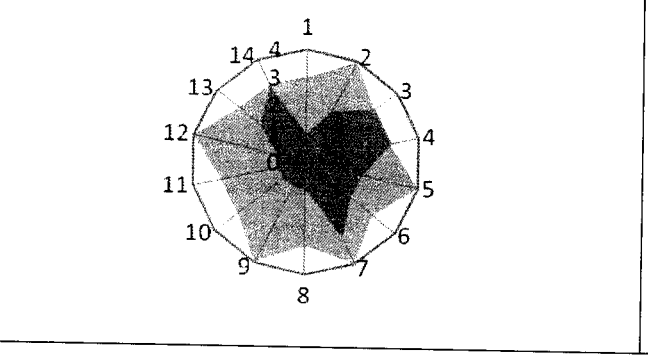
SKILL RADAR CHART			Si.No	5
			Date	

Maximum level		Required level		Current level		
Name		N.Kanakaraj		Name		C.Rangaraj
Department		Spinning		Department		spinning
Ticket.no		274		Ticket.no		275
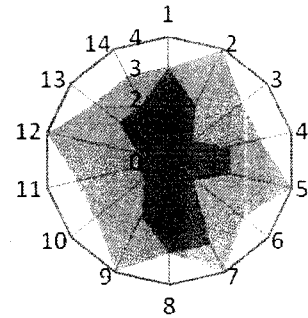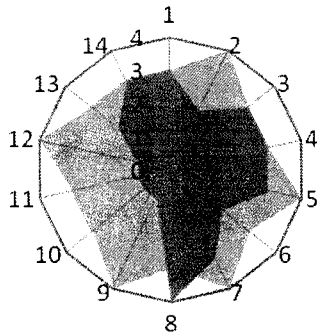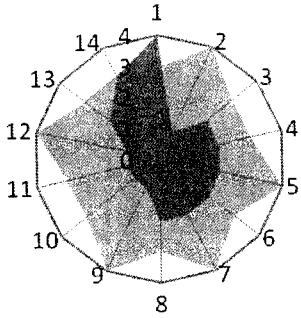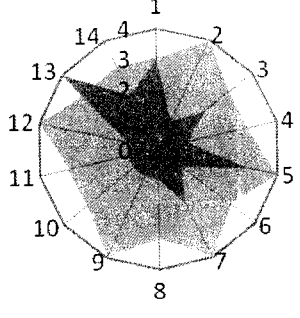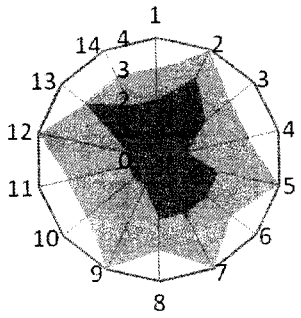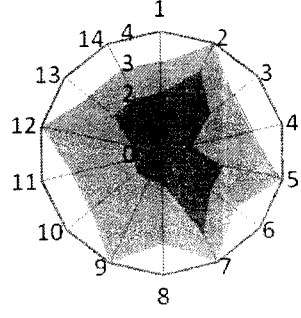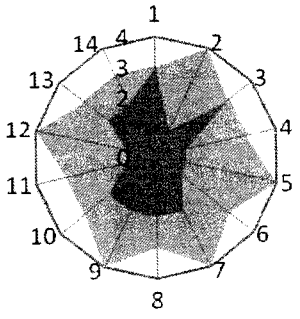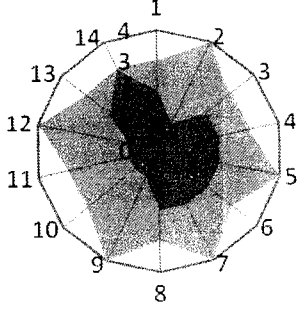
Name	E.Kandasamy	Name	V.Gopinathan
Department	Spinning	Department	Spinning
Ticket.no	278	Ticket.no	279
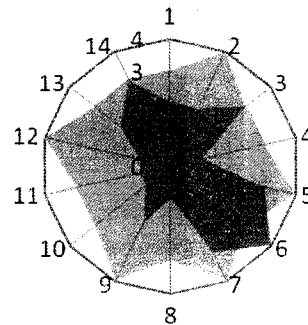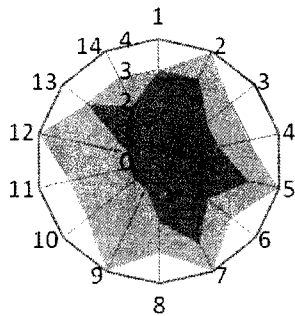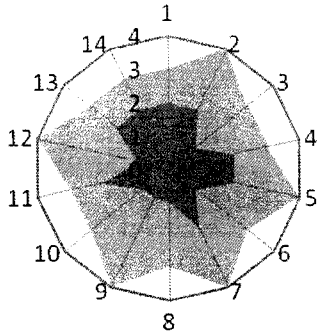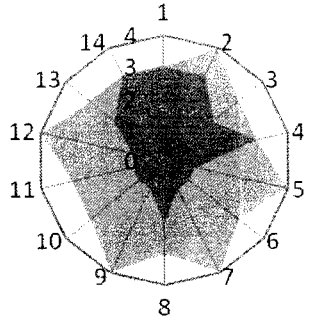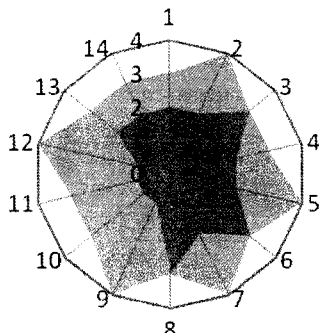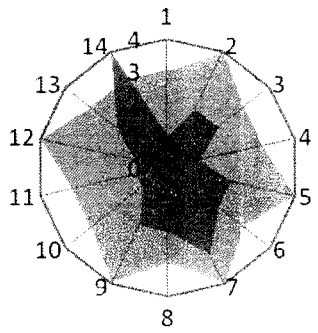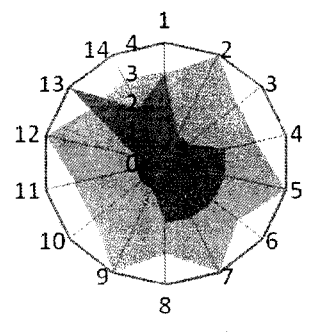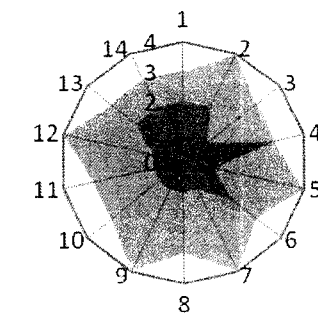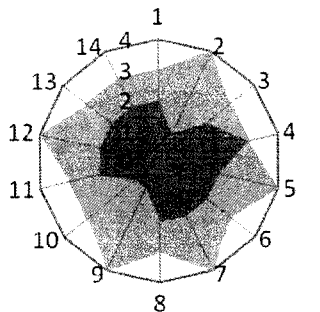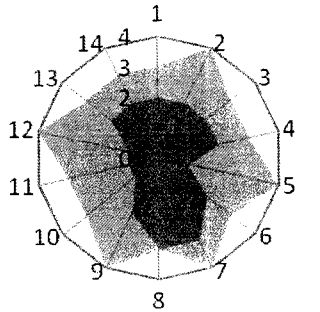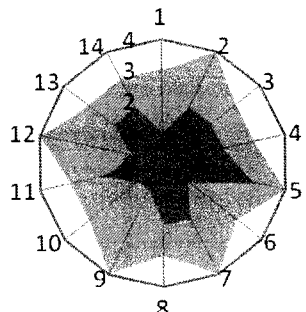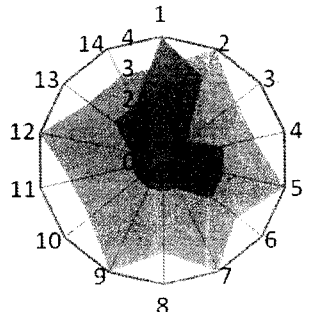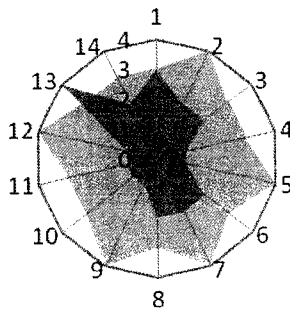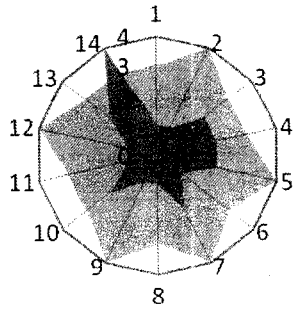
Name	A.Anand	Name	C.Krishnan
Department	Spinning	Department	Spinning
Ticket.no	282	Ticket.no	285
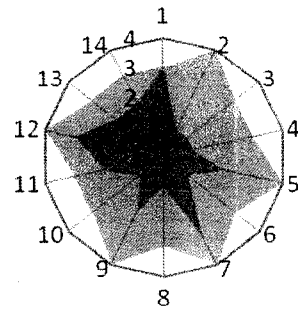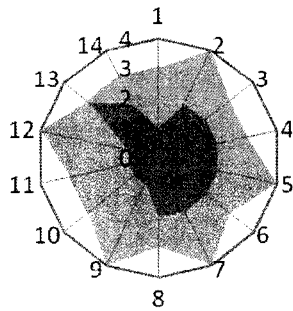
SKILL RADAR CHART

