

A STUDY ON LABOUR PRODUCTIVITY WITH SPECIAL REFERENCE TO CO-OPERATIVE SPINNING MILLS IN KERALA

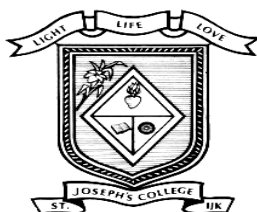
Thesis submitted to the
University of Calicut
for the award of the degree of
DOCTOR OF PHILOSOPHY IN COMMERCE
Under the faculty of Commerce and Management Studies

By

ANIL P. M.

Under the Supervision of

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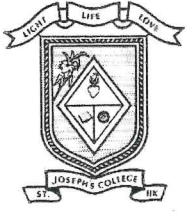
CERTIFICATE

This is to certify that the thesis entitled “**A STUDY ON LABOUR PRODUCTIVITY WITH SPECIAL REFERENCE TO CO-OPERATIVE SPINNING MILLS IN KERALA**” is a bonafide record of research work carried out by **Mr. ANIL P.M.**, under my supervision and guidance for the award of Ph.D. Degree of the University of Calicut and no part of the thesis has been presented before the award of any degree, diploma, or other similar title of recognition.

He is permitted to submit the thesis.

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Certificate

This is to certify that the thesis titled , "A STUDY ON LABOUR PRODUCTIVITY WITH SPECIAL REFERENCE TO CO-OPERATIVE SPINNING MILLS IN KERALA" is a bonafide record of the research work carried out by Mr.ANIL.P.M., under my supervision and guidance for the award of Ph.D Degree of the University of Calicut and no part of the thesis has been presented before for the award of any degree, diploma, associateship, fellowship or other similar title of recognition. The corrections / suggestions from the adjudicators have been incorporated.

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DECLARATION

I, ANIL P.M., hereby declare that this thesis titled “**A STUDY ON LABOUR PRODUCTIVITY WITH SPECIAL REFERENCE TO CO-OPERATIVE SPINNING MILLS IN KERALA**” submitted to University of Calicut , for the award of Degree of Doctor of Philosophy in Commerce , is a record of the bonafide research work done by me under the supervision Dr. Philo Francis, Associate Professor(Retd.), Research & PG Department of Commerce, St.Joseph’s college, (Autonomous), Irinjalakuda ,Thrissur.

I further declare that no part of this thesis has been presented before for the award of any degree, diploma or other similar title or recognition in any university.

Irinjalakuda
19th June 2020

ANIL P.M.

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Anil P.M.

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LIST OF ABBREVIATIONS

ACSM	-	Alleppey Cooperative Spinning Mills Limited
AGR I	-	Attender Grade I
AIM	-	Australian Institute of Management
AITUC	-	All India Trade Union Congress
AM	-	Arithmetic Mean
AM	-	Assistant Manager
ANOVA	-	Analysis of Variance
AO	-	Accounts Officer
ASM	-	Assistant Senior Manager
CAGR	-	Compound Annual Growth Rate
CAS	-	Complete Adaptive System
CCSM	-	Cannanore Cooperative Spinning Mills Limited
CEO	-	Chief Executive Officer
CITU	-	Centre of Indian Trade Unions
CRM	-	Customers Relationship Management
DM	-	Deputy Manager
DOAC	-	Department of Agriculture and Cooperation
FACT	-	Fertilizers and Chemicals Travancore Limited
FM	-	Finance Manager
FY	-	Financial Year
GATT	-	The General Agreement on Tariffs and Trade
GDP	-	Gross Domestic Product
GM	-	General Manager
HOK	-	Number of operative hours required to produce 100 kg of yarn
HRD	-	Human Resource Development
HRM	-	Human Resource Management
ICICI	-	Industrial Credit and Investment Corporation of India
IDBI	-	Industrial Development Bank of India
IFCI	-	Industrial Finance Corporation of India
ILO	-	International Labour Organisation
INTUC	-	Indian National Trade Union Congress
ISO	-	International Organisation for Standardisation
IT	-	Information Technology
JM	-	Junior Manager
KCS Act	-	Kerala Cooperative Societies Act
KKMCSM	-	K.Karunakaran Memorial Cooperative Spinning Mills Limited

KSPC	-	Kerala State Productivity Council
KSTC	-	Kerala State Textile Corporation Limited
LP	-	Labour Productivity
LTA	-	Long Term Agreement
LWO	-	Labour Welfare officer
MALCOTEX	-	Malabar Cooperative Textiles Limited
MCSM	-	Malappuram Cooperative Spinning Mills Limited
MD	-	Managing Director
MMC	-	Micro Memory Card
MM	-	Mill Manager
NCDC	-	National Cooperative Development Corporation
NHDC	-	National Handloom Development Corporation Limited
NTC	-	The National Textile Corporation
N	-	Number
OA	-	Office Assistant
PBIT	-	Profit Before Interest and Taxes.
PM	-	Production Manager
PRICO	-	Priyadarsini Cooperative Spinning Mills Limited
PS	-	Perception Score
QC	-	Quality Control
QCSM	-	Quilon Cooperative Spinning Mills Limited
RBV	-	Resource Based View
RIAB	-	Public Sector Restructuring And Internal Audit Board
SA	-	Senior Attender
SD& A	-	Senior Driver cum Attender
SD	-	Standard Deviation
SITRA	-	South Indian Textile Research Association
SK	-	Store Keeper
SM	-	Senior Manager
SPSS	-	Statistical Package for the Social Sciences
SQC	-	Statistical Quality Control
SSI	-	Small Scale Industries.
STU	-	Swatantra Thozhilali Union (Independent Workers Union)
TCSM	-	Thrichur Cooperative Spinning Mills Limited
TEXTFED	-	Kerala State Cooperative Textile Federation Limited
TFP	-	Total Factor Productivity
WWD	-	Women's Wear Daily

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1.1 Introduction

Productivity refers to a comparison between the quantity of goods and services produced and the quantity of resources employed in turning out these goods and services. In common parlance, productivity is defined as the ratio of output to input both measured in real terms. Industrial productivity is, thus, the measure of production per man per hour. Increasing productivity means that production becomes more efficient or what is the same thing less costly. In a broader sense, productivity means the most economic utilization of available resources of man, machinery, materials, money, power, land etc., the end in view being the achievement of highest possible production at lower production and social cost.

A given output is the result of combination of many different factors of inputs, such as raw materials, machines, power, worker time and entrepreneurship. Since a unit of input might be one worker, one hour of labour time, one machine, one acre of land, one ton of raw material or one kilowatt of electric power, it has generally been considered desirable to choose one yardstick of input which is present in all production. For this reason the input factor most frequently used in productivity studies is a man hour of working time popularly known as “labour productivity”. The International Labour Organization defines productivity as, “ the ratio between the volume of output as measured by production indices and the corresponding volume of labour input as measured by employment indices.” This definition is widely accepted because,

- (i) Labour time is more readily measurable than other input factors and it is a universal element common to all plants, processes and industries.
- (ii) There is widespread interest in labour saving because such saving can effect costs, prices, profits and even the level of living.

This definition, though simple and widespread, however, measures productivity of labour alone and not the productivity of all the combined input factors. Input of labour is, however, only a part of the resources that go into production. This ratio has been characterized as misleading because it failed to

include the input of other elements of production like raw materials, capital, fuel and equipment. In the same way, if productivity is defined as the ratio between output and any single unit factor like invested capital or units of power consumed, the definition will be subjected to same limitations as above. Indeed, no single input factor can correctly describe the influence of large number of separate, through interrelated, forces often working in different directions. Productivity is thus output obtained for resources utilized. It refers to the production rate of a given output per unit of the relative input (or inputs) under given conditions and time. It is, in other words, the ratio of a specified or well-defined output to the corresponding input, i.e., resources employed to get that output (Lal, 1960).

"Any exertion of mind or body undergone partly or wholly with a view to some good other than the pleasure derived directly from the work" (Marshall, 1961) is called Labour. Labour should be backed by knowledge, efficiency, efforts with cyclitarian, ennobling and enterprising (Herrick, 1975). An effective management is concerned with total Productivity, for it shows the cumulative result of the deployment of resources (factors) towards the greatest benefit for the company. The total Productivity is the combined effect of the land, labour, material and capital and also it reflects (1) the effect of changes in the relative prices of factor inputs (2) increase in the competitive nature of the economy of decrease in the monopolistic nature) (3) economies of scale due to increasing scale of operations and (4) increase in technical efficiency.

When the term productivity is used without other qualifications, labour productivity is ordinarily meant, (Berkeley, 1953) defined the use of labour time as the unit of input because better statistical records exist for employment and hours worked. Labour productivity is the ratio between the output and the number of man hours worked. Labour productivity simply indicates the effectiveness with which labour is being utilized along-with other factors of production. Labour productivity is expressed generally as "labour cost per unit of output" or as "output per man hour". Increased productivity depends upon the best possible use of resources at the disposal of the industry, including manpower, which is the most valuable of all.

Productivity (Devison.et.al, 1958). “ The world is always at work, thus men and work go together”.(Bentham, 1977). A worker occupies an important place in the production and distribution process and plays a significant role in raising industrial productivity. Mental existence of employees is a great complex action, it is a greater and more important part of work (Aurobindo, 1993) . Worker performance can be a function of many features, including the worker’s effort, education, age, or tenure and the firm’s characteristics, such as work environment, wages or incentives. The individual will adopt the method that appears easiest in the situation (festinger, 1967). An observed change in a worker’s performance might be due to several reasons, including factors outside of the worker’s control. The two most common reasons are changes in the worker’s skills, e.g. due to training programmes or from learning on-the-job, and changes in effort provided by the worker, e.g. due to different incentives set by the management.

William James of Harvard University estimated that employees could retain their jobs by working at mere 20-30 percent of their potential. His reaseach led him to believe that if these same employees were properly motivated, they could work at 80-90 percent of their capabilities. Expectancy theory (Vroom, 1964) characterizes people as rational beings who thinks about what they have to do to be rewarded and how much the rewarded means to them before they perform in specific way.

Labour productivity depends on three sets of factors, viz.,

- (i) The ability or competence of the worker
- (ii) The willingness of the worker, and
- (iii) The environments under which he has to work

The ability or competence of the worker to perform his job more efficiently depends upon his inherent and acquired skill, general training and experience,aptitude and capacity and his intelligence and outlook. The worker’s attitude and willingness are influenced partly by the system of wage payment and provision of other incentives and partly by his morale, feeling of responsibility, general outlook and the trade union practices. The working conditions too exercise

an important influence on labour productivity. Where the working hours are too long, the labour productivity will tend to decline. In the 1980 eleven areas were identified for quality of work in America (Rosow, 1981) 1. Pay, 2. Employee benefits, 3. Job security, 4. Alternative work schedule, 5. Job stress, 6. Participation in decisions that affect them, 7. Democracy in the work place, 8. Profit sharing, 9. pension right, 10. Company programmes designed to enhance workers welfare, 11. The four day work week.

Labour productivity can be defined as a measurement of economic growth of a country. Labour productivity is measured the amount of real gross domestic product (GDP) that produced by an hour of labour. Labour productivity is an important index because of concentration of labour needed to complete specific work. (Wen yi & Albert Chan, 2014). It is a revealing indicator of some economic indicators as it offers a dynamic measure of economic growth, competitiveness and standard of living within an economy. The meaning of labour was radically changed under the protestant ethic. The protestants believed that salvation by faith replaced salvation through work (weber, 1930).

Measures of labour productivity can give important insights in to how workers perform and how workplaces should be organized. Direct measures of productivity are used to study a range of questions, such as the effects of incentives on workers' productivity, the influence of peers on behavior, or the accumulation of human capital on the job. For these and related questions, it is important to select appropriate performance measures. Multi-dimensional criteria is more appropriate than uni-dimensional criteria. This choice is critical, as relying on inappropriate measures can lead to the design of inefficient incentives, poor employment contracts, or wrong policy conclusions.

The oldest and largest single industry in India is cotton textile industry. Hand loom, power loom, and mill sector includes in the textile industry in Kerala. Most of the cooperative sector employees are working in the textile industry in Kerala. They concentrate on manufacture of yarn (spinning). Cooperative form of business organizations fundamentally differs from other business organizations. Their basic

objective is service rather than profit. Their main features like equal voting rights, democratic management, service motto etc. emphasizes the role towards social responsibility of its managements.

1.2 Significance of Study

Today in mill sector, with 3400 textile mills having installed capacity of more than 50 million spindles and 842000 rotors, India is the second largest in the world. Traditional sectors like handloom, handicrafts and small scale power loom units are the biggest source of employment for millions of people in rural and semi urban area. In India, the textile industry contributes to 7% of industry output in value terms, 2% of India's GDP and to 15% of the country's export earnings. With over 45 million people employed directly, the textile industry is one of the largest sources of employment generation in the country. At present there exists in Kerala a total of 38 Non SSI textile mills in the organized sector, coming under three categories, 17 mills in private sector, 13 mills in public sector and 8 mills in cooperative sector. The mill sector in Kerala at present providing direct employment to about 20,000 hands constitutes about 2.12 % of the total spindle capacity in India. It also contribute 1.49 % of the production of cotton yarns and 0.65 % of cotton cloths in India. Kerala is ranked ninth among the textile mill states of India. The average production of fabrics in the mill sector in Kerala is 15.92 M.Sq.m to the national production of 1784 M.Sq.m. The public sector mills come under two divisions, five mills under National Textile Corporation (NTC) and eight mills under Kerala State Textile Corporation (KSTC). These mills are spread throughout Kerala. In Cooperative sector there are eight Non SSI cotton textile mills under TEXTFED (Kerala State Cooperative Textile Federation Limited) and these mills are also spread throughout Kerala.

There are 8 cooperative spinning mills in kerala, all are running in huge losses from the beginning itself. Low productivity affecting the profitability of these mills. In Kerala, cotton agriculture didn't make a prominent role among the cash crops. Measuring workers' productivity is important for public sector and private sector institutions for decision making. Due to the lack of reliable methods to determine workers' productivity, firms often use specific performance measures,

such as how different incentives affect employees' behavior. The public sector also uses these measures to monitor and evaluate personnel. To select the right performance measures, and as a result design better employment contracts and improve productivity, policymakers and managers need to understand the advantages and disadvantages of the available metrics.

Productivity measurement is simply too important to be delegated to productivity specialists. But managers don't have to become experts themselves to ensure that existing systems meet their needs or that new systems are relevant. A set of practical guidelines can help them understand, evaluate, and apply productivity measurement techniques effectively. The companies which measure their performance using important financial and non-financial measures achieve better business performance. Even though certain companies are currently using non-financial measures, it is seen that these non-financial measures were not integrated with each other, financial measures and strategic objectives.

Outdated machinery, stiff competition, high cost of material and high cost of labour are other factors affecting the profitability of Kerala textile industry which is spread over public, private and cooperative sectors. All the cooperative spinning mills in Kerala suffer huge losses for the past few years. Government provided so many funds for its modernization. These Mills are running only for providing employment to its employees, the loss of most of the Mills are more than the total wages paid to employees.