Si.No	6
Date	

Maximum level	☐	Required level	▨	Current level	■

Name	R.Sumathi	Name	M.Periyasamy
Department	Spinning	Department	spinning
Ticket.no	286	Ticket.no	290

Name	V.Selvaraj	Name	D.Nandhini
Department	Spinning	Department	Spinning
Ticket.no	294	Ticket.no	296

Name	N.Vengatachalam	Name	S.Marimuthu
Department	Spinning	Department	Spinning
Ticket.no	299	Ticket.no	300

SKILL RADAR CHART

				Si.No	7
				Date	

Maximum level		Required level		Current level	

Name	C.Eswari	Name	K.Manimala
Department	Spinning	Department	spinning
Ticket.no	302	Ticket.no	306

Name	D.Nithiya	Name	E.Chitra
Department	Spinning	Department	Spinning
Ticket.no	308	Ticket.no	312

Name	N.Savitha	Name	M.Parameswaran
Department	Spinning	Department	Spinning
Ticket.no	314	Ticket.no	315

SKILL RADAR CHART		Si.No	8
		Date	

Maximum level		Required level		Current level	
Name	A.Prabhu	Name	D.Latha		
Department	Spinning	Department	spinning		
Ticket.no	320	Ticket.no	222		

Name	H.Devi	Name	S.Sekar		
Department	Spinning	Department	Spinning		
Ticket.no	234	Ticket.no	336		

Name	A.Parvathi	Name	S.Ramanathan		
Department	Spinning	Department	Spinning		
Ticket.no	342	Ticket.no	343		

3.6.3 CONSOLIDATED SKILL LEVEL CHART

The Skill chart has been applied for all the operators of the spinning department. The X-axis of the chart represents the fourteen skills essential for the spinning operators. The Y- axis represents the number of operators of the spinning department. The consolidated skill level chart reveals the skill level of the spinning operators and it also gives indication to the organization regarding various improvement programme for the employees to sharpen their skills.

Consolidated Skills level

NO OF OPERATORS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
■ level 4	3	1	1	0	0	1	0	1	0	0	0	0	3	2
■ level 3	17	16	9	9	12	6	13	12	1	0	0	1	11	19
■ level 2	18	20	28	26	25	26	31	23	14	3	4	1	34	26
■ level 1	10	11	10	13	11	15	4	12	33	45	44	46	0	1
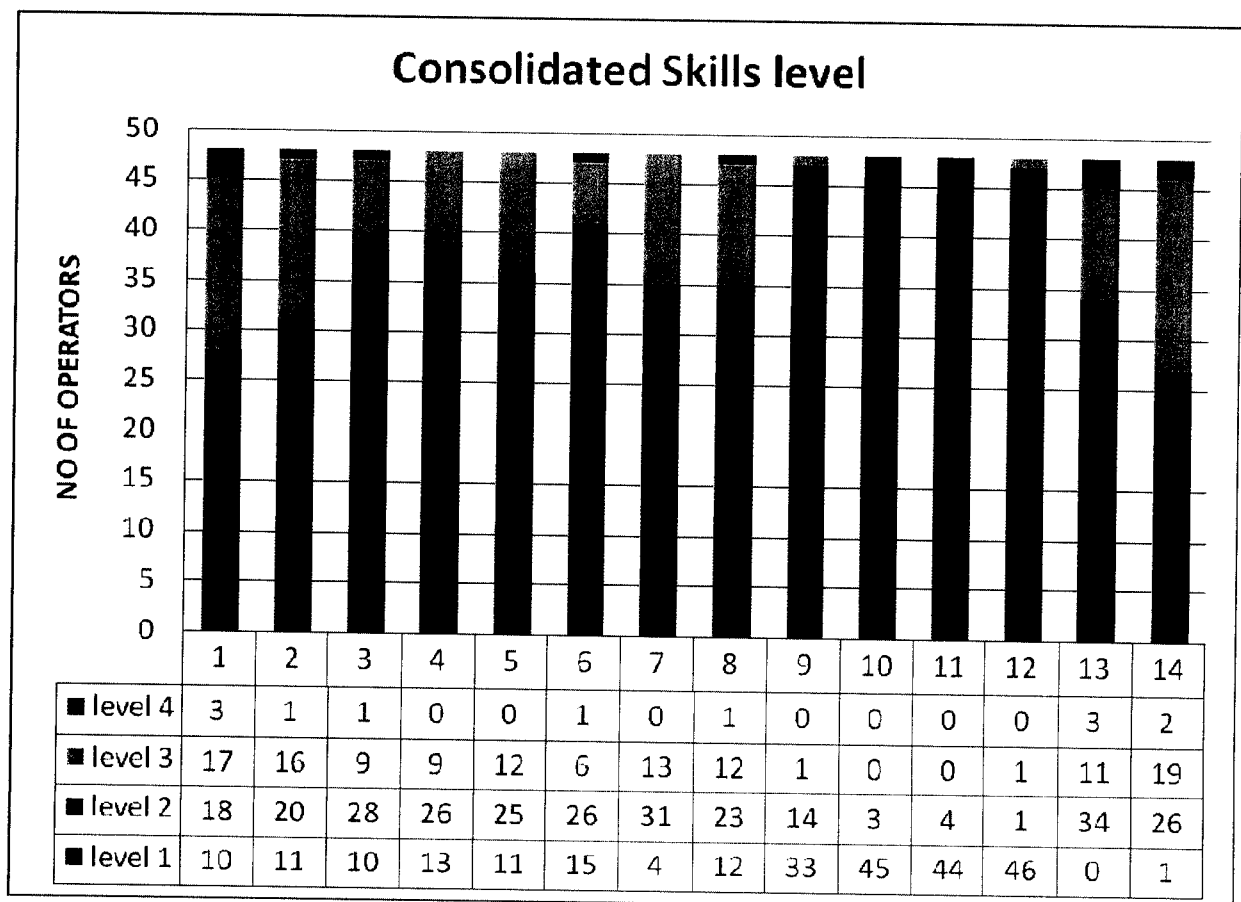
Level 1 : Requires supervision / guidance to perform.

Level 2 : Capable of handling day to day activities independently.

Level 3 : Master in the skill.

Level 4 : Master in the skill and capable of training others.

INTERPRETATION:

The chart reveals the number of operators from level 1 to level 4 has been decreasing. With the increase in the levels the skill level required gets increased and hence finding only the limited number of persons at level 4. For the basic operations skills like spinning, tool settings and emergency operations (1, 2 & 3 skill), there are a number of operators available at all levels. For the skills like abnormality identification (skill 9), 5s/ Kaizen (skill 11) and Loss identification and documentation (skill 12), there are only less number of operators at higher level and in particular there is no operators at level 4.

The skills that require more technicality and training, the number of operators are found to be less. The products and material knowledge (skill 6) and the process knowledge (skill 7) are found to be less aware among the employees of the spinning department. Since these skills require sufficient training and technical knowledge. For the last two skills, multi machine operations and knowledge in multi operations (skill 13 and 14), the number of operators are found to be very less at level 3 and level 4.

Thus, it is more evident that there is lot of areas like abnormality identification, 5s/Kaizen, loss identification and documentation for scope of improvement for employees of the spinning department.

3.7 CORRELATION MATRIX

3.7.1 MULTIPLE CORRELATION ANALYSIS

Multiple Correlation analysis is the statistical tool we can use to describe the degree to which one variable is linearly related to another variable and thus predicting the same between the other variables also. Often, correlation analysis is used in conjunction with regression analysis to measure how well the regression line explains the variation of the dependent variable; Y. correlation can also be used by itself, however, to measure the degree of association between two variables.

Statisticians have developed two measures for describing the correlation between two variables: the coefficient of determination and the coefficient of correlation. The coefficient of determination is the primary way we can measure the extent, or strength, of the association that exists between two variables, X and Y.

3.7.2 THE COEFFICIENT OF CORRELATION

The coefficient of correlation is the second measure that we can use to describe how well one variable is explained by another. When we are dealing with samples, the sample coefficient of correlation is denoted by r and is the square root of the sample coefficient of determination:

$$r = \sqrt{r^2}$$

The relationship, which is expressed by what is known as the correlation coefficient, is represented by a value within the range of -1.00 to +1.00.

A correlation coefficient of +1.00 indicates that two variables move in the same direction at all times. If variable A gains in value, we would expect variable B to gain as well.

A correlation coefficient of 0 indicates that the variable movements are totally random. A gain by variable A provides no insight into the expected movement of variable B.

Table 3.7 CORRELATION MATRIX BETWEEN PRODUCTION FACTORS OF THE CARERS MODEL

	CLARITY & FOCUS	ABILITY	RELATION SHIPS	ENVIRON MENT	REWARD & RECOGNI TION	SUPPORT
CLARITY & FOCUS	1					
ABILITY	0.293	1				
RELATIONS HIPS	0.172	0.338	1			
ENVIRON MENT	0.212	0.282	0.146	1		
REWARD & RECOGNIT ION	0.199	0.235	0.138	-0.122	1	
SUPPORT	-0.034	-0.254	-0.106	-0.072	0.068	1

INTERPRETATION: From the table 3.7.1 it has been inferred that the productivity factor ability and relationship factor has the highest degree of positive association (+0.338) between them. The ability and the clarity and focus factors have got second highest degree of positive association (+0.293) between them. This shows that the improvement in one of these variable have the same effect on the other variable associated. The ability and the support factor have the highest degree of negative association(-0.254) and it shows that the improvement in one decreases the other variable.