The relevance of the present study is to assess and evaluate the factors influencing the productivity of employees of Cooperative spinning mills in Kerala and analyse whether improvement in the performance of these enterprises are possible by using efficient human resource management techniques.

1.3 Scope of the Study

There are 8 cooperative spinning mills in Kerala having membership in TEXTFED (Kerala State Cooperative Textile Federation Limited). In Kerala 18 mills

come under the Govt. Sector and out of these 8 mills are in cooperative sector. The units in the cooperative sector concentrate on manufacture of yarn (Spinning).

The Kerala State Cooperative Textile Federation Limited (TEXFED) was established during 1992 with the objective to plan, advise, assist, coordinate, monitor, supervise, setup, manage and facilitate the organizations and the cooperative textiles units in the state entrusted, affiliated or leased to the Federation or owned by the Federation so also to arrange for manufacturing all textile products, dealing in and supply of all textile machinery, equipments, raw materials, consumable stores, spares etc. The main handicaps faced by the mills under TEXFED were the lack of working capital and non availability of raw materials. Obsolete technology and age old machineries used in the mills also pose another problem. Even though partial modernization has been done in certain units, it was not at par with the industry standards.

LTA (Long Term Agreement) is an agreement in all cooperative spinning mills between employees and management, generally it has a time period of five years. It reveals all the terms and conditions regarding wage payment, duties and responsibilities of employees, the details regarding the quantity and quality of work etc. It will be renewed after every five years, but most of the cooperative spinning mills were not renewed it, even though time period is over .

The present study analyses the performance of the 8 cooperative spinning mills in Kerala along with a comparative analysis with each other for a period of six years from 2012-13 to 2017-18. The study analysed the performance of these cooperative spinning mills in terms of Sales, Increase or decrease in stock, Value of production, Variable expenses, Fixed expenses, Cost of production, Profit before depreciation interest and taxes, Financial charges, Profit before depreciation and taxes, Other incomes, Cash profit or loss, Depreciation and Net profit or loss.

Study also examines the perception of the workers and supervisors/jobbers with regard to the productivity of cooperative spinning mills in Kerala. The perceptions of the workers and supervisors/jobbers are being considered for drawing conclusions about the productivity of cooperative spinning mills in Kerala.

The reason for running all the cooperative spinning mills in kerala under huge losses should be addressed. It may be because of low productivity of employees or mismanagement or by some other reasons. Hence the study on labour productivity of these cooperative spinning mills assumes great significance. The study will helpful to all cooperative spinning mills in kerala to improve their performance and will also facilitate the government to change their policies accordingly.

1.4 Research Problem

New Era of economic renaissance will call upon technological up gradation. The sophisticated technology of the west require high degree of specialized skills . The Indian technology is to be adjusted to the prevailing socio-cultural framework of the country.

India is a glorious country with rich tradition, cultural heritage, age old civilization, abundant natural wealth and resources, abundant talented and resourceful manpower, yet it is one of the backward countries in the world. It is observed in Japan, America and Germany that their people work hard, they are energetic, they have sense of self respect, a sense of dignity. They discharge their duties without wasting time, but do not find this type of attitude in most places in India. The rapid industrialisation and technological innovations have contributed largely to raising the standard of living of the people in the country.

In India actually experience an absolute lack of commitment to work, lethargy and low productivity adversely affecting the growth our economy. The management employees relation in every sector is not smooth. The well accepted 'give and take' policy has now been replaced by the 'take and give' policy. There is possibility of class conflict among the workers as they will form different groups on the ground of knowledge, skills, wage structure etc. The challenge before the professionals is to resolve the conflict among workers themselves. To avoid ego stratification, the standardization of the work and the work organization is needed.

Recent changes in the economic policies of the country has threatened the professionals of redesign the jobs of enrich the qualities of work life. Globalisation of the economy compels the trade and industry to excel in work at par with its counterparts of multinational corporations. It will require more sensitivity towards quality to remain in the competition. Therefore redesigning of work system become inevitable.

Unfortunately most of the organisations in Kerala failed to keep a healthy relationship between management and employees due to the interference of trade unions and out side political parties. This may lead to encourage conflicts in the organisations, which resulted low productivity and negative work culture.

The productivity of employees in kerala is low compared to other states. So it is appropriate to evaluate the productivity of employees in Kerala. Since each organization works with its own socio-technical realities, a readymade formula cannot be advocated to improve the work culture and productivity.

There are total 8 cooperative spinning mills in Kerala namely, (1) Malappuram Cooperative Spinning Mills Ltd.(MCSM), Malappuram (2) The Cannanore Cooperative Spinning Mills Ltd.(CCSM), Kannur (3) The Malabar Cooperative Textiles Ltd.(MALCOTEX), Malappuram (4) The Thrichur Cooperative Spinning Mills Ltd.(TCSM), Thrissur (5) The Alleppey Cooperative Spinning Mills Ltd.(ACSM), Alappuzha (6) The Quilon Cooperative Spinning Mills Ltd.(QCSM), Kollam (7) The Priyadarsini Cooperative Spinning Mills Ltd.(PRICO), Kottayam and (8) K.Karunakaran Memorial Cooperative Spinning Mills Ltd.(KKMCSM), Thrissur. All these cooperative spinning mills are suffering huge losses for the past few years.This is the gap between the ideal situation and the real situation. Poor performance of these mills may be due to the bad work culture prevailing in the organization. Their wage payment system is very poor compared to other industries.

The present study tries to explore the factors influencing the productivity of employees of cooperative spinning mills in Kerala. The relevance of this study is

understanding whether improvement in the performance of cooperative spinning mills in Kerala is possible through the effective utilization of human resources.

1.5 Objectives of the Study

- To examine the growth pattern of specific financial variables of cooperative spinning mills in Kerala.
- To examine the perception of supervisors with regard to the labour productivity and to compare among various cooperative spinning mills in Kerala.
- To compare the perception of supervisors with regard to the labour productivity among various departments of cooperative spinning mills in Kerala.
- To study the perception of workers with regard to the labour productivity and to compare among various cooperative spinning mills in Kerala.
- To compare the perception of workers with regard to the labour productivity among various departments of cooperative spinning mills in Kerala

1.6 Hypotheses of the Study

The study is based on the assumption that labour productivity of cooperative spinning mills plays an important role in maximizing the production of the mills and sustaining the industry and thereby increasing the profits of the mills. Accordingly the following hypotheses were developed.

H1: There exist significant difference in the Sales and Value of production of various spinning mills in Kerala.

H2: There exist significant difference in the Cost of production of various spinning mills in Kerala.

H3: There exist significant difference in the Net profit or loss of various spinning mills in Kerala.

H4. There exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity on various departments.

H5. There exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity based on various spinning mills.

H6. There exist significant difference in the perception of workers with regard to the labour productivity on various departments.

H7. There exist significant difference in the perception of workers with regard to the labour productivity based on various spinning mills.

1.7 Methodology and Database

The methodology adopted for the present investigation of the labour productivity with special reference to cooperative spinning mills in Kerala is briefly discussed here.

1.7.1 Research Design

Measurement of productivity of employees is a difficult task. It is true there is no single criteria which can be used to measure productivity in all situation. Many measures both subjective and objective are suggested by industrial psychologists for measurement of productivity (Fentahun, 2012). The validity of each one of these measurement often depends upon the specific set of circumstances under which a particular measure has been evolved and used. In this study multi-dimensional criteria is followed for measuring labour productivity (Jan Sauermann ,2016).

The present research work consists of both descriptive and inferential in nature. The study describes the present financial status of the cooperative spinning mills. To arrive at reliable inferences and conclusions the collected data were analysed by using accepted tools, hence this study is basically descriptive and inferential in character.

The study is based on both primary as well as secondary data. One part of the study is based on financial data collected from cooperative spinning mills in Kerala. Another part of the study is based on the primary data collected from the workers and supervisors of the cooperative spinning mills.

1.7.2 Source of Data Collection

For the purpose of the study, both primary and secondary data were used.

1.7.2.1 Secondary Data

Secondary data were obtained from published sources such as annual accounts, annual reports and audit reports of cooperative spinning mills, other publications such as books, periodicals, newspapers, TEXTFED reports, publications of the Department of Cooperation, National Cooperative Union of India, etc.

Documents from official websites of the cooperative spinning mills in Kerala and various websites related to the topics were also utilised.

The secondary data related to performance of cooperative spinning mills was collected for a period of six years from 2012-13 to 2017-18. The study of performance of cooperative spinning mills is primarily based on final accounts, reports and data collected from the records maintained by the Kerala State Cooperative Textile Federation Limited (TEXTFED) through the accounting details and monthly performance reports furnished by cooperative spinning mills in prescribed format as per the cooperative spinning mills rules. The format of monthly performance report of cooperative spinning mills is given in Appendix II.

Performance analyses of the eight cooperative spinning mills were made for a period of six years from 2012-13 to 2017-18 by using major indicators like-

- Sales
- Increase or decrease in stock
- Value of production
- Variable expenses
- Fixed expenses
- Cost of production
- Profit before depreciation interest and taxes
- Financial charges
- Profit before depreciation and taxes
- Other incomes
- Cash profit or loss
- Depreciation
- Net profit or loss

The secondary information related for the study were also collected from the following sources:

- Annual reports of various cooperative spinning mills
- Economic and Political Weekly
- Magazines
- Newspapers
- Monthly reports of various cooperative spinning mills
- Web sites of cooperative spinning mills
- Data collected from TEXFED.

1.7.2.2 Primary Data

The primary data needed for the study has been collected from the workers and supervisors/jobbers of various cooperative spinning mills in Kerala.

1.7.3 Sample Design

The area of study consists of the entire state of Kerala. The investigator has visited all the cooperative spinning mills of the state. Census method was adopted for data collection from the supervisors/jobbers of cooperative spinning mills.

The samples of workers required for the study has been selected by adopting random sampling technique.

1.7.4 Population of the Study

Population of the workers and supervisors/jobbers of the cooperative spinning mills in Kerala is presented below:

1.7.4.1 Population of the Workers

Employees working in the cooperative spinning mills in Kerala for more than one year is considered as the population of workers. The total number of workers in the various cooperative spinning mills of Kerala during the period of data collection, 2017-18 are presented in Table 1.1

Table 1.1

**The number of employees in the
cooperative spinning mills of Kerala during 2017-18**

SI No.	Name of the spinning mills	District	Commissioned Year	No. Of employees
1	The Cannanore Cooperative Spinning Mill Ltd.	Kannur	1964	207
2	K. Karunakaran Memorial Cooperative Spinning Mills Ltd.	Thrissur	2017	30
3	The Malappuram Cooperative Spinning Mills Ltd.	Malappuram	1980	285
4	The Malabar Cooperative Textiles Ltd.	Malappuram	1997	123
5	Priyadarshini Cooperative Spinning Mills Ltd.	Kottayam	2003	174
6	The Alleppey Cooperative Spinning Mills Ltd.	Alappuzha	1999	190
7	The Quilon Cooperative Spinning Mills Ltd.	Kollam	1983	237
8	The Thrissur Cooperative Spinning Mill Ltd.	Thrissur	1986	288
Total				1534

Source. Mill reports

1.7.4.2 Population of the Supervisors/Jobbers

Employees working in the cooperative spinning mills in Kerala for more than one year and in the designation or charge of supervisors/jobbers in various departments are considered as the population of supervisors/jobbers. In some organisations supervisors are also known as jobbers. The total number of supervisors / jobbers in the various cooperative spinning mills of Kerala during the period of data collection, 2017-18 are presented in Table 1.2

Table 1.2

The number of supervisors/jobbers in the cooperative spinning mills of Kerala during 2017-18

Sl No.	Name of the spinning mills	District	No. of supervisors/jobbers
1	The Cannanore Cooperative Spinning Mill Ltd.	Kannur	20
2	K. Karunakaran Memorial Cooperative Spinning Mills Ltd.	Thrissur	14
3	The Malappuram Cooperative Spinning Mills Ltd.	Malappuram	9
4	The Malabar Cooperative Textiles Ltd.	Malappuram	20
5	Priyadarshini Cooperative Spinning Mills Ltd.	Kottayam	13
6	The Alleppey Cooperative Spinning Mills Ltd.	Alappuzha	16
7	The Quilon Cooperative Spinning Mills Ltd.	Kollam	12
8	The Thrissur Cooperative Spinning Mill Ltd.	Thrissur	3
Total			107

Source. Mill reports

1.7.5 Sample selected for the Study

There are eight cooperative mills functioning in Kerala, and all the spinning mills are taken for the study. Altogether 107 supervisors/jobbers are working in the various departments of cooperative spinning mills in Kerala.

All these supervisors/jobbers were considered for the data collection. Hence, in the case of spinning mills and supervisors/jobbers the researcher adopted the method of census.

The population of the workers in the cooperative spinning mills is finite. The total number of workers in the various cooperative spinning mills in Kerala are 1534. The sample size is selected under proportional allocation method.

Proportionate sampling technique was used for selecting the samples from each spinning mills of Kerala. The sample size of the study is determined with the help of the equation developed by Yamane and Taro (Yamane and Taro, 1967) to get a representative sample in observing the proportion.

$$n = \frac{N}{1 + Ne^2} = \frac{1534}{1 + 1534 \times (.052)^2} = 297$$

Where n is the sample size; N is the population size and e is the level of precision.

A total of 300 samples were collected from various departments of various spinning mills in Kerala. The questionnaire which is not filled completely are omitted and finally 297 are used for the analysis.

The details of the sample workers selected for the present study on the basis of their institution (Spinning Mill) are presented in Table 1.3

Table 1.3

Break-up of the sample workers selected for the study on the basis of Mills

Sl No.	Name of the spinning mills	District	No. of workers
1	The Cannanore Cooperative Spinning Mills Ltd.	Kannur	39
2	K. Karunakaran Memorial Cooperative Spinning Mills Ltd.	Thrissur	10
3	The Malappuram Cooperative Spinning Mills Ltd.	Malappuram	54
4	The Malabar Cooperative Textiles Ltd.	Malappuram	23
5	Priyadarshini Cooperative Spinning Mills Ltd.	Kottayam	35
6	The Alleppey Cooperative Spinning Mills Ltd.	Alappuzha	36
7	The Quilon Cooperative Spinning Mills Ltd.	Kollam	45
8	The Thrissur Cooperative Spinning Mill Ltd.	Thrissur	55
Total			297

1.7.6 Variables used for the Study

The present study takes two types of variables in to consideration: study variables and classificatory variables.

1.7.6.1 Study Variables

The study variables have been chalked out after making extensive literature review and consultation with experts in the fields of Management, Human Resource Management, Cooperative Management and experts in the field of Spinning Mills Industry.

The study variables used in the study to assess the labour productivity among the employees working in the cooperative spinning mills are: Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation.

Variables used for the performance analysis of cooperative spinning mills are Sales, Increase or decrease in stock, Value of production, Variable expenses, Fixed expenses, Cost of production, Profit before depreciation interest and taxes, Financial charges, Profit before depreciation and taxes, Other incomes, Cash profit or loss, Depreciation and Net profit or loss.