Thus, it is inferred that the firm can make use of these association between the variables to analyze and to take steps in rectifying these variables acting as the barriers to optimum productivity.

3.8 CHI-SQUARE:

Chi-square is a test it can be used to determine if categorical data shows any dependency or the two classifications are independent. Test enables us to explain whether or not two attributes are associated. The test statistics show the characteristics of the test; when the data are from a normal distribution, the test statistic is smaller than the level of significance and the hypothesis is accepted. $\chi^2 = \sum \frac{(O-E)^2}{E}$.

This section deals with chi-square analysis to find out if the demographic variables of the respondents have significant influence on the perception of the production factors. The chi-square analysis is performed between the demographic variables like

- Age

- Gender

- Department

- Experience

3.8.1 AGE: Hypothesis: The respondent's age has no significant influence on the perception of the production factors.

Table 3.8.1 shows the chi-square analysis between age and production factors

Factors	Chi-square value	P value	Result	Hypothesis
Role ambiguity	12.126	0.735	Not significant	Accepted
Not clear about the managers expectations	7.847	0.449	Not significant	Accepted
Lack of career planning	15.078	0.519	Not significant	Accepted
Improper goal setting	8.325	0.402	Not significant	Accepted
Poor time management	10.3790	0.846	Not significant	Accepted
Shortage of relevant skills	30.779	0.014	Significant	Rejected
Work life imbalance	6.351	0.897	Not significant	Accepted
Lack of planning	43.207	0.000	Significant	Rejected
lack of open communication with managers, peers and subordinates	8.878	0.713	Not significant	Accepted
Lack of team work	11.151	0.800	Not significant	Accepted
Personal conflicts	26.317	0.010	Significant	Rejected
Unhealthy relationship with the head	12.567	0.401	Not significant	Accepted
Insufficient training	15.173	0.512	Not significant	Accepted
Office politics	15.408	0.495	Not significant	Accepted
Organizational changes	21.722	0.043	Significant	Rejected
Organizational culture	10.939	0.813	Not significant	Accepted
No recognition	12.511	0.708	Not significant	Accepted
Lack of growth opportunities	16.131	0.444	Not significant	Accepted
Insufficient salary package	19.947	0.223	Not significant	Accepted
Inadequate rewards	16.588	0.413	Not significant	Accepted
Scarcity of office tools and equipments	3.519	0.898	Not significant	Accepted
Improper infrastructure	13.268	0.350	Not significant	Accepted
Lack of managerial motivation	14.443	0.566	Not significant	Accepted
Lack of family support	5.285	0.727	Not significant	Accepted

Interpretation:

The chi square test for the age of the respondents have revealed the factors like shortage of relevant skills, lack of planning, personal conflicts and the organizational changes have got the p value less than 0.05. Hence the hypothesis has been rejected and thus proving that the respondent's age has significant influence on the perception of the production factors.

3.8.2 GENDER: Hypothesis: The respondent's gender has no significant influence on the perception of the production factors.

Table 3.8.2 shows the chi-square analysis between Gender and production factors

Factors	Chi-square value	P value	Result	Hypothesis
Role ambiguity	4.406	0.354	Not significant	Accepted
Not clear about the managers expectations	2.822	0.244	Not significant	Accepted
Lack of career planning	16.027	0.001	Significant	Rejected
Improper goal setting	0.460	0.795	Not significant	Accepted
Poor time management	3.823	0.430	Not significant	Accepted
Shortage of relevant skills	4.541	0.338	Not significant	Accepted
Work life imbalance	16.709	0.002	Significant	Rejected
Lack of planning	2.800	0.592	Not significant	Accepted
lack of open communication with managers, peers and subordinates	2.460	0.483	Not significant	Accepted
Lack of team work	5.908	0.206	Not significant	Accepted
Personal conflicts	15.506	0.004	Significant	Rejected
Unhealthy relationship with the head	0.050	0.997	Not significant	Accepted
Insufficient training	3.756	0.440	Not significant	Accepted
Office politics	2.766	0.598	Not significant	Accepted
Organizational changes	4.514	0.211	Not significant	Accepted
Organizational culture	18.840	0.001	Significant	Rejected
No recognition	2.638	0.620	Not significant	Accepted
Lack of growth opportunities	2.318	0.677	Not significant	Accepted
Insufficient salary package	15.613	0.004	Significant	Rejected
Inadequate rewards	6.364	0.174	Not significant	Accepted
Scarcity of office tools and equipments	0.065	0.968	Not significant	Accepted
Improper infrastructure	1.741	0.628	Not significant	Accepted
Lack of managerial motivation	2.908	0.573	Not significant	Accepted
Lack of family support	2.701	0.259	Not significant	Accepted

Interpretation:

The chi square test for the genders influence on the perception of the production factors reveals the factors like lack of career planning, work life imbalance, personal conflicts, organizational culture and insufficient salary package have got the p value less than 0.05 and hence the hypothesis has been rejected. This shows these factors have shown the respondents gender has significant influence on the perception of the production factors.

3.8.3 DEPARTMENT: Hypothesis: The respondent's departments have no significant influence on the perception of the production factors.