1.7.6.2 Classificatory Variables

The following are the classificatory variables used to ascertain the perception of supervisors and jobbers:

1 Spinning Mill

There are eight spinning mills working in the cooperative sector in Kerala. All these spinning mills are with different socio-economic environment and are considered as one of the classificatory variable for assessing the labour productivity as well as performance of the sector.

2 Department

Before completing the final product in the spinning mill various processes are carried out in different departments. The departments functioning in the spinning mills are Mixing, Blow room, Carding, Draw frame, Simplex, Comber, Spinning, Cone winding and Cone packing. Most of the supervisors and jobbers are responsible for multiple departments depending on the nature of the functioning. For the assessment of labour productivity the department in which the employee working is an important factor. So the department is also considered as the second classificatory variable only for assessing the labour productivity.

1.7.7 Tools used for the Study

Methods of data collection involves the use of appropriate recording of the data and information. For the purpose the researcher using the tools or instruments of data collection. A structured pre-tested questionnaire is used for collection of data. It is the best method in a survey, when the researcher is familiar with the variables needed to be measured in a big and dispersed sample size (Mischkind, 1986). The tools were prepared after extensive literature survey and consultation with experts and supervising teacher. A five-point Likert scale was prepared for collecting data from the cooperative spinning mill staff on labour productivity, and supervisors and jobbers perception of the functioning of spinning mills giving emphasis on labour productivity. Summated scales or Likert type scales take less time to construct and can be easily used on respondent-centered and stimulus-centered opinion research studies like this (Edwards and Kenney, 1946). The questionnaire for workers and supervisors/jobbers were prepared in such a way that to get the valuable information regarding the labour productivity and basic information regarding the cooperative spinning mills. Data were collected from the workers and supervisors/jobbers of cooperative spinning mills with the help of this questionnaire.

1.7.7.1 Questionnaire for Workers and Supervisors/Jobbers

The questionnaire is divided into two parts: Part A and Part B. Part A requires the respondents to fill in their personal details like name of the cooperative spinning mill, designation, age, gender, number of years of service, educational qualification comprising academic qualification and technical qualification, etc. Part B consists of statements which describe the concepts or ideas which come under study variables, Perception of workers and supervisors/jobbers regarding the productivity taken up for the study.

1.7.7.2 Perception Scale to know the Perception of Workers and Supervisors/Jobbers

As a preliminary step for making the perception scale, a list of 62 statements on the various aspects of the labour productivity of workers of cooperative spinning mills was prepared and was submitted to experts for necessary modifications. Based on the suggestions, some items were modified and some were deleted, and finally 52 statements were selected. Then pilot study was administered to a sample of 30 workers of selected cooperative spinning mills in Kerala. The respondents were requested to fill each item in terms of their agreement/disagreement by putting a tick mark in any one of the five columns, Very High, High, Neutral, Low and Very Low. The answer sheets were then collected and scoring was done.

The thirteen study variables which are used to measure labour productivity of workers of cooperative spinning mills are Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees and Motivation.

These labour productivity variables are classified individual/personal factors and institutional factors considering the nature of the variables. The labour productivity variables like Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline,

Absenteeism, Ability to grasp new ideas, and Skill are treated as individual/personal factors. And the variables Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation are considered as the institutional factors.

Questions relating to these dimensions are framed in 5 point scale ranging from '5' to very high and '1' for very low opinion. To measure the perception level of productivity of employees with respect to these factors, questions relating to these aspects are grouped and the sum of the scores for each aspect is calculated, on the basis of which average productivity score is obtained.

1.7.7.3 Mode of Answering

The questionnaire prepared in such a way that the respondents had to indicate their responses to each of the statements by putting a tick mark to Very High (VH), High (H), Neutral (N), Low (L) and Very Low (VL). Copy of the questionnaire is provided in the Appendix I.

1.7.7.4 Scoring Pattern

The questionnaire contains positive as well as negative statements. The scoring is done by giving weights to the responses given by the respondents. Five alternatives are given to the respondents for indicating their perception regarding the aspect in question in the questionnaire. They are Very High (VH), High (H), Neutral (N), Low (L) and Very Low (VL). The scores allotted to the responses for positive statements are 5, 4, 3, 2 and 1 respectively. Negative statements are allotted 1, 2, 3, 4 and 5 respectively.

1.7.7.5 Reliability of the Perception Scale

In the present study, the reliability coefficient of the perception scale was calculated using split-half method. The scores obtained from odd and even numbered items in the perception scale were calculated and the coefficient of correlation 'r' between two sets of scores was calculated using Pearson's Product

Moment Coefficient of Correlation. The reliability coefficient of the perception scale was found to be 0.67 and this indicated that the scale was reliable.

1.7.7.6 Validity

The perception scale was constructed by taking care to cover all aspects relating to the labour productivity of workers of cooperative spinning mills. Moreover, it was submitted to experts for necessary modifications. Thus the perception scale was considered valid and reliable.

1.7.8 Data collection Procedure

The investigator personally visited all the cooperative spinning mills in Kerala taken up for the study and distributed the questionnaires among the workers and supervisors/jobbers after seeking prior permission from the concerned officials and authority.

1.7.9 Statistical Techniques used for Analysis

Collected data were consolidated by using the spread sheet package MS Excel. Statistical package SPSS was used for data analysis.

The various analytical techniques used for the study included common statistical tools like simple average (Arithmetic Mean), Standard Deviation, Compound Annual Growth Rate, one sample t-test and Analysis of Variance (ANOVA). Arithmetic Mean and Standard Deviation was used to know the measures of central tendency and dispersion respectively. One sample t-test was applied to assess the significant difference in the perception score from the assumed score. The monthly financial data of the various companies not showing the normality, hence the data converted in to natural logarithm and applied the analysis of variance to know the significance of difference among various spinning mills. In some financial variables which consists of negative values the conversion to the natural logarithms is not possible, hence non-parametric test - Kruskal Wallis H test was applied.

1.8 Reference Period

The reference period is the period through which the research was conducted. Any research work should go through different areas like literature review, collection of primary data and secondary data. The period of time utilised for these aspects may differ. It is discussed below:

*** Literature survey**

Literature survey means reviewing the previous studies like articles, journals, thesis, and seminar presentations to identify the research gap that leads to the necessity of the present work. The need of the present study was traced out by reviewing the literature ranging from a period from 1946 to 2018.

***Secondary data**

It is in the form of published source information available like thesis, publications, articles, journals, seminar reports etc in university libraries and electronic sources. Secondary data referred here, ranging from the year 1946 to 2018.

***Primary data**

It is considered as the important source of information for the research work. A pilot study was conducted by collecting information from 30 respondents of elected spinning mills. . It was conducted between the months of January to March, 2018. Primary data were collected during September, 2018 to December, 2018. Data was collected from 297 workers and 107 supervisors/jobbers from 8 cooperative spinning mills in kerala.

1.9 Limitations of the Study

1. The study was limited to the perception expressed by the supervisors, jobbers and employees working in the cooperative spinning mills of Kerala.

2. The perception of top level management were not considered while identifying/calculating the labour productivity of cooperative spinning mills operating in geographical area of Kerala.
3. The data for a period of six years from 2012-13 to 2017-18 were only considered for reaching research conclusions.

1.10 Presentation of the Report

The report of the research work has been presented in to seven chapters.

The first chapter '**Introduction**' gives a brief concept of work culture, labour productivity, cooperative spinning mills, significance of study, scope and coverage, objectives of study, hypotheses of the study, research methodology and limitations of the study.

Second chapter '**Review of Literature**' consists of literature related to cooperative spinning mills, labour productivity, and other related studies, thereby the researcher identifying the present gap for conducting the present study.

The third chapter '**Profile of the cooperative spinning mills in Kerala**' contains the brief description of all the eight spinning mills in Kerala. It describes the mission, organisation and development of the mills.

The fourth chapter '**Labour productivity and growth pattern of cooperative spinning mills in kerala**' is discussed the trend and growth of the financial performance of cooperative spinning mills. The indicators considered are Sales, Increase or decrease in stock, Value of production, Variable expenses, Fixed expenses, Cost of production, Profit before depreciation interest and taxes, Financial charges, Profit before depreciation and taxes, Other incomes, Cash profit or loss, Depreciation and Net profit/ loss.

The fifth chapter '**Perception of supervisors and jobbers on labour productivity**' is the analysis of the data collected from primary source are presented. Perception of supervisors/jobbers with regard to the labour productivity in cooperative spinning mills is presented in this chapter.

In sixth chapter '**Perception of workers on labour productivity**' is also the analysis of the data collected from primary source are presented. Perception of workers with regard to the labour productivity in cooperative spinning mills is presented in this chapter. This chapter presented the collected data in tables and graphs and also presented the results of statistical analysis of data.

The seventh and the last chapter "**summary of findings, conclusions and suggestions**" deals with findings derived from the study, suggestions for the improvement and conclusion.

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Introduction

The introductory chapter presented the significance, scope, research questions, objectives, hypotheses, methodology, limitations of the work and chapterisation of the study. This chapter reviews the existing literature relevant in the field of Labour Productivity of textile mill industry and in general in order to get a better understanding of the subject.

The literature review helps the researcher to get acquainted with the research problem and provide guidelines in selecting a proper research methodology. It is helpful to find out the research gap in the existing literature. The investigator reviewed the research articles, case studies, books, theses etc which are directly or indirectly related to the problem area. The researcher has made an earnest attempt to review the relevant studies related to the present research work conducted so far in order to identify the research gap. The literature review collected are classified and presented in to three heads. They are,

1. Studies conducted in Kerala
2. Studies conducted in India
3. Studies conducted in Abroad

2.1 Studies conducted in Kerala

Ramachandran (1969) in his thesis examined the industrial relations in Kerala . His study revealed that only few labour disputes led to strikes and these strikes are very short in Kerala compared to other states.

Pillai (1974) in his thesis observed industrial strikes in Kerala. He strongly suggested that employees joined in a trade union influenced more by economic factors rather than ideological considerations.

Rajappa (1976) in this article observed that, human factor determined industrial productivity and concluded that the working level has influence over satisfiers and dissatisfiers among the employees. Higher level occupation and

motivation act as satisfiers and lower level motivation and hygienic factors act as both.

Sivaraman (1977) studied the problems associated with multi unionism in industrial sector in Kerala. He revealed that there are so many clashes in the opinion between management and trade unions.

Balan (1986) in his research paper, studied the collective bargaining in the cashew industry in Kerala and proved that industrial relations in cashew industry is influenced by the economic conditions and organizational structure.

Kevin (1988) conducted a comparative study of textile mills in Kerala and Tamilnadu. The study compared individual and general profitability of the mills. He highlighted that factors responsible for the variation in profit are cost structure, labour and machine productivity. In this study he analyzed pathetic face of the industry like low profitability, insufficient liquidity and negative working capital etc.

Manilal (1989) conducted a study on the role of Kerala State Textile Corporation in the revival of the sick textile mills in Kerala. The study analyzed the limitation in the frequency of training given to operators, technicians and supervisors. He suggested frequent training programmes in close heels with modern technology. The study recommended to reduce the operating costs at the administrative level. According to him this will improve the financial position of the sick textile mills and take them as profitable units.

Ramalingam (1990) studied the leadership potential of 820 employees of ten public sector undertakings in Kerala. His study uses seven variable and 46 sub components that influence leadership potential. He also invented a leadership potential rating schedule and predicted equations on leadership potential.

Hemavathi (1990) studied about the motivational techniques of the industry. Her study revealed the importance of job security as a main motivating factor in public and private sector.

An Advisory Committee by Kerala Government (1990) conducted a study on the problem and prospects of the textile mill industry in Kerala. The committee revealed the managerial inefficiency of public sector textile mills. The study argued that professional and efficient management system are essential for the success of any industry in Kerala. They also said that modernization and work force reduction increases efficiency, since the wage pattern in high in Kerala as compared to other states.

Suja (1992) conducted a study on industrial backwardness of Kerala including textile mills. She examined the historical causes for industrial backwardness of Kerala and found that, lack of an indigenous industrial class in a classical sense is the factor behind these backwardness. So she suggested the evolution and development of such a class as solution.

Sitra (1992) conducted a study on cost control and costing in spinning mills in Kerala and assessed the causes of sickness and poor performance of spinning mills in Kerala. They identified the symptoms and causes of sickness. They argued that it is the incapacity and slipshod attitude to adopt the cost control measures in time that leads to the poor performance and sickness . The study envisaged certain conditions to get up sick mills into revived units.

Padmavathi Amma (1992) studied in her research work, the attitude of the employees in the public and private enterprises in the industrial sector of Kerala, and also examined the behavioral pattern of public and private sector employees.

Prasad (1992) studied on human resource management in textile mill in Kerala and his study recommended the importance of training facilities to workers and supervisors according to the technological upgradation and also suggested to arrange training facilities by using the external agencies.

Manmadhan (1993) in his thesis paper reviewed the management practices in the textile mill industry in Kerala. Our public sector followed a policy of professional system of managerial development by providing all facilities should be encouraged.

Mathew (1993) studied in his thesis work, the effect of trade unionism on industrial relations in the textile mills in Kerala and came to the conclusion that strike is the main form of industrial relation activity in the textile mill industry. Trade unions are very strong and they have collective bargaining power also.

Pushpa (1993) analyzed worker participation in various organizations in Kerala. Her study shows the importance of worker participation in creating a cordial atmosphere in an organizational setup.

Sajeev (1994) in his study about the trade unions in kerala, realized that these trade unions are worked for political parties rather than employees. He suggested that trade unions should work for employees and not for political parties.

Muraleedharan (1994) in his doctoral work, observed the relationship between labour productivity and antecedent of workers. His findings revealed that male workers are more productive and have good marital status. Job satisfaction in work environment is essential for productivity of workers.

Balakrishnan (1994) from his research work of SITRA (South Indian Textile Research Association) seen absenteeism in the member mills. He compared every participating mills to judge its performance against absenteeism with other textile mills over a long time. He found out lot of disparity of absenteeism among member mills of SITRA and unauthorized absenteeism is very high there.

Anil kumar (1995) in his research work, recommended that motivation should be needed for the efficiency of the employees. Management should motivate the employees properly by using modern motivational techniques.

Dayanandan (1997) in his work observed the effectiveness of human resource management practices in the central co operative banks in Kerala. His study showed various shortcoming of human resource practices mainly on motivational aspect.

Kumar (1997) in his research about cotton spinning mills in Kerala emphasized the factors determine the financial and productive performance of

spinning mills of different categories. The study identified the role of a technical review committee to assess and monitor production and labour productivity.

Gopal (1998) in his research work categorized labour management relations in the textile mill sector of Kerala. He argued in this study that, voluntary negotiations is essential for settling industrial disputes and strongly assured the importance of cordial atmosphere. His study also found out various shortcomings of the management, only top level management, involved in dispute settlements. The bottom level and middle level management in terms of sharing work space with the workers would be more efficient to solve their problems.

Deepu (1998) in his research paper revealed various welfare measures opted by the textile mills in Kollam District. Systematic working methods are needed for good labour productivity. Welfare measures are very essential for labour productivity and raising their standard of living .

Government of Kerala (1999) set up a committee under industrial department to analyze the problems of textile units. The study revealed that there are many problems that hinders growth of textile units. The committee recommended modernization of machinery, imparting training on new operational lines and financial restructuring with appropriate capital leverage as the solution to these problems.