Table 3.8.3 shows the chi-square analysis between department and production factors

Factors	Chi-square value	P value	Result	Hypothesis
Role ambiguity	90.850	0.000	significant	Rejected
Not clear about the managers expectations	84.177	0.000	Significant	Rejected
Lack of career planning	87.838	0.000	Significant	Rejected
Improper goal setting	59.142	0.000	Significant	Rejected
Poor time management	35.804	0.478	Not significant	Accepted
Shortage of relevant skills	80.176	0.000	Significant	Rejected
Work life imbalance	48.306	0.007	Significant	Rejected
Lack of planning	73.073	0.000	Significant	Rejected
lack of open communication with managers, peers and subordinates	51.030	0.003	Significant	Rejected
Lack of team work	63.578	0.003	Significant	Rejected
Personal conflicts	28.311	0.395	Not significant	Accepted
Unhealthy relationship with the head	56.794	0.001	Significant	Rejected
Insufficient training	87.932	0.000	Significant	Rejected
Office politics	40.935	0.263	Not significant	Accepted
Organizational changes	33.950	0.168	Not significant	Accepted
Organizational culture	78.396	0.000	Significant	Rejected
No recognition	56.171	0.017	Significant	Rejected
Lack of growth opportunities	46.648	0.110	Not significant	Accepted
Insufficient salary package	47.490	0.095	Not significant	Accepted
Inadequate rewards	68.533	0.001	Significant	Rejected
Scarcity of office tools and equipments	23.479	0.173	Not significant	Accepted
Improper infrastructure	33.290	0.188	Not significant	Accepted
Lack of managerial motivation	43.036	0.195	Not significant	Accepted
Lack of family support	19.943	0.336	Not significant	Accepted

Interpretation:

The Chi Square test for the department reveals the significance of the factors to the optimum productivity of the department. The factors like role ambiguity, not clear about manager's expectations, lack of career planning, improper goal setting, etc have got the p value less than 0.05. Hence, the research hypothesis is rejected, showing the respondents department s have significant influence on the perception of production factors.

3.8.4 EXPERIENCE: Hypothesis: The respondent's experience has no significant influence on the perception of the production factors.

Table 3.8.4 shows the chi-square analysis between experience and production factors

Factors	Chi-square value	P value	Result	Hypothesis
Role ambiguity	13.816	0.612	Not significant	Accepted
Not clear about the managers expectations	16.934	0.031	Significant	Rejected
Lack of career planning	17.865	0.332	Not significant	Accepted
Improper goal setting	6.003	0.647	Not significant	Accepted
Poor time management	9.559	0.889	Not significant	Accepted
Shortage of relevant skills	10.433	0.843	Not significant	Accepted
Work life imbalance	11.124	0.518	Not significant	Accepted
Lack of planning	12.600	0.702	Not significant	Accepted
lack of open communication with managers, peers and subordinates	21.266	0.047	Significant	Rejected
Lack of team work	7.892	0.952	Not significant	Accepted
Personal conflicts	15.138	0.515	Not significant	Accepted
Unhealthy relationship with the head	15.556	0.212	Not significant	Accepted
Insufficient training	26.824	0.008	Significant	Rejected
Office politics	29.572	0.020	Significant	Rejected
Organizational changes	12.566	0.401	Not significant	Accepted
Organizational culture	11.038	0.807	Not significant	Accepted
No recognition	31.096	0.013	Significant	Rejected
Lack of growth opportunities	41.744	.0	Significant	Rejected
Insufficient salary package	38.760	0.001	Significant	Rejected
Inadequate rewards	18.682	0.285	Not significant	Accepted
Scarcity of office tools and equipments	5.243	0.731	Not significant	Accepted
Improper infrastructure	9.841	0.630	Not significant	Accepted
Lack of managerial motivation	27.459	0.037	Significant	Rejected
Lack of family support	7.559	0.478	Not significant	accepted

The chi square test for the experience of the respondents have revealed the factors like not clear about the managers expectations, lack of open communication, insufficient training, office politics, no recognition, lack of growth opportunities, insufficient salary package and the lack of managerial motivation have got the p value less than 0.05. Hence the hypothesis has been rejected and revealing the respondents experience has significant importance on the perception of the production factors.

CONCLUSION

CHAPTER 4

4.1 FINDINGS

1. The t test reveals that there exists a significant difference between the employees' current productivity and optimum productivity. This has been evident that the t value (-9.666) lies outside the accepted region (-1.699 $\leq$ +1.699) for the tests conducted with 30 respondents.

2. The percentage analysis conducted on the respondents for age has shown that the percentage of employees in the age group (20-30 years) is more at 34.15 % when compared to 4.88% of employees in the age group above 50 years.

3. The percentage analysis for the departments have revealed the Percentage of employees working in the tube winding department has been more at 32.93% when compared to spinning, autoconer and technical staff which are at 3.66%.

4. The percentage of male workers working in the mill (56.09%) has been more compared to 43.91% of females working in the mill has been found from the percentage analysis.

5. The percentage analysis for the experience of the employees working in the mill reveals the percentage of employees having 2-4 years of experience has been more at 36.59% when compared to the employees having more than 8 years of experience which is at 10.98%.

6. The weighted average value tested for the barriers to the optimum productivity have identified the insufficient salary package (6.04), inadequate rewards (5.08) and the lack of growth opportunities (5.04) have been the top three barriers affecting the optimum productivity. These factors have been ranked 1, 2 and 3 respectively.

7. The ranking based on the weighted average value has also shown the scarcity of office tools and equipments (3.5) and the lack of family support (3.4) does not have much influencing weightage on the barriers to the optimum productivity and these two factors occupy the last two rankings respectively.

8. From the Overall analysis of the CARERS model for all departments reveals the Reward and recognition factor stood first as the barrier to the optimum productivity.

9. The CARERS model for the preparatory department has revealed the Clarity and focus has been the largest proportion contributing to the barriers to the optimum productivity.

10. The CARERS model for the Doubling, Cone winding and for the technical staffs have revealed the environment factor have been the most vital factors affecting the optimum productivity for this departments.

11. The Support factor of the CARERS model for the Auto coner and Packing department have found to be the most important factor acting as a hindrance to the optimum productivity.

12. The reward and recognition factors of the CARERS model have been the prime barriers to the optimum productivity of Soft winding and Tube winding departments of the organization.

13. For the Spinning and the Cheese winding department, the ability and the relationship factors of the CARERS model have been acting as the first important barrier to the optimum productivity of the respective department.

14. The consolidated skill level chart for the 48 employees of the spinning department for the fourteen skills have shown the number of operators are very few in the level 4 category but there are more number of operators at the level 1 and level 2 category.

15. The correlation matrix for the CARERS model have found out the correlation coefficient for the ability and the relationships factor (0.338) have got the highest degree of positive association. The ability and the clarity and focus factors (0.293) have got the next higher degree of positive association.