Technical committee (1999) established by the government of Kerala, studied the problems of private textile mills in Kerala state. They found that private textile industrial units in Kerala faces many problems like lack of modernization, low profit, high costs of borrowing and debts, lack of demand, high cost of labour and power etc. The committee put forward many recommendations in order to overcome these hurdles such as exemption of sales to productivity norms and creation of seed capital fund etc.

KSPC News (1999) reviewed that for calculation of economic welfare, labour productivity is more important. Total labour productivity is the main component of factor productivity.

George (2002) argued that Gandhian ideology should be followed as management practices in tea plantation companies in Kerala. In his doctoral study regarding the human resource management practices in tea plantation companies, he also revealed that the management practices are very inefficient in these organizations.

Jacob (2002) narrated the result of a study regarding the behavior of public sector employees in Kerala, that the bargaining power of employees is very much high in this organizations. All the employees are members in any one of the trade unions and the leaders will help them to get rid of the problems with the management. He also revealed that outside political leaders engaged in the issues with the management .

George (2002) conducted a study about the readymade garments industry in Kerala. The study analyzed the problems faced by the employees in the readymade garments industry. According to this study labour relationship is tolerant in domestic units than in export oriented units. Labour absenteeism, demand for increasing wage and bonus are some of the major labour problems faced by the garment industrial units. They also faced threats like labour turnover, trade union militancy and labour strikes.

Biju (2002) disclosed the outcome of a study carried out by him on taxes department in Kerala that, in taxes department potential leadership quality is very high in the personnel department.

Molly Varghese (2002) conducted a study on the labour welfare measures provided to workers. In her study she compared and analyzed the welfare activities available to workers in major industrial units in Kottayam district including textile mills in the public sector. The study emphasized that wide disparity prevailed in the welfare facilities provided to workers in textile mills compared to other industrial units. She recommended some minimal welfare measures which should be provided to mill workers.

Prasad (2002) in his research work he examined the labour productivity in the textile mills of Kerala. His study revealed the policies taken by the mills in people management and attempted to enter the employee satisfaction in terms of their welfare. The study suggested giving training to the labours with changing technology by eminent hands.

Binoy (2003) conducted a study regarding the labour productivity of employees in Kerala and found that, the incentives and other facilities provided to them are inadequate. In his study he discussed that aged employees were more satisfied than young ones.

Anil (2005) in his research paper studied about the labour productivity of employees in Malappuram cooperative spinning mill, Malappuram, Kerala, observed that multi dimensional criteria is more relevant than uni dimensional criteria for measuring labour productivity and direct supervisor is the best judge for measuring productivity of employees.

Divakaran (2005) in his research article he selected ten companies in Kerala and he found out an index HRQI (Human Resource Quality Index), it helps to check the human resource quality of different organizations and he gave suggestions for improving employee quality.

George (2005) disclosed the result of his study regarding labour productivity of taxes departments that, the employee productivity is very much low in this departments. He also suggests new methods for promotion, transfer, training, selection and salary administration for employees.

Sreedhar (2005) described in his research study about the public sector undertakings in Kerala that, the interference of trade unions based on politics is the main hindrance for the effective functioning of public sector undertakings in Kerala. The employee management relationship is going worse due to the interference and unjustified bargaining of trade unions.

Cornelius (2006) conducted a study of the textile industry in Kannur District of Kerala of different types. He found out that there are a lot of differences in production and export of yarn in these textile mills in Kannur.

Dileep (2006) undertook a study to assess the employee behavior, ethics and responsibility towards the organizations in Kerala. He observed that it is very much stronger in the private sector than the public sector and also his study revealed that the employee morale is very much higher in administrative members than technical members.

Chandrasekaran (2007) conducted a study on labour problems and productivity with special reference to the functioning of cooperative spinning mills in Tamilnadu. He analysed the performance of labour as a factor of production in the functioning of cooperative spinning mills and compared the important causes for smooth functioning of five cooperative spinning mills in Tamilnadu. Data collected through questionnaire by giving importance to different selected variables. Total Productivity Measure (TPM) were computed for comparison of different mills.

Chackochan (2007) disclosed the result of a study conducted by him regarding the training system of public and new generation banks, that good training facilities are available to public sector banks and poor training facilities available to new generation banks and the employees of new generation banks are young.

Venugopalan (2007) explored in his thesis that the dispute settlement methods, conciliation among the management and employees are very much effective in Kerala based organizations. Employees are very much satisfied with the settlement mechanism prevailing in the industry. As far as considered to public sector, government and trade unions have a major role along with the management for settling the disputes.

Thomas (2008) shared the result of the study conducted among the selected public and private sector undertakings in Kerala, that most of the undertakings following autocratic style of leadership which is not liked by the employees.

Democratic and participative style of leadership is needed in the enterprises of Kerala.

Krishna kumar (2008) conducted a study on the textile mills in Kollam district on the topic labour productivity. In this study, he found that, if the human resource activities are not efficiently used especially in the lower level, they were dissatisfied with the whole administration system. This results the dissatisfaction of employees at lower level. He suggested better and efficient monitoring of human resource activities by the management for utilizing labour potential in an effective manner.

Veerankutty (2010) studied about the labour efficiency in the software industry in Kerala. The study revealed that motivation of employees and retaining the talented employees in the organization are the major challenges faced by software companies. He suggested some motivation techniques such as fair working conditions, fair pay packages, career growth, participation in decision making and motivation training to retain the employees in the organization.

Sumathi (2011) in her research oriented study relating to talent acquisition management in the spinning and weaving mills of Kerala revealed the importance of a good performance appraisal system for retaining talented employees in the textile units. Financial as well as non financial rewards based on the performance could have a vital role in the utilization of potential of the employees in the textile mills.

Binoy (2011) conducted a study on software firms in Kerala. He examined the innovative human resource practices in software firms in Kerala. His study emphasized the significance of innovative HR practices and as per the study he argued, it will affect the entire social structure of an organization.

James (2011) conducted a study about the human resource management in the Business Process Outsourcing (BPO) industry of Kerala. The study examined the rate of drop out in the BOP industry and found that rate of attrition is high in BPO industry. Job insecurity, high competition nature, low compensation, high strenuous nature of the job etc. are reasons behind this high attrition.

RIAB (2017) revealed in their report that, during the financial year 2016-17 from among 8 cooperative spinning mills in Kerala all of them are under loss. They are, Malappuram cooperative spinning mill, Thrichur cooperative spinning mill, Quilon cooperative spinning mills, Cannannore cooperative spinning mills, Alleppey cooperative spinning mill, Malabar cooperative spinning mill, Priyadharsini cooperative spinning mill and Mala cooperative spinning mill.

2.2 Studies conducted in India

Alexander (1972) studied about participative management in important textile mills in India and understand that workers are interested in participating management decision making and trade union activities. Highly educated employees are more interested in participation.

Padmanabhan (1974) in his doctoral study found out the problems of textile mills on a national level. His study gave importance to composition of assets, liabilities and working capital and found out that current ratio is useful in testing the short term solvency while equity debt ratio is more effective in testing long term solvency.

Sreenivasan (1984) conducted a study for the South Indian Textile Research Association and studied different sectors of textiles mills, Power looms, handloom, Khadi and knitting industry and also the inter relationship of these sectors. He also analyzed the ancillary sectors of textiles such as silk processing, wool industry, man made fiber, textile machinery and the mutual existence of these all sectors as a single entity. He also revealed the problems and prospects of the entire industry.

Birundha (1985) in her study analyzed the profit variation in various textile mills of similar structure and capacity. Four major factors affected the profit variation are, size of the firm measured in terms of financial assets, technology adopted, lack of modernization and capacity utilization. Lack of modernization is a major threat.

Ganeshan (1990) studied the various problems of textiles mills in Pondichery. In his doctoral thesis found out the impact of participative management on

organizational effectiveness. His findings revealed that organizational effectiveness is a major factor which is responsible for the growth of the textile industry.

Huddar (1992) found out that majority strikes in textile mills in India are caused by lack of coordination between workers and management.

Dey Bata (1994) in his research “Human Resource management- value analysis under emerging trend prospective” analyzed the concept of HRM and HRD. He opined that human resource management with inspiring mission to be more effective in an organizational context . He pointed out the importance of human resource management in an organization.

Dhavan (1994) in his work “HRM human values and excellence” analysed the importance of constructing humanity and values in workers to modify their attitude and behavior in the working environment. A manager first of all, he could manage himself, then only he could manage the work place, family, society and the nation. Positive attitude, self confidence, strong will power, high goals, knowledge, practice hard work, courage, responsibility, spirit of service, empathy etc. are some important human values that should pertain in an effective management.

Venkataraman (1995) examined the prevailing trends in employee management in India and also the expected trend in the field of human resource. His study showed expected trend in human resource in four area i.e., information system, technical proficiency, strategy development and organizational culture. Employee participation is necessary in the field of human resource management.

Bhowmick (1995) in his study he revealed the impact of GATT on human resource management. He also discussed about the labour loss prevailing in the industry and the effect of it in human resource management.

Chauhan (1995) in his study titled “Challenges for human resource development in the changing environment” says that, effective and systematic human resource management can put forward the ordinary people in to extra performances . The investment in human resources are essential for the growth and

development of the organizations. It increases the competitive power of the firm in the fast changing world.

Bhagoo (1995) examined industrial relations of cotton textile mills in Punjab and came to the point that, attitude of the workers, trade union leaders and management personnel had great influence on industrial relation.

Rao (1996) studied the importance of performance appraisal in public sector undertakings and viewed that an employee is praised by the superior officers in various aspects such as innovation, efficiency, resourcefulness, earnestness in discharging duties etc. The most important among them is efficiency rather than sycophancy. Only deserving employees must be selected for higher positions or grade. The true quality of a manager is maintaining cordial relation with the employees.

Acharya (1997) conducted a study on changing concept of labour and management, explained the importance of human resource by giving proper training, physical facilities and morale boosting. Both management and labour have to join hands for the improvement of the industry.

Agarwal and Gupta (1997) in their study of human capital structure reveals that human capital structure consists of various human capital valuation and accounting methodologies. They suggested various structural changes needed for human efficiency.

Sridharan (1997) conducted a study on the changing attitude of the corporate sector in India. Very few organizations in the business sector are systematic and they are concerned with technological updates and human resource development. He also recommended that the employees should be updated according to the changes in the business world.

Gurjar (1997) in his thesis studied about the worker participation and revealed his experiment on workers participation in Kohinoor mills. He noticed the remarkable rise in daily output because of positive response from workers to the

management due to the worker participation and it improves the functioning of mills.

Sharma (1998) conducted a study of various problems facing by cotton producers. His major findings were land allocation, high cost of labour, unforeseen changes in monsoon and government intervention are the factors affecting to it in a great extend. The cotton production is still lacking in India. This is a major threat to the cotton textiles industry in India.

Haridas (1998) his research findings proved that managers are more sensitive and versatile to acclimatize with the changes and challenges in the corporate world in the new millennium. The World Bank also recognized the importance of human resource potential in India and advised the management to utilize these advantage properly. His study touches all areas of enterprises such as policies, procedures and resources to ensure stabilization.

Rao (1999) in his research paper found out that human resource professionals in India are lagging in terms of changing environment. His study recommended HRD professionals to adopt the concept with a broader vision and to raise the level of flexibility equal to international standards and to make the changing economical environment favorable to the firm. He emphasized the need of commitment from the human resource professionals.

Sonara (1999) in his study of human resource reporting practice and problems in India published in the Management Accountant and proved that statutory evaluations and reporting of human resource is needed. A correct reporting of human resources in financial statements will give a fair and complete view of accounting information and increased confidence among the people .Working in this type of organizations boost their morale and help the management in fulfilling their social responsibility.

Vikhe (2000) in his research paper “Economic reforms and human resource development” published in the Indian Journal of Labour Economics, stating that labour policy should have a view of development as a sustainable process of

expanding the capabilities of people and mobilize human resources. Giving adequate social security to workers and achieve high productivity at the same time is a major challenge before the policy makers and planners .

Pradosh, Mrinalini and Sandhya (2001) their study on National Textile Policy recommended a textile research system of technological upgradation, then only textile industry will globally competitive and productive.

Dhayalan (2005) in his study he tried to compare the impact of labour productivity on corporate performance in India and Singapore and proved that Indian labour productivity is high compared to Singapore firms. The contributions of high performance human resources practices on return on capital employed are same in both countries. His study revealed the direct positive influence of high performance human resource practices on productivity and financial performance.

Tripathy and Tripathy (2008) conducted their study on HRM practices which are complex and adaptive in nature. The Complete Adaptive System (CAS) theory is closely linked with prevalent knowledge and information on the unique nature of human resources management practice of IT industries. This is a more advanced theory of HRM in comparison to Resource Based View (RBV).

Prachi and Pravin (2016) conducted a study on the importance of measurement of labour productivity in construction and revealed that productivity is an important aspect of construction industry, that may be used as an index for efficiency of production. In their study, from the analysis of data collected , it is observed that measurement of labour productivity is helpful in saving the time of the project as well as cost of project without hampering the quality of work.

2.3 Studies conducted in Abroad

MC Gregor (1967) argued in his work that in a democratic way of management, the power is more with in a group and there is a greater interactive within the group. The participation of employees will be higher. All members would participate in goal setting and problem solving. This participation encourages member to set the final decision .The study reveales that human resource practices

plays a significant role in firm especially in labour oriented firm such as textile mills.

Mayers (1981) in his research on economic pressure on employment of married women found that married women with low financial background have more economic burden.

Aruna (1981) conducted a research on the level of organizational involvement of women in the developmental projects. She revealed that project personnel should train their participants. It is necessary for planning and implementing project activities. It should improve their financial background and they should focus on the activities which raise their earnings.

Wernerfelt (1984) who opined that resources both tangible and intangible assets are tied semi permanently to the firm. He argued all assets capabilities, organizational processes, firm attributes, information knowledge etc controlled by a firm should enable the firm to conceive of and implement strategies that improves efficiency and effectiveness.

Johnson (1987) describes that the issue faced while managing employees of an organization are of different in nature. So veracious strategies should be needed and implementing strategic decision involves the persuasion of people to change from what they are used to doing.

Needle (1989) in a study reveals that labour productivity is distinctive in nature. So managing people is not the responsibility of any particular individual or group. He argued that it is the responsibility of each and every member to conduct and manage all of them. According to him HR practices should be viewed at the frame work where complexities of managing people are worked out.

Wright and MC Mahan (1992) evaluated that resource based view takes human resources as a pool of skills that can be provided a string theoretical foundation to human resource management . It can provided a source to serve as sustained competitive advantage.

Derry Erwin and Iversen (1994) in their joint study visualized that a cooperative industrial relation climate has a positive impact on organizational commitment. But it would act negative effect in the union loyalty context . The resource based view of HRM describes the inter relationship between performance and HRM.

Huselid (1995) has analyzed the relationship between system of high performance work practices and firm performance . He has of the view that high performance work practices such as comprehensive recruitment precedures, high incentive and compensation, extensive training for employees can improve knowledge, skill and performance of employees of a firm. It increases their motivation, reduce shirking and improve quality of employees.

Meyer and Allen (1997) in their study recognized the notion that the work practices of the organization influence perception of commitment .They found a positive relationship between organizational commitment and performance .They revealed that organizational commitment represents an employee's identification and commitment towards the organizations.

Drucker (1999) in his study named “Management challenges for the 21st century”, highlights the challenges faced by management in the 21st century. He compares six old and six new paradigms of human resource management . He says that managers should ready to accept new and effective models of management and to replace old theories in order to face the challenges of new century.

Sutermeister (1999) in his study visualizes the human contribution to productivity. There is a circular relationship between satisfaction and productivity. Effort affect satisfaction and satisfaction influences performance.

OECD Manual (2001) The Organisation for Economic Cooperation and Development, Paris, in their report provide an accessible guide to productivity measurement for those involved in constructing and interpreting productivity measures. It reveals technology, efficiency and real cost saving are the main objectives of productivity measurement.

Truss (2001) argues that the resource based view of human resource in rationalistic way compared the organization in the sociological institution perspectives. She argued that IT industry needs strategic, dynamic and flexible HR practices since it is an emerging industry.

Simon and Nardinelli (2002) in their study found that initial difference in human capital can affect the growth of an industry. He argued that cities with higher human capital grows faster in the long run. The regional differences in the human capital also explain geographic difference in industrialisation rates.

Siekel (2002) in his study opined that Customers Relationship Management (CRM) have moved on to Employee Relationship Management (ERM) as human resource is identified as resource which provides high yield for a company. He argued that today a new relationship has been developed between employers and employees.

Monster Retention (2006) his study about HR managers to assess their attitude towards workers, he highlights that most of HR managers feel that workers retention is essential for their organization. He revealed that it will be a focal issue of the coming years.

Hansen (2007) in his study stressed the need of improving the performance management system in US companies to retain their employees. In his article he argued lacklustre performance of companies in the country faces sweeping condemnation of their performance management system.

Klein (2007) in her article “The real Exit interview” deals with the significance of exit interview and reasons for exit interview. She pointed out the factors that motivate employee to leave their employer such as unfair work place, salary injustice, negative work culture etc.

Schriener (2007) in his article named “Firms must adjust strategy to attract and retain staff” discussed the highlights of business conference conducted by ‘society for marketing professional services and professional services management

association' in Washington DC .Research showed that few construction and design companies were recruiting their employees in correct way.

Fisher (2007) in his study “The coming of age” described the policies adopted by Australian companies to retain their older workers. He argued that it is the interest of both business and the community that older workers should enjoy an equal partnership in the work place. He also argued that if employers do not adopt strategies to retain their old employees they will lost their experienced workforce.

Conlin (2007) in a case study described the strategy adopted by international firms like Netflix to recruit and retain the best talents .They keep their employees motivated with high compensation and lux perks including lots of time off. In return, they perform high that, a employee do the job of three or four people.

Protzman (2007) in his article “Group takes on employee retention industry leaders”, WWD’s HR leadership forum discuss how to find and keep good employees. The forum conducted in New York city in October 2007, featured retail and apparel leaders are known for attracting people.

Basefsky (2007) in his study titled “The personal information trainer” indicates that personal information trainer is essential to a company for institutional success. Personal information trainers are designed to attract and keep talented employees. So they are responsible for keeping the office updated on latest resources useful for productivity.

Mitchell and Armstrong (2008) in their online published study put forward 10 best HR practice capsules suitable for the current world that would help the organizations all around the world. They are, 1. Create safe, healthy and happy work place. 2. Share information on business matters. 3. Performance linked bonus. 4. 360 degree performance management feedback system. 5. A fair evaluation system. 6. Knowledge sharing. 7.Highlight performance. 8. Open house discussion. 9. Reward ceremonies. 10. Delight employees with unexpected. These strategies are very crucial for any organization.

AIM (2010) the research agency from Australian states in their report stated that, evidence exists to link social responsibility with productivity and they are now conducting a research project “Corporate social responsibility and productivity applied research project”. Labour productivity may be related to business social responsibility. If the firm is not socially responsible the employees cannot utilize their entire efforts towards the achievement of organizational goals.

Bal (2011) in his work analyzed the changes in human management. According to him human resource management has a significant role in the growth of an organization in recent year. Human resource is the most valuable asset of an organization. Human recourses are integrated with the mission and vision of the organization.

2.4 Identification of Research gap

From the foregoing studies related to the area of labour productivity of cooperative spinning mills, it was found that different studies have been carried out by several researchers and institutions in Kerala, India and abroad .The literature review has identified a critical gap in the performance and labour productivity of cooperative spinning mills in kerala. Further, it is implicit that no systematic and scientific studies have been conducted to reveal the reason for the poor performance of cooperative spinning mills in kerala . In this scenario the researcher makes an attempt to fill the vacuum. Literature review helps the researcher to find out the thirteen study variables which are used to measure labour productivity of workers of cooperative spinning mills namely, Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation. It also helps the researcher to identify the different variables for analysing the performance of cooperative spinning mills like, Sales, Increase or decrease in stock, Value of production, Variable expenses, Fixed expenses, Cost of production, Profit before depreciation interest and taxes, Financial charges, Profit

before depreciation and taxes, Other incomes, Cash profit or loss, Depreciation and Net profit or loss.

Next chapter reveals the profile of the cooperative spinning mills in Kerala, which contains the brief description of all the eight spinning mills in Kerala. It describes the mission, organisation and development of the mills.

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Introduction

After examining the academic works already done in the literature and revealed the research gap in previous chapter, it is desirable to give a brief description of all the eight spinning mills in Kerala about the mission, organisation and development of these mills. The present chapter is committed to this.

This chapter is divided in to two parts. First part deals with a general review on textiles industries in India and Kerala, second part deals with the profiles of all cooperative spinning mills in kerala.

3.1 Textile Industry

3.1.1 Origin and development of cotton textile industry in India

The cotton textile industry is the oldest and one of the largest single industry in India. Though its origin can be traced back in history, the industry in its present form has an existence of about one and quarter of a century. Before the setting up of the factory sector, the industry flourished in an unorganized form, primarily as a cottage industry .The first mill in India was started in Calcutta by an englishman named Bowreash in 1818. But the foundation of the mill sector of the industry was actually stablised in the year 1854. After this period, the industry witnessed a continued expansion and by about 1940, it emerged as a powerful competitor in the world market .The cotton textile industry began its career mostly as a producer of yarn for which there was an assured market both at home and abroad. The Chinese market for the Indian yarn in 1913 has set a new trend in the industry. This resulted the large scale diversification of the industry. The cut in the import of British cotton goods during the world war and the stoppage of import from other European countries, etc. further helped the diversification of the Indian industry during the first quarter of the twentieth century. Along with the quantitative increase an diversification of the activities, the industry witnessed qualitative improvements in its output as well as capacity utilization. It provides employment to many millions at different stages beginning from cultivation of cotton to the final stage of weaving cloth. By 1950, India was among the leading nations in textile production. From the 1950s, however, Indian textiles recorded steadily from the world market, while the

textile industry recorded an importance in the industrialization process at home. The decline owes to a policy regime that relatively insulated textile from world trade and investment, and regulated choice of techniques. The main source of growth was the home market which was potentially large and differentiated, but chiefly consumed the cheaper and cruder products and grew very slowly.

The main source of textile machinery was domestic producers, who had limited access to new technology in the industry. Restrictions on choice of techniques, meant to preserve handloom weavers, crippled the integrated spinning cum weaving mills in a number of ways, aiding wide spread bankruptcy, by and large, the industry in the early 1980's was characterized by poor capability and quality by global standards, and large pockets of high cost as well. In 1991-92 by macro economic crisis, the regime changed in India. The core area of change was trade policy, and the core industry effected by the shift was textiles. First the macro economic regime encouraged export of textiles, import of equipment, and import of generic intermediates. Costs of resources and costs of acquiring new capability came down from what they were in a protected market. Deregulation removed barriers to expansion and restructuring of mills and power looms, both changes were initiated in the 1985 Textile policy, reiterated in the 1993. Textiles (Control) order and became general in the 1992 round of reforms. In 1992-96 reforms effected the textile industry more deeply than in 1985-90, though the broad direction of policy was similar in both periods. Weakly after 1985 and strongly after 1992 an industry notorious for inefficiency began to play a key role in exports and export-led industrial growth, and was in principle allowed to reequip itself to sustain and enhance competitiveness. In 1996-97 and 1997-98, seen the deepening of a recession in textiles very clearly induced by a general recession in exports. The recession slowed down the process a great deal, but did not halt it altogether .In April 1951, there were 378 cotton mills, consisting of 103 spinning mills 275 composite mills. It increased to 1,175 mills by the end of March 1994 of which 906 spinning mills and 269 composite mills. Thus it can see that the spinning mills are increased from 103 to 906 whereas composite mills declined from 275 to 269. This is because of the general policy during the Five year planing. Kungo and Karve

committees during the mid 1950s recommended to expand spinning capacity of the industry so that more yarns is made available for weaving both in the organized and the decentralized sectors of the economy. Similarly, the spindles installed in the industry have more than doubled during the last four decades from 11 million in 1951 to 22.77 million in 1990. More recent trends shows that the cotton textile industry is going through a severe crisis following a slump in exports of cotton textiles, yarn and garments to the Asian and other countries. Today in mill sector, with 3400 textile mills having installed capacity of more than 50 million spindles and 842000 rotors, India is the second largest in the world .Traditional sectors like handloom, handicrafts and small scale power-loom units are the biggest source of employment for millions of people in rural and semi urban area. In India, the textile industry contributes to 7% of industry output in value terms, 2% of India's GDP and to 15% of the country's export earnings. With over 45 million people employed directly, the textile industry is one of the largest sources of employment generation in the country.

3.1.2 Organised and Unorganised Sectors

The Indian cotton textile industry broadly divided in to two namely, organized sector and unorganised sector. Organised sector consists of mills, so it is also known as mill sector. 'Mills' are the composite cotton spinning - weaving mills and spinning mills. The organised sector consists of handloom, power loom and hosiery. 'Handlooms' are handlooms, whether in factory or in household. 'Hosiery' stands for factories making knitted goods. 'Power looms' are residuals, and like all residuals, a rather mixed up category .Power looms can be defined as weaving factories. They weave a higher share of man made cloth than of cotton because in cotton they have to share the space with integrated mills and handlooms. They, however, have no organisational homogeneity. 40 spindles required to feed a loom in composite mills and 30 spindles required to feed a decentralised power loom. Till the early sixties, a major proportion of cloth output in India was produced in the mill sector. In 1960 about 72.5 % of cloth produced by this sector. Since the mid-sixties the roll of the decentralized sector in cotton textile industry has been expanded.

Presently, a major share, about 93% comes from this sector. This has been in pursuance of the textile policy adopted by the government which over the years has tilted heavily in favour of the decentralised sector. Govt. put restrictions on further expansion of organised sector whereas liberal incentives have been given for expansion in the unorganised sector.

3.1.3 Problems of Cotton Textile Industry

Clothing being one of the primary needs of civilized society its importance need not be emphasized. The cotton textile industry is the first of modern Indian industries, the base on which the pyramid of Indian industrialization has been built. (Dhingra, 1996). By and large, the industry in the early 1980's was characterised by poor capability and quality by global standards, and large pockets of high cost as well. (Tirthankar,1998). Cotton mill industry suffered from incompetent and selfish managing agents and directors who were more interested in their own profits. They did not take sufficient interest in accumulating financial reserves or in proper maintenance of machinery and modernisation. If management of textile units had been defective, the role of trade unions in the industry has not been helpful to the growth of the industry. The cotton textile industry in India is confronted with a number of problems among which the more important are as follows:

3.1.3.1 Modernisation and Rationalisation

The foremost among various problems being faced by the industry is the crying need for modernisation and rationalisation. The mill sector has been working with obsolete machinery. According to one estimate, over 80 percent of the machinery in cotton textile mills is old and would be scrapped. The industry, however, has no resources for the huge task of replacement and modernisation. Further machinery has also been one of the inhibiting factors as far as modernisation is concerned. The other main cause has been the high manufacturing cost of indigenous machinery, high taxation by way of excise duty and lack of adequate bank facilities.

3.1.3.2 Problem of Raw Material

The industry faces the problem of building up a regular supply of its raw material, cotton, in adequate quantities. Raw cotton constitutes the largest single element in the cost of yarn and cloth production. Despite the importance of the industry and the long period of its growth, the position of raw material has remained unstable. The most disappointing feature of cotton cultivation is that where as India has the largest area under cotton about 26% of world acreage, the country accounts for only 10 percent of the world output of cotton. Uncertainties in the raw material market and, in particular fluctuations in the prices of raw cotton are two major causes of sickness and consequently closure in the textile industry.

3.1.3.3 Problem of Power and Fuel

The textile industry in our country has suffered badly for want of adequate and unfailing supply of power. Frequent power cuts and load shedding have affected the industry badly. The inadequacy of fuel supplies has also affected the progress of the industry particularly in western and southern India.

3.1.3.4 Mortality and Sickness

The cotton textile industry in India as been reporting a high incidence of mortality and sickness. Since it is a labour-intensive industry, mortality will lead to unemployment .Moreover, the incidence of growing sickness of mills is alarming and has not been possible for the NTC to take over the management of all of them.

3.1.3.5 High Cost and Competition in Foreign markets

The Indian cotton textile industry has been facing increasing competition in world markets. This is largely due to low productivity and high cost and consequently high prices of Indian cotton textiles. Here wages are less only about 16 percent of total cost where as raw cotton accounts about 35 percent and process materials about 20 percent of production costs. The cotton textile industry thus facing both short-term and long - term problems. The result of it is low productivity, high cost of production, low profitability and increasing sickness.

3.1.4 Manufacturing Process of Spinning mills

The Manufacturing capacity of cooperative Spinning mills are revealed by the number of spindles use in it. The finished product of these mills are yarn or threads. There are in different counts (eg.60 S, 20 S etc..) the count reveals the thickness of threads. When count increases the thickness of thread will decrease. Superfine quality threads are combed threads. Carded threads are not super fine. Hosiery combed threads are used for banian cloth making. The range of yarn may be single of double. Single yarn are having less thickness and used for shirts, sarees etc. Double yarn having more thickness and used for jeans, bed sheets etc.

Mainly there are three processes for the production of clothing materials.

- (a) Spinning: The manufacturing process of spinning mills for the production of threads.
- (b) Weaving: It is the process of making cloths by using threads.
- (c) Processing : It is the process of dye colour the weaved cloths.

The raw materials used in spinning mills are Cotton, Polyester, Viscose, Silk, Nylon and Rayon. Cotton cultivated in Tamilnadu, Karnataka and northern state of India, It is natural fibers. Polyester is the byproduct of petroleum. Viscose made from bamboo and other plants. Silks are produced by silkworm. Nylon and rayon are man made. The various production departments functioning in the spinning mills are Mixing, Blow room, Carding, Draw frame, Simplex, Comber, Spinning, Cone winding and Cone packing.