16. The correlation matrix have also reveals the correlation coefficient between the ability and the support factor (-0.254) have got the higher degree of negative association showing with the increase in the ability of the employees the support required to do the work is getting decreased.

17. The reward and recognition and the ability factor(0.235) have got the fourth higher degree of positive association in the correlation matrix showing with the increase in the ability of the employee , the reward and recognition for the employee is also expected to be increased with it.

18. The Chi square tests for the respondent's age have shown that the factors lack of planning (p=0.00) and the personal conflicts (p=0.01) has got significant influence on the perception of the production factors.

19. The Chi square tests for the respondent's gender have shown the factors like lack of career planning (p=0.001), work life imbalance (p=0.002), personal conflicts (p=0.004) and organizational culture (p=0.001) got more significance over the perception of the production factors.

20. The Chi square tests for the respondent's experience have indicated the factors like managers expectations (p=0.039), lack of open communication (p=0.047), insufficient training (p=0.008), office politics, no recognition (p=0.013), lack of growth opportunities (p=.0), insufficient salary package (p=0.001) and the lack of managerial motivation (p=0.037) have got significant influence on the perception of the production factors.

21. The Chi square tests for the respondent's departments have revealed the factors role ambiguity, not clear about the manager's expectations, lack of career planning, improper goal setting and lack of planning have got very less p(.0) value. This concludes these factors have got more influence over the perception of the production factors.

4.2 SUGGESTIONS:

1) The t test reveals that there exists a significant difference the employees current productivity and the optimum productivity. The t test should be carried out regularly to find out the improvement in the employee's work productivity. The t test will give the organization the much needed path to fix the goal and to plan accordingly in order to achieve the optimum productivity. The t test has to be conducted for different respondents and their productivity level at that time will be revealed. Thus the tests will help to evaluate the employees not only to the organization but also for themselves to know how far employee's productivity has been par with the optimum productivity.

   The organization has to plan for the productivity based reward system. This will certainly raise the morale of the employee and also the productivity level of the employees.

2) The percentage analysis has shown the employees in the age group 20-30 are more. So, it is important for the organization to tap and utilize the resources properly. The employees working with high experience is found to be less in this organization. The management have to motivate the experienced employees by means of offering higher salary packages and also by offering scope for career development.

3) The weighted average value has been used to find out the major barriers to the optimum productivity for the individual departments and also for the organization as a whole. The weighted average value for the overall department has shown the insufficient salary package and the reward and recognition factors have been the vital factor affecting the optimum productivity.

   The organization has to take immediate remedial action over these barriers by revising the pay package for the employees. The reward and the recognition for the employees have to be fixed on some quantitative manner. This would make the employees to understand that the system has been

transparent and anyone can improve their performance to achieve the rewards and the recognitions. This would be the ideal way for the organization to propel towards the optimum productivity.

4) The CARERS model has been found useful for the organization to find out the important barrier to the optimum productivity in each department. On an overall, it has been found that the reward and the recognition is the key barrier to the optimum productivity.

The organization has to formulate a suitable measure for awarding the rewards and recognition based on any quantitative and transparent system of evaluation of the employees.

5) The consolidated skill level chart for the spinning department reveals that there are many skills that the employees have to be getting trained. The number of employees working at level 4 has been very less. The organization has to take necessary steps and care in making the employees to improve from their current level of skill possessing. This skill level chart has been prepared only for the spinning department. Similarly, the organization can go for the skill level chart by finding out the necessary skills required for the respective departments of the organization.

The skill level chart will provide the necessary information on the employees regarding the skills that they have to improve and also on the overall departmental performance based on the skills.

6) The Correlation matrix reveals the degree of association between the variables of the CARERS model. This would reveal the degree of association and the relationship between the variables. The higher degree of positive association between the ability and the relationship factor must help the organization to improve the relationship between the employees; this would certainly improve the ability of the employee.

The organization has to arrange for some inter departmental meetings, team games and to organize a team with to achieve target to reap the rewards for the team work. This would certainly improve the relationship between the employees and proportionately the ability of the employees.

7) The higher degree of negative association between the ability and the support factor shows with the improvement in the ability of the employees they require less support. The organization can plan for the seminars, training and the skill development courses to make the employees to improve their abilities and less dependence on others to do their work. This would increase the productivity level of the employees.

8) The degree of positive association between the ability and the reward and recognition factors is the other vital areas that an organization can work on to improve the productivity level. The Organization can plan for additional rewards and recognition for the employee who shows their abilities in accomplishing a task. This would motivate the employees and make them to thrive for optimum productivity.

9) The Chi square tests for the various factors to the respondents reveal the factors that are having influence on the perception of productivity factors. The organization can make use of these chi square tests to better understand the significant importance that exists between the respondent's age, gender, experience and the departments over the perception of productivity factors. The chi square analysis has to be done periodically for all the employees in order to find out the respondents perception over the productivity factors.

Thus the Chi square tests will help the organization to find out the key barriers to the optimum productivity. It would also suggest the barriers to be worked out to improve the performance of the employees related to productivity

4.3 CONCLUSION

Optimum productivity can be achieved only by the combined efforts of the employees and the employers. Only with a clear understanding of the barriers to productivity which hinder individual and department performance, they will be able to bridge the gap between their current productivity and optimum productivity.

High productivity will not only benefit the organization but also the individual in many ways. Very small issues when properly addressed will enhance the productivity to a large extent. Employees are valuable assets of any organization which when ignored may not bring out their true potential. Hence these assets should be nurtured properly to yield good results in the long run.

BIBLIOGRAPHY

BIBLIOGRAPHY

- *Hutchinson, John G*, Managing a fair day's work, university of Michigan, Bureau of industrial relations, Ann Arbor,page:6-159 to 6-165,year:1983.

- *Paliwal M.C, kimsthi*, Process control in weaving, ATIRA, Ahemedabad, 2nd edition, year: 2000.

- *Rolf.p.Lynton, Udai Pareek*, Training and development,2nd edition, Vistaar Publication.

- *Uris, Auren*, work simplification is working miracles' factory, page 45-55, year 1995.

- *Richerd I. Levin,David S. Rubin*, Statistics for management,7th edition,p677 - 687, year: 1997.