Before completing the final product in the spinning mills, various processes are carried out in different departments. They are,

3.1.4.1 Mixing

Different varieties of cotton with different characteristics is mixed together by hand mixing as per requirement, Polyester/Cotton, according to the proportion

60% of polyester and 40 % of cotton are mixed layer by layer by hand. One lot of mixing is 1000 Kgs.

3.1.4.2 Blow Room

The object of blow room is to open the tuft of cotton thoroughly clean and make in to lap form.

3.1.4.3 Carding

The object of carding is to remove waste, short fibers and individualisation of fibers and make it into silver form.

3.1.4.4 Drawing

Carded silver are fed to the drawing machine to make uniform silver by drafting and paralysing the fibers.

3.1.4.5 Simplex

The drawing silver is fed to the simplex machine to make rove form in small size bobbins to fed the ring framed.

3.1.4.6 Spinning

The roving (bobbins) received from simplex are fed to the ring frame and by drafting and twisting the yarn produced is wound in copse.

3.1.4.7 Cheese Winding

Two ring frame copse are fed to cheese winding machine to wind the yarn in cheese form to feed to the doubling machine.

3.1.4.8 Doubling

The doubled yarn received on cheese is fed to doubling machine to get the same twisted and made into doubled yarn wound in copse to feed the cone winding machine or reeling machine as per requirement.

3.1.4.9 Cone Winding

The ring spinning copse are fed to the cone winding machine and wound into cone forms (of 1 Kg and 1.25 Kg as required). The cones are put in polythene bags..

3.1.4.10 Reeling

Ring frame copse are fed in to the reeling machine also to make into hank form.

3.1.4.11 Bundling and Baling

The hank yarn is made into bundles and then packed into bales.

3.1.5 Textile Industry in Kerala

At present there exists in Kerala a total of 38 Non SSI textile mills in the organized sector, coming under three categories, 17 mills in private sector, 13 mills in public sector and 8 mills in cooperative sector .The mill sector in Kerala at present providing direct employment to about 20,000 hands constitutes about 2.12 % of the total spindle capacity in India. It also contribute 1.49 % of the production of cotton yarns and 0.65 % of cotton cloths in India. Kerala is ranked ninth among the textile mill states of India. The average production of fabrics in the mill sector in Kerala is 15.92 M.Sq.m to the national production of 1784 M.Sq.m. The public sector mills come under two divisions, five mills under National Textile Corporation (NTC) and eight mills under Kerala State Textile Corporation (KSTC). These mills are spread throughout Kerala. In Cooperative sector there are eight Non SSI cotton textile mills under TEXFED (Kerala State Cooperative Textile Federation Limited) and these mills are also spread throughout Kerala.

3.1.5.1 General Conditions of Mills

Outdated machinery, stiff competition, high cost of raw material, low productivity and high cost of labour are affecting the profitability of kerala textile industry which is spread over public, private, cooperative and joint sectors. In Kerala cotton agriculture didn't make a prominent role among the cash crops. The

public sector units in textile sector are mainly engaged in the activities of yarn manufacturing (spinning both cotton and polyester), cloth manufacturing (weaving) and garment manufacturing. The overall capacity utilisation of the sector has been low at 60%. The problems now prevailing in the industry of Kerala is a reflection of the situation in the national level. The slump in export market, steep rise in price of cotton, lack of modernisation, obsolete technology, non-availability of bank credit, statutory regulation on production of hank yarn, etc., are problems attributable to the textile sector of Kerala also. Apart from these there are problems of power, low productivity, increasing costs of production in kerala's textile industry. Indian industrial growth mainly depends on the growth of textile industry. It contributes employment to many millions and also contributes a substantial part of national production. The production of the industry is increasing year to year. The production of textile in India under taken by both public and private sector. Now power loom is the leading sector both in production and exports. But the total export of the country is decreasing. So planning must be made to compete and export for world market. Now after china, India is the largest producer of cotton in the world. United state is in the third place. Gujarat is the leading producer of cotton in India followed by Maharashtra, Andhra Pradesh, Punjab, Madhya Pradesh, and Haryana. Highest productivity is also reported from Gujarat followed by Tamil Nadu, Andhra Pradesh and Punjab.

3.1.5.2 Cooperative Sector

There are 8 cooperative spinning mills in Kerala having membership in TEXTFED (Kerala State Cooperative Textile Federation Limited), namely (1) Malappuram Cooperative Spinning Mills Ltd.(MCSM), Malappuram (2) The Cannanore Cooperative Spinning Mills Ltd.(CCSM), Kannur (3) The Malabar Cooperative Textiles Ltd.(MALCOTEX), Malappuram (4) The Thrichur Cooperative Spinning Mills Ltd.(TCSM), Thrissur (5) The Alleppey Cooperative Spinning Mills Ltd.(ACSM), Alappuzha (6) The Quilon Cooperative Spinning Mills Ltd.(QCSM), Kollam (7) The Priyadarsini Cooperative Spinning Mills Ltd.(PRICO), Kottayam (8) K.Karunakaran Memorial Cooperative Spinning Mills

Ltd.(KKMCSM), Thrissur. In Kerala 21 mills come under the Govt. Sector and out of these 8 mills are in cooperative sector. These 8 cooperative mills constitute the cooperative sector, which provides employment to 1973 persons. The total spindleage of the cooperative sector is 150242. The units in the cooperative sector concentrate on manufacture of yarn (Spinning).

3.1.5.3 TEXTFED (Kerala State Cooperative Textile Federation Limited)

The apex body of Cooperative spinning mills and integrated power loom Cooperative societies in the State. Integrates all the segments of the textile industry in its fold i.e from spinning to weaving processing and garmenting.

The Kerala State Co operative Textile Federation Limited (TEXTFED) was established during 1992 with the objective to plan, advise, assist, coordinate, monitor, supervise, setup, manage and facilitate the organizations and the cooperative textiles units in the state entrusted, affiliated or leased to the Federation or owned by the Federation so also to arrange for manufacturing all textile products, dealing in and supply of all textile machinery, equipments, raw materials, consumable stores, spares etc. The Federation office is functioning in a rented building at Devaswom Board Junction, Kowdiar, Thiruvananthapuram.

The main handicaps faced by the mills under TEXTFED were the lack of working capital and non availability of raw materials. The Government has put in place a centralised purchase system to procure cotton for the entire textile sector through professionally constituted committee comprising of Public Sector Restructuring and Internal Audit Board (RIAB), Kerala State Cooperative Textile Federation Limited (TEXTFED) and Kerala State Textile Corporation Ltd. (KSTC). The sale of yarn through the depot is also monitored by the committee. Consequently raw material cost has come down heavily, sufficient savings are being generated due to which revenue and turnover has improved.

Obsolete technology and age old machineries used in the mills also pose another problem. Even though partial modernization has been done in certain units, it was not at par with the industry standards. Therefore, the Government constituted

an expert committee to study the crisis prevailing in the mills and the committee recommended modernisation of five Cooperative spinning mills in the state.

Initially the Government had taken up modernisation of Malappuram and Cannanore Cooperative spinning mills and completed the first phase modernisation processes. The second phase modernisation of the above mills has started with the assistance of the National Cooperative Development Corporation of Government of India (NCDC). Now the Government has been considering the renovation of plant and machinery of Alleppey, Quilon and Thrissur cooperative spinning mills with NCDC loan assistance, to the tune of Rs.3394.15 lakh, Rs.5739.16 lakh and Rs.2997.78 lakh respectively. Out of which Rs.518 lakh was provided in the state budgets in financial years 2013-14 and 2014-15 for the above mills.

State Planning Board conducted a study on the revival of spinning industry during 2007-13 and found out that the spinning mills under cooperative sector were profitable only in 2010-11. During the rest of the period under study, all the spinning mills were working under huge loss. The Government took diligent efforts to revive the cooperative sector with schemes, assistance for the expansion of Cooperative spinning mills and assistance for K. Karunakaran Memorial Spinning Mills at Mala, Priyadarsini Cooperative Spinning Mill (Prico Mills), and Malabar Cooperative Spinning Mills for upgrading existing machinery and technology for producing export quality yarn were provided.

The total project cost of K. Karunakaran Memorial Cooperative Spinning Mills (Mala) was Rs.2387.55 lakh, out of which an amount of Rs.950.28 lakh has already been provided. The Government has already provided an amount of Rs.2710.09 lakh for the expansion programme of Malabar Co-operative Textile Mills(Malcotex) against the total project cost of Rs.4217.62 lakh and a total amount of Rs.785.00 lakh, had been provided for the technology upgradation and overhauling of machinery attached to Priyadarsini Cooperative Spinning Mills against the total project cost of Rs.3716.00 lakh.

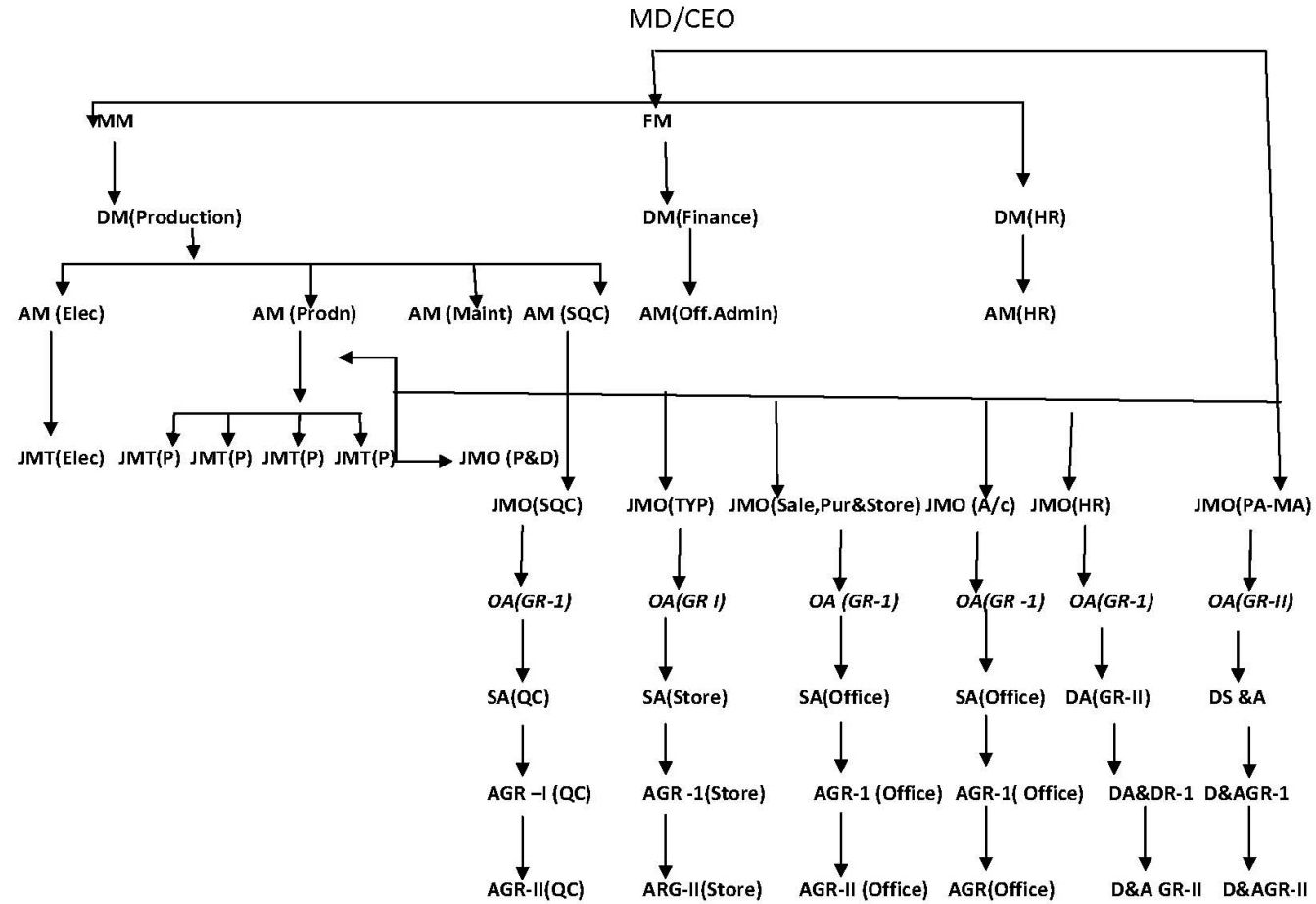
3.1.5.4 Long Term Agreement

LTA (Long Term Agreement) is an agreement in all cooperative spinning mills between employees and management, generally it has a time period of five years. It reveals all the terms and conditions regarding wage payment, duties and responsibilities of employees, the details regarding the quantity and quality of work etc. It will be renewed after every five years. But most of the Cooperative spinning mills were not renewed it, even though time period is over .

Mainly there are three shifts in Cooperative spinning mills ie. 8.00AM – 4.30 PM, 4.30PM- 1.00AM, 1.00AM – 8.00AM . The involvement of trade union is very active in all Cooperative spinning mills. Unions like CITU, INTUC, STU, AITUC etc. are very active. As per the Kerala Cooperative Societies Act 1969 (KCS Act 1969) Section 80, instructs that all Cooperative spinning mills should have an identical organization structure, wage payment system, LTA etc. and Govt. takes initiative to fullfil it, but not yet completed.

The organization structure of Cooperative spinning mills in Kerala, proposed by the Govt. as per Section 80 of KCS Act 1969 shown below.

Figure 3.1 Proposed Organization structure of cooperative spinning mills



3.2 Profile of Cooperative Spinning Mills in Kerala

3.2.1 Malappuram Cooperative Spinning Mills Ltd.(MCSM), Malappuram

The Malappuram Cooperative Spinning Mills was established in the year 1979 and started the commercial production on 1980. Though the mill was started under the cooperative act the mill is now managed by Government of Kerala, Industries department and it comes under the umbrella of TEXFED, where all the cooperative spinning mills are functioning. The units of TEXFED and KSTC are coming under the textile sector of Government of Kerala, Industries department. The Malappuram Cooperative Spinning Mill has got a spindleage of 25000 and is on the way of modernization through NCDS/ Government of Kerala modernization project. The Malappuram Cooperative Spinning Mills Ltd. was registered in 1975 for setting up a spinning mill in Malappuram with an installed capacity of 25026 spindles for the manufacture of cotton and synthetic yarns. The project was completed with a total investment of Rs.500.25 lakhs including Rs.247 lakhs as financial assistance from IDBI, IFCI and ICICI.

The mill started commercial production in 1981. But right from the year of the commissioning, the mill started making losses and was closed down due to the financial constraints from 19.05.1988 to 17.06.1990. During financial year 1993- 94 certain concessions, including waiver of interest amounting of Rs. 360.97 lakhs were granted by financial institutions and banks. The Government of Kerala provided a term loan of Rs. 272.50 lakhs for a one time settlement to the financial institutions. The Government also converted Rs. 153.40 lakhs of loan due to it along with interest as equity.

Even after the concessions the mill continued to make losses due to poor utilization and productivity. Therefore the mill gave a proposal of NCDS for improving the performance of the mill by the manufacture of value added products like combed yarn. The proposal was accepted by NCDC and sanctioned a loan of Rs. 282 lakhs. During the year 1998-99 the mill was sanctioned an advance of Rs. 210 lakhs against NCDC assistance of Rs. 282 lakhs. The mill has added 2 turmac cards. 2 RSB drawing and 4 Combers with silver lap and ribbon lap machines apart

from a humidification plant for the Cone winding department at a total cost of Rs. 188.11 lakhs. The Auto cone winding machine envisaged in the scheme has also been acquired and installed in July 2000. (<http://malcospin.com>).

3.2.1.1 Basic details of MCSM

Table. 3.1
Basic details of MCSM.

Mill Name	Commissioned on	Spindle capacity	Product	Management
MCSM	1980	25000	Cotton & synthetic blends	Govt. nominated board

Source : MCSM report

3.2.1.2 The staff details of MCSM.

Total staff- 369

The category wise details of these staff are-

Managerial staff-20 (Male-17, Female-3)

Operating workers including supervisors and jobbers-

Permanent workers - 305 (Male-222, Female-83)

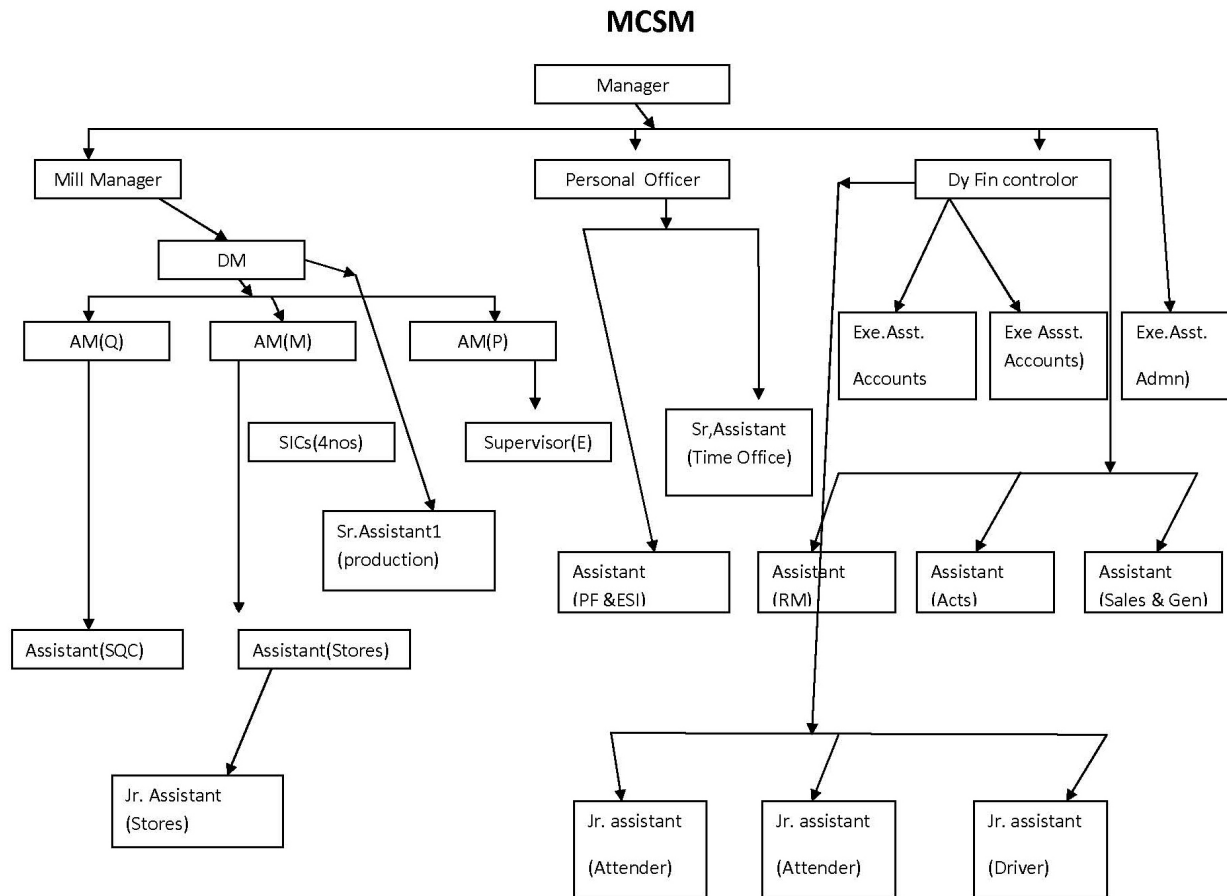
Badalies - 29 (Male-12, Female-17)

Casuals - 15 (Male-7, Female-8)

Trainees - Nil.

3.2.1.3 Organisation structure

Figure 3.2 The Organisation structure of MCSM.



3.2.1.4 Physical and financial performance

Table 3.2

Physical & financial performance of MCSM for the last 6 (six)years

PARTICULARS	YEAR	MCSM
SPINDLE CAPACITY		25000
UTILISATION %	2012-13	70.00
	2013-14	67.2
	2014-15	65.3
	2015-16	60.70
	2016-17	60.58
	2017-18	68.86
AVERAGE		65.44
VALUE OF PRODUCTION Rs. in lakhs	2012-13	2170
	2013-14	2166
	2014-15	1963
	2015-16	1617
	2016-17	2075
	2017-18	2508
Average/ year		2083.16
HOK	2012-13	30.39
	2013-14	30.18
	2014-15	28.76
	2015-16	26.72
	2016-17	31.18
	2017-18	30.36
Average		29.59
Operating profit (PBIT)Rs. in lakhs	2012-13	-116
	2013-14	-339.3
	2014-15	-386.1
	2015-16	-488.60
	2016-17	-283.15
	2017-18	-234.39
Average		-307.92

Source: Annual reports of MCSM

3.2.1.5 Cost of production details

Table 3.3

Cost of production details of MCSM for the last 5 (five) years

Particulars	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	Average (in lakhs)
I. Sales (without tax and duties)	2143.8	1972.8	1652.5	2015.82	2466.62	2050.3
II. Variable expenses						
(a) Raw material cost	1460.8	1216.4	965.32	1168.85	1436.02	1249.47
(b) Power and Fuel	335.9	331.5	348.83	366.92	436.03	363.83
(c) All other variable cost	31.7	22.8	27.34	29.93	26.41	27.63
III-Fixed expenses						
(a) Employee cost	597.5	677.3	680.6	715.16	773.11	688.73
(b) All other Fixed Expenses	75.5	75.2	84.33	77.39	71.04	76.69
IV-Financial charges on						
(a) Long term loans	92.16	180.4	190.69	263.28	263.17	197.94
(b) Working Capital loan	51.1	27.2	30.39	28.4	25.83	35.58
V-Other incomes						
(a) Cash profit	-426.4	-573.2	-703.9	-567.5	-515.97	-557.39
(b) Depreciation	85.9	86.3	91.5	91.56	91.56	89.36

Source: Annual reports of MCSM.

3.2.2 The Cannanore Cooperative Spinning Mills Ltd.(CCSM), Kannur

It is situated in the heart of Cannanore city, chova, having 53 years service experience. Company's mantra, superior quality yarn without compromise, at all stages of manufacture is truly reflected in its operations. The Management vision coupled with company's inherent strength in terms of cost and quality has enabled the company to become the best manufacturer of hank yarn in Kerala.

It is the leading manufacturer of hank yarn in Kerala and they gives superior quality hank yarn without compromise at all stages of manufacture. It was registered on October 22nd , 1956 as per Madras Cooperative Society Act and laid stone by former industrial Minister late K.P.Gopalan on 1958, 16th November. It was inaugurated on 1964, 30th April by former Kerala Governor late V.V.Giri . More than 300 families are directly or indirectly depending this firm. Daily 3000 Kg thread produced and distributing to different hand loom and power loom sectors. Now the chairman of the mill is Mr.M. Surendran and Managing Director is Mr. C.R. Rajesh. (<http://www.cancospin.org>).

3.2.2.1 Basic details of CCSM.

Table 3.4

Basic details of CCSM.

Mill Name	Commissioned on	Spindle capacity	Product	Management
CCSM	1964	20000	Cotton & synthetic blends	Govt. nominated board

Source: CCSM report

3.2.2.2 The staff details of CCSM.

Total staff - 301

The category wise details of these staff are-

Managerial staff - 25 (Male- 23, Female- 2)

Operating workers including supervisors and jobbers-

Permanent workers - 221 (Male-206, Female-15)

Badalies - 33 (Male-33, Female-0)

Casuals - 16 (Male- 12, Female- 4)

Trainees - 6 (Male- 6, Female- 0)

3.2.2.3 Capacity details

Licensed spindle capacity	25000
Installed spindle capacity	25000
Commissioned spindle capacity	25000
Working spindle	20000
No of Reeling Machine	
(Specify No. of reels per machine)	20 double sided (40 reels)

3.2.2.4 Management details

Elected / Nominated	Nominated
Chairman	Not appointed
Managing Director	Sri. M.C. Suresh Kumar
Board of Directors	4

3.2.2.5 Financial prudence

Financial status as on December 2017

Authorized capital	2000 lakhs
Paid up capital	531.16 lakhs
Accumulated Net loss	4650.25 lakhs
Net worth	(-)3397.41 lakhs

3.2.2.6 Product details

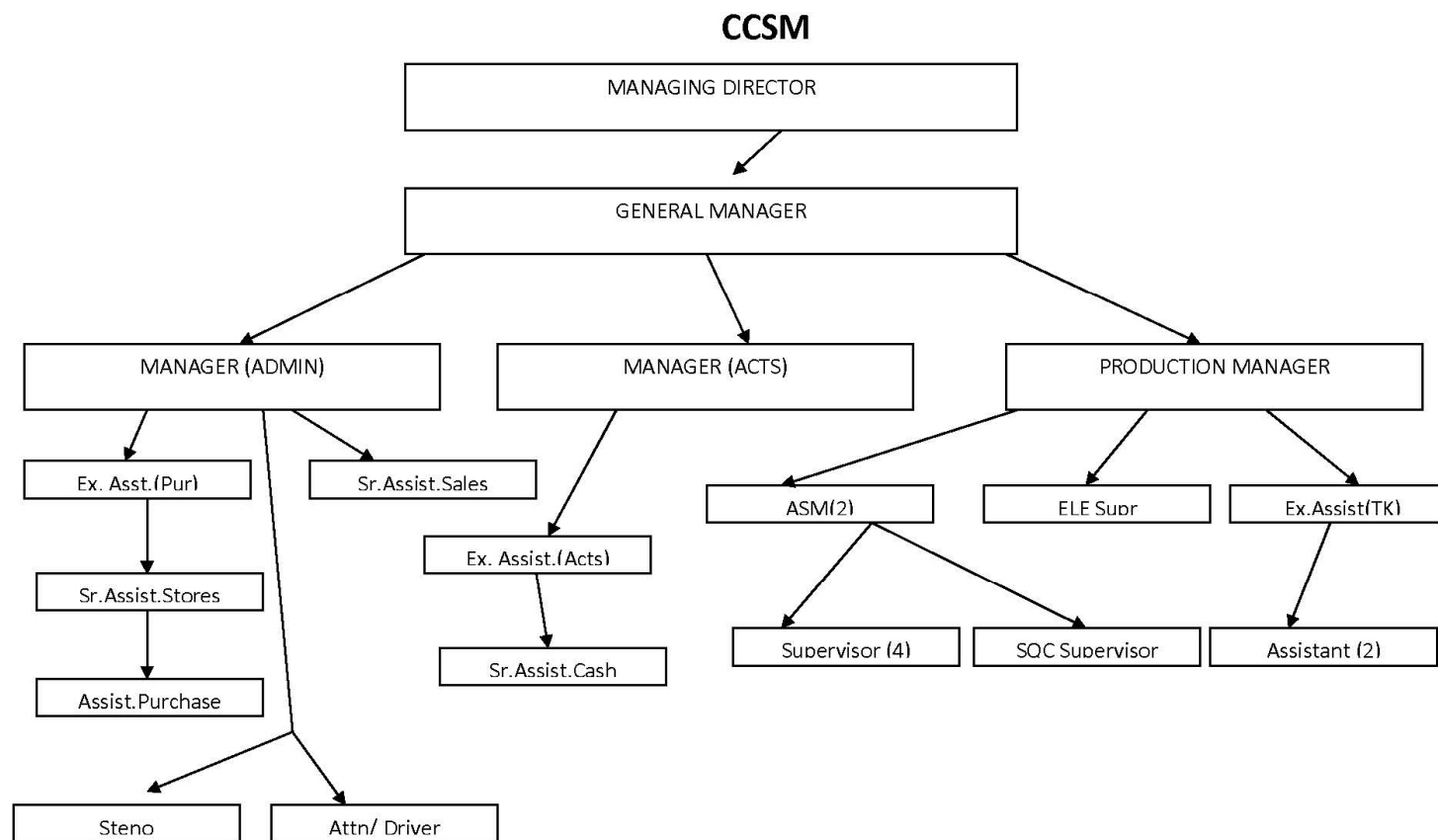
Table 3.5 Product details of CCSM.

NO	COUNT	CARDED/ COMBED/ HOSIERY	CONE/ HANK
1	20S	CARDED	HANK
2	26S	CARDED	HANK
3	40S	CARDED	CONE & HANK
4	52 S	CARDED	HANK
5	60S	CARDED	CONE & HANK
6	62S	CARDED	CONE
7	65S	CARDED	CONE
8	80S	CARDED	CONE
9	2/17S	CARDED	CONE
10	2/40S	CARDED	HANK & CONE
11	2/60S	CARDED	HANK & CONE

Source: CCSM report

3.2.2.7 The Organization structure

Figure 3.3 The Organization structure of CCSM.



3.2.2.8 Physical and financial performance

Table.3.6 Physical & financial performance of CCSM for the last 6 (six)years

Particulars	Year	CCSM
SPINDLE CAPACITY		20000
UTILISATION %	2012-13	76.7
	2013-14	72.9
	2014-15	85.8
	2015-16	68.31
	2016-17	57.20
	2017-18	67.90
AVERAGE		71.46
VALUE OF PRODUCTION Rs. in lakhs	2012-13	1658
	2013-14	1536
	2014-15	1704
	2015-16	1527
	2016-17	1504
	2017-18	1822
Average/ year		1625.16
HOK	2012-13	35.24
	2013-14	33.52
	2014-15	30.00
	2015-16	31.52
	2016-17	34.13
	2017-18	32.18
Average		32.76
Operating profit (PBIT)Rs. in lakhs	2012-13	-35.1
	2013-14	-211.5
	2014-15	-284.1
	2015-16	-19.12
	2016-17	-330.35
	2017-18	-242.84
Average		-187.16

Source: Annual reports of CCSM.