- *Kenneth spenner*, American Sociological Review, vol. 48, No.6,p824 – 837,Dec 1983.

- *Doloi, Hemanta*, "Twinning Motivation, Productivity and Management Strategy", Engineering Management Journal; Vol. 19 Issue 3, p30-40, 11p, 8 charts, 2 diagrams, Sep2007.

- *Steve Garrett*, "Charting Skills for Quality Improvement", Journal for Quality and Participation vol. 30 issue 1, March 2007.

- www.workforce.com
- www.allbusiness.com
- http://www.eurofound.europa.eu/ewco/2005/08/PT0508NU02.htm
- www.advancemanufacturing.com
- http://humanresource.about.com
- www.1000ventures.com
- www.hrvillage.com

APPENDIX

PARIYUR AMMAN SPINNING MILL P LTD, GOBI:

A STUDY OF EMPLOYEE WORK PRODUCTIVITY

QUESTIONNAIRE

Name: _____

Age (years): _____

Gender:　　　Male ☐　　　　　Female ☐

Designation: _____

(1=never, 2= no opinion, 3= sometimes, 4=usually, 5=always)

S.NO		1	2	3	4	5
1.	Do you have enough time for personal priorities and rest?					
2.	Do you complete each day's important tasks during normal working hours?					
3.	Do you deliver all your commitments on time?					
4.	Do you keep an eye on the quality policy of the company during working?					
5.	Do you work on an average of 8 hours, 6 days a week?					
6.	Do you consistently meet personal and business deadline?					
7.	Do you have a written one year plan of both professional and personal objectives that you plan to achieve?					
8.	Do you have written daily plan that is prioritized with time estimates, to establish a realistic workload allowing for major interruptions, routine activities, and personal recovery time?					
9.	Do you comfortably complete your daily plan each day with time left to reflect on your accomplishments, and to plan for tomorrow?					
10.	Do you use "professional" tools(electronic or paper) to help plan your time and activities?					

S.NO		1	2	3	4	5
11.	Do you keep control of your paper flow regularly?					
12.	Can you comfortably say "no" to those less important interruption that interfere with important activities and/or create work overload.					
13.	Do you have written notes or queries related to production meetings with supervisors?					
14.	Do you measure your progress regularly against your annual, monthly and daily objectives?					
15.	Do you make time to systematically learn from experience and to implement important innovations that will improve productivity and results?					
16.	Do you avoid forgetting things by making notes in an electronic or paper organizer, rather than relying on your memory?					
17.	Do you quickly and easily find required information on your desk when you need it?					
18.	After an interruption, can you readily return to your daily written plan and get back to the day's priorities?					
19.	Do you clear your desk at the end of each day by placing all work tools and documents into their relevant files?					
20.	Are you healthy and free of stress related illnesses, such as headaches, stomach problems, fatigue or irritability?					
21.	Do you enjoy a good balance between your home and work?					

PARIYUR AMMAN SPINNING MILL P LTD, GOBI: A STUDY OF EMPLOYEE WORK PRODUCTIVITY

QUESTIONNAIRE

Name: _____

Age (years):

Below 20 ☐ 20 – 30 ☐ 31 – 40 ☐ 41 – 50 ☐ above 50 ☐

Education:

10th std ☐ 12th std ☐ UG ☐ PG ☐ Others ☐

Gender

Male ☐ Female ☐

Number of years working in this organization:

Less than 1 ☐ 1-3 ☐ 3-5 ☐ 6-8 ☐ more than 8 ☐

Department: _____

Indicate the extent to which you agree with the following statements by selecting the appropriate box against each using the scale given below.

The following factors reduce my productivity.

S.No	Factors	Strongly disagree	disagree	Neither agree nor disagree	agree	Strongly agree
1.	Role ambiguity					
2.	Not clear about the manager's expectations					
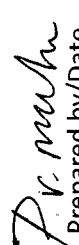
S.No	Factors	Strongly disagree	disagree	Neither agree nor disagree	agree	Strongly agree
3.	Lack of career planning					
4.	Improper goal setting					
5.	Poor time management					
6.	Shortage of relevant skills					
7.	Work life imbalance					
8.	Lack of planning					
9.	Lack of open communication					
10.	Lack of team work					
11.	Personal conflicts					
12.	Unhealthy relationship with the head					
13.	Insufficient training					
14.	Office politics					
15.	Organizational changes					
16.	Organizational culture					
17.	No recognition					
18.	Lack of growth opportunities					

19.	Insufficient salary package					
20.	Inadequate rewards					
21.	Scarcity of working tools and equipments					
22.	Improper infrastructure					
23.	Lack of managerial motivation					
24.	Lack of family support					

Any Others specify _____

ANNEXURE

SKILL MARRIX

Sl. No	Employee No.	Employee Name	Grade	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	Reference	Date
1	143	R. Rangaraj		3	3	3	2	2	1	3	3	1	1	1	1	2	3	-		
2	155	C. Krishnan		2	3	2	2	2	2	2	1	1	1	1	1	2	3	-		
3	157	D. Kannan		1	3	2	2	1	2	2	1	1	1	1	1	3	2	1		
4	168	V. Vasudevan		2	2	2	1	2	3	3	2	1	1	1	1	2	2	1		
5	172	O. Gobi		1	2	2	2	1	2	3	1	1	1	1	1	2	3	1		
6	176	S. Ramu		1	4	1	3	2	1	2	2	1	1	1	1	2	2	1		
7	179	S. Appusamy		3	3	3	3	3	2	2	3	2	1	1	1	3	1	1		
8	180	K. Perumal		3	3	2	2	3	3	2	3	3	2	1	1	3	2	1		
9	184	P. Gunamurthi		2	2	2	3	2	2	2	3	1	1	1	1	2	3	1		
10	186	S. Kavitha		3	1	3	2	2	1	3	3	1	1	1	1	3	2	1		

Skills No (For details see Overleaf)

"Remarks:

Grade: 4-(Excellent)-Master in the topic/skills and capable of training others.   3-(Very good)-Master in the skill.
2-(Good)-capable of handling day-to-day activities independently.   1-(Average)-Requires supervision/guidance to perform.