3.2.2.9 Cost of production details

Table.3.7 Cost of Production details of CCSM for the last 5(five) years

Particulars	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	Average (in lakhs)
I. Sales (without tax and duties)	1519.02	1761.21	1377.58	1534.35	1831.24	1604.68
II.Variable expenses						
(a) Raw material cost	892.63	1025.5	756.51	941.86	1069.31	937.16
(b) Power and Fuel	246.6	288.4	267.04	278.41	331.32	282.35
(c) All other variable cost	41.74	41.02	36.41	130.69	41.33	58.23
III-Fixed expenses						
(a) Employee cost	502.29	512.26	511.25	529.24	563.62	523.73
(b) All other Fixed Expenses	64.62	77.21	66.30	54.49	59.50	64.42
IV-Financial charges on						
(a)Long term loans	60	60	60	104.80	116.92	80.34
(b) Working Capital loan	26.73	84	100.2	119.58	150.59	96.25
V-Other incomes						
(a) Cash profit	-291.84	-422.77	-435.21	-554.46	-508.94	-442.64
(b) Depreciation	91	101	102	99.96	144.88	107.76

Source: Annual reports of CCSM.

3.2.3 The Malabar Cooperative Textiles Ltd.(MALCOTEX)

The Malabar Cooperative Textiles Limited (Malcotex) is a mill specialized in spinning cotton yarn and market leader for the last 15 years in Cotton yarn. The product of the mill is well accepted in the market and they have got a lot of satisfied customers. The mill currently producing high quality cotton yarn : 60s carded, 60 s carded deluxe and 60s combed. The mill is producing the above counts in single yarn for weaving applications. The mill plans to spin cotton yarn counts varying

from 40s to 100s, both combed and carded and polyster yarn of all counts with different blends after the proposed expansion programme.

The Malabar Cooperative Textiles Limited (Malcotex) was established in the year 1993 in Athavanad village of Malappuram district and started commercial production in 1997. The mill is registered under Cooperative Societies Act. It is one of the most modern spinning mill operate under the membership of TEXTFED. The administrative control of the mill vest with the Board of directors. The mill is owned by Govt. of Kerala (Industries department). The Malabar Cooperative Textiles Limited (Malcotex) has got a spindleage of 12000. The mill is undergoing an expansion programme to increase the capacity to 25000 spindles with the financial aid of Govt. of Kerala and NCDS. (<http://www.malcotex.com>).

3.2.3.1 Basic details of Malcotex.

Table.3.8 Basic details of Malcotex.

Mill Name	Commissioned on	Spindle capacity	Product	Management	Remarks
MALCOTEX	1997	12000	Cotton yarn	Elected board	Under expansion

Source: MALCOTEX report

3.2.3.2 The staff details of Malcotex.

Total staff- 150

The category wise details of these staff are-

Managerial staff-14 (Male-14, Female-0)

Operating workers including supervisors and jobbers-

Permanent workers- 132 (Male-131, Female- 1)

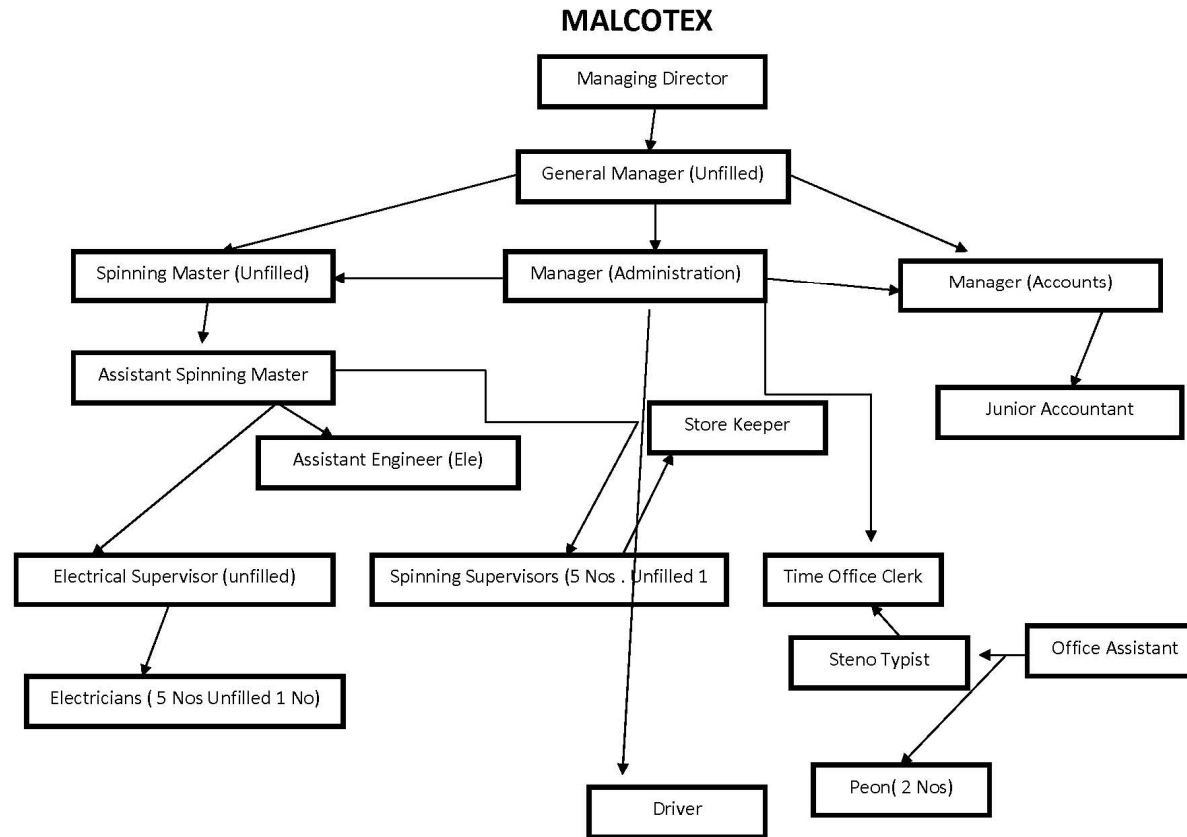
Badalies - Nil

Casuals - 4 (Male-4, Female- 0)

Trainees - Nil

3.2.3.3 The Organization structure

Figure 3.4. The Organization structure of Malcotex.



3.2.3.4 Physical and financial performance

Table 3.9

Physical & financial performance of Malcotex for the last 6 (six) years

PARTICULARS	YEAR	MALCOTEX
SPINDLE CAPACITY		12000
UTILISATION %	2012-13	80.2
	2013-14	68.7
	2014-15	67.7
	2015-16	65.33
	2016-17	55.55
	2017-18	53.06
AVERAGE		65.09
VALUE OF PRODUCTION Rs. in lakhs	2012-13	930
	2013-14	899
	2014-15	876
	2015-16	851
	2016-17	998
	2017-18	868
Average/ year		903.66
HOK	2012-13	26.44
	2013-14	24.71
	2014-15	26.18
	2015-16	22.47
	2016-17	25.18
	2017-18	23.92
Average		24.81
Operating profit (PBIT)Rs. in lakhs	2012-13	+30.6
	2013-14	-44.7
	2014-15	-159.4
	2015-16	-155.45
	2016-17	-132.08
	2017-18	-143.14
Average		-100.69

Source: Annual reports of Malcotex.

3.2.3.5 Cost of production details

Table 3.10

Cost of production details of Malcotex for the last 5(five) years

Particulars	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	Average (in lakhs)
I. Sales (without tax and duties)	884.50	899.19	799.55	1077.77	874.35	907.07
II. Variable expenses						
(a) Raw material cost	525.48	534.7	478.2	618.22	540.67	539.45
(b) Power and Fuel	145.31	157.26	171.3	163.14	57.87	138.97
(c) All other variable cost	50.6	57.6	54.2	58.5	37.15	51.61
III-Fixed expenses						
(a) Employee cost	216.34	276.2	291.7	283.08	268.56	267.17
(b) All other Fixed Expenses	6.58	9.8	11.1	7.9	7.32	8.54
IV-Financial charges on						
(a) Long term loans	159.15	159.5	155.2	153.61	153.56	156.2
(b) Working Capital loan	13	43.4	54.2	58.69	59.04	45.66
V-Other incomes						
(a) Cash profit	-223.88	-359.64	-362.81	-344.29	-355.29	-329.18
(b) Depreciation	81	81	81	81	118.2	88.44

Source: Annual reports of Malcotex.

3.2.4 Thrichur Cooperative Spinning Mills Ltd.(TCSM)

Thrissur Cooperative Spinning Mills Limited was registered on 1985 to set up a spinning mills in Thrissur district with an ultimate capacity of 25000 Spindles and functioning under department of industries, Government of Kerala. The mill carry on the business of cotton and staple fiber/ polyester viscose blended spinning .The major function of the mill is the processing of raw cotton for which it has 3 plants. Preparatory section, spinning section and the winding/ packing section. The

State Govt. and Trichur Cooperative Bank are the main sources of borrowings for the mill.

The Thrissur Cooperative Spinning Mill is under the direct control of the Government of Kerala. The major functional departments are purchase department, production department, marketing departments, finance department, stores department and human resource department .

The firm purchases cotton by giving quotations. Among the various options available, the supplier with the lowest quotation is accepted. Purchased cotton is then stored in godowns. This mill used 100 % of its cotton for spinning. There are three types of count – 60 combed, 62 carded, 80 carded yarn. The mill purchases cotton on the basis of centralized cotton purchase system. Major suppliers of cotton are Tamil Nadu, Andra Pradesh, Karnataka and Maharashtra. Production department is controlled by supervisor and foreman under mill manager. The capacity of the mill is now 25000 spindles and the cotton varieties are MCU 5, DCH 32, LK, MeCH, Suvin, etc.

The management of the mill vest in board of directors consisting of the following 15 members. Director of handlooms, Managing directors, General manager, Kerala State Textile Corporation, Thiruvananthapuram, the president of the cooperative central bank of the district in which the mill is situate, Branch managers of the financing institutions/ banks from which the mill has borrowed wherein the terms of borrowing require such nominations, representative of the other affiliated primary weavers, cooperative societies, representatives of other affiliated cooperative societies elected, the Additional secretary to Govt./Joint secretary to Govt. in charge of textiles, representatives elected by the local bodies and the body corporate other than cooperative societies from among themselves.

As India has a wide range of cotton industry, Kerala having favourable conditions for industries they also have competitors in this field. Their main competitors are Bagavathy Cotton Mills, Alagappa Bagar mill, Kerala lakshmi mills etc. The main weaknesses of the mill are, inventory management is highly required, shortage of man power, transportation cost is high, power is highly required,

possibility of loss is high since sale is done through consignment agents, lack of advertisement, possibility of machine breakdown is high, demand is not much high, lack of promotional activities from the part of Govt., quick economic changes, technology advancement in machines, increased rate of demand for yarn, new market arose due to liberalization and globalization, possibility of increasing the standard of production and more working capital usage.

The Trichur Cooperative Spinning Mill directly and indirectly able to give employment to so many people. It has been suffering losses for so many years except a profit in 2009. The mill hope that it will continue to provide yarn and enjoy profit for the coming years.

3.2.4.1 Basic details of TCSM.

Table 3.11

Basic details of TCSM.

Mill Name	Commissioned on	Spindle capacity	Product	Management
TCSM	1986	25000	Cotton & synthetic blends	Govt. nominated board

Source :TCSM report

3.2.4.2 The Staff details of TCSM.

Total staff - 346

The category wise details of these staff are-

Managerial staff - 20 (Male-17, Female-3)

Operating workers including supervisors and jobbers-

Permanent workers - 308 (Male-283, Female-25)

Badalies - 2 (Male-2, Female- 0)

Casuals - 14 (Male-8, Female- 6)

Trainees - 2 (Male- 2, Female-0)

3.2.4.3 Management of the Mill

Elected/ Nominated	Nominated
Chairman	Sri. K.E. Abdul Rahiman
Managing Director	Sri. V. Kuriakose
Board of Directors (Existing strength)	4

3.2.4.4 Financial prudence

Financial status as on December 2017

Authorized capital	1169 lakhs
Paid up capital	1169 lakhs
Accumulated Net loss	2815.95 lakhs
Net worth	(-) 1572.59 lakhs

3.2.4.5 Products

Table 3.12

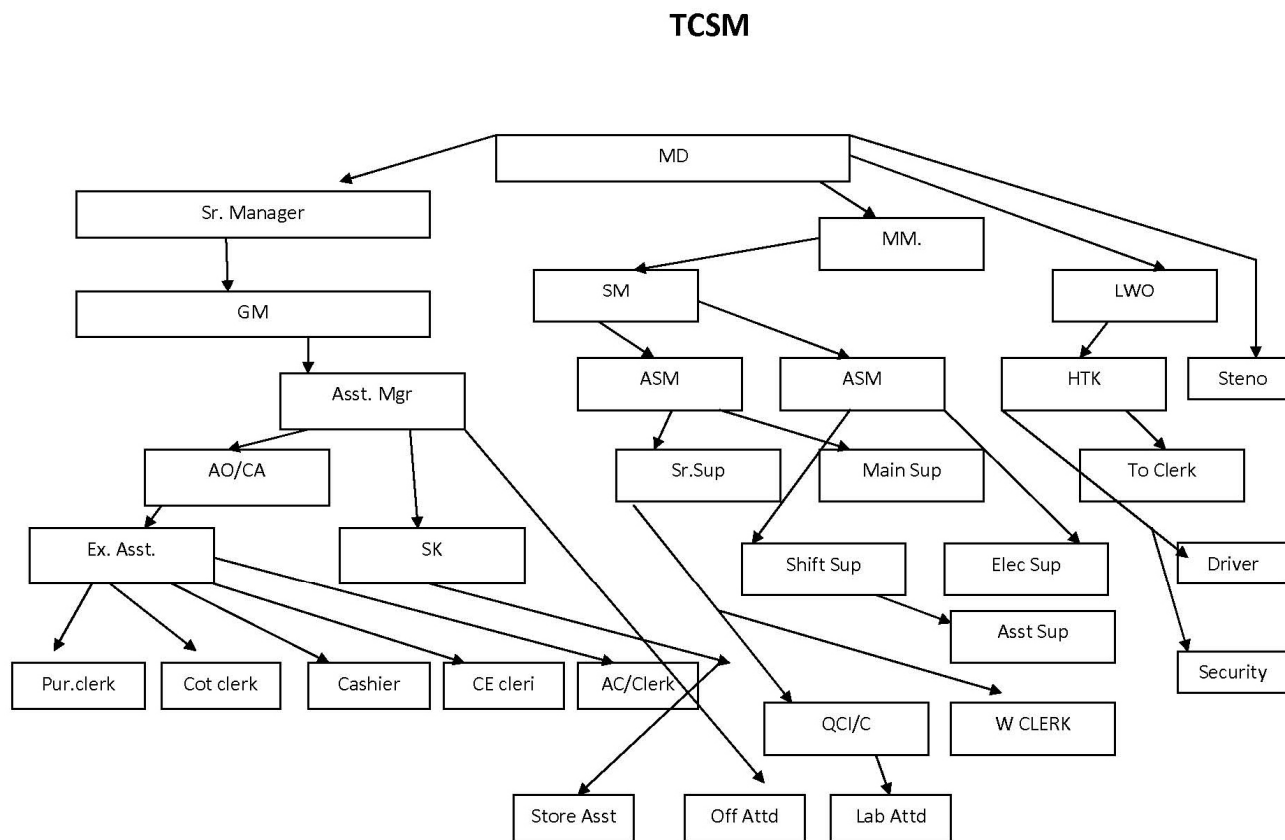
Products of TCSM.