Note:"X" indicates skill not assessable at present   and   "N" indicates skill not applicable

Prepared by/Date	Approved by / Date	Issued by / Date	Sheet No:

SKILL MARRIX

Sl. No	Employee No.	Employee Name	Grade	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	Reference	Date
11	199	M.Latha		2	1	4	2	3	2	2	3	1	1	1	1	2	2	1		
12	205	N.Prakash		3	2	3	1	3	3	2	3	1	1	1	1	2	3	1		
13	221	R.Rajkumar		1	2	2	2	3	3	2	2	2	1	1	1	2	2	1		
14	234	M.Rathinasamy		2	3	2	2	3	3	2	2	2	1	1	1	2	3	1		
15	239	R.Subramaniam		2	3	1	2	3	2	2	3	2	1	1	1	2	3	1		
16	243	C.Raj		3	3	2	2	2	2	2	2	1	1	1	1	2	3	1		
17	252	M.Malathi		3	3	1	1	1	1	2	3	2	1	1	1	3	2	1		
18	253	G.Dhanabal		2	3	2	2	2	2	2	2	1	1	1	1	2	3	1		
19	256	R.A.Hussain		1	3	1	3	2	1	1	2	1	1	1	1	3	3	1		
20	266	D.Karthikeyan		4	2	2	2	2	2	2	2	1	1	1	1	3	3	1		

Skills No(For details see Overleaf)

Remarks:

Grade: 4-(Excellent)-Master in the topic/skills and capable of training others.   3-(Very good)-Master in the skill.
2-(Good)-capable of handling day-to-day activities independently.   1-(Average)-Requires supervision/guidance to perform.
Note:"X" indicates skill not assessable at present   and   "N" indicates skill not applicable

Prepared by/Date	Approved by / Date	Issued by / Date	Sheet No:

SKILL MARRIX

Sl. No	Employee No.	Employee Name	Grade	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	Reference	Date
									Skills No (For details see Overleaf)											
21	268	V. Sundaraj		3	2	2	1	1	1	2	2	2	1	1	1	3	3	-		
22	269	V. Vasanth		2	1	2	1	1	2	2	2	2	1	1	1	2	2	1		
23	271	M. Kumavimathu		1	2	3	3	2	2	3	1	1	1	1	1	2	3	1		
24	273	P. Ramusamy		2	2	2	2	1	1	2	2	2	1	1	-	2	3	1		
25	274	N. Kanagaraj		3	2	3	3	3	2	3	4	1	1	1	-	2	3	1		
26	275	C. Rangaraj		3	2	1	2	2	1	3	3	2	1	1	1	2	2	1		
27	278	E. Kandasamy		3	3	2	2	3	2	3	2	1	1	1	1	3	2	-		
28	279	V. Gopinathan		2	2	3	1	3	4	3	1	2	1	2	1	4	2	1		
29	282	A. Anand		1	2	2	2	2	2	2	2	1	1	1	1	3	2	1		
30	285	C. Krishnan		3	1	1	1	2	1	3	2	2	1	2	3	2	2	1		

Remarks:

Grade: 4-(Excellent)-Master in the topic/skills and capable of training others.   3-(Very good)-Master in the skill.

2-(Good)-capable of handling day-to-day activities independently.   1-(Average)-Requires supervision/guidance to perform.

Note:"X" indicates skill not assessable at present   and   "N" indicates skill not applicable

Prepared by/Date	Approved by / Date	Issued by / Date	Sheet No:

SKILL MARRIX

Sl. No	Employee No.	Employee Name	Grade	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
										Skills No(For details see Overleaf)								
31	286	R. Sumathi		4	1	2	2	2	2	2	2	4	4	4	1	2	3	-
32	290	M. Periyasamy		3	1	2	1	3	1	2	1	1	1	1	1	4	2	1
33	294	V. Selvaraj		2	3	2	1	2	2	2	2	1	1	1	1	3	2	1
34	296	D. Nandhini		2	3	2	1	2	2	3	1	1	1	1	1	2	2	-
35	299	N. Vengatachalam		3	1	3	1	1	1	2	2	2	2	1	1	2	2	-
36	300	S. Marimuthu		2	1	2	2	2	2	2	2	1	1	1	1	2	3	1
37	302	C. Eswari		2	2	1	2	2	1	2	1	1	1	2	1	2	2	-
38	306	K. Manimala		3	3	2	3	1	1	1	2	1	1	1	1	2	3	1
39	308	D. Nithiya		2	2	3	2	2	3	2	3	1	1	1	2	2	2	1
40	312	E. Chitra		1	2	2	1	2	2	3	2	2	1	1	1	2	4	1

Reference
Date

Remarks:

Grade: 4-(Excellent)-Master in the topic/skills and capable of training others.   3-(Very good)-Master in the skill.
2-(Good)-capable of handling day-to-day activities independently.   1-(Average)-Requires supervision/guidance to perform.
Note:"X" indicates skill not assessable at present   and   "N" indicates skill not applicable

Prepared by/Date	Approved by / Date	Issued by / Date	Sheet No:

SKILL MARRIX

Sl. No	Employee No.	Employee Name	Grade	Skills No (For details see Overleaf)														
				01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
41	314	N. Savitha		3	1	1	2	2	2	2	2	1	1	1	1	4	2	-
42	315	M. Parameswaran		2	2	1	3	1	2	1	1	1	1	2	1	2	2	1
43	320	A. Prabhu		2	1	2	3	2	2	2	2	1	1	2	2	2	2	-
44	321	D. Latha		2	2	2	2	1	2	3	3	2	1	1	1	2	2	:
45	234	H. Devi		1	2	2	2	3	1	2	2	1	1	2	1	2	2	1
46	336	S. Sekar		4	3	1	2	2	2	1	1	1	1	1	1	2	2	1
47	342	A. Parvathi		3	2	2	1	1	2	2	2	1	1	1	1	4	2	1
48	343	S. Ramanathan		1	1	2	2	2	1	2	1	1	2	1	1	2	4	1

Remarks:

Grade: 4-(Excellent)-Master in the topic/skills and capable of training others.   3-(Very good)-Master in the skill.

2-(Good)-capable of handling day-to-day activities independently.   1-(Average)-Requires supervision/guidance to perform.

Note:"X" indicates skill not assessable at present   and   "N" indicates skill not applicable

Prepared by/Date	Approved by / Date	Issued by / Date	Sheet No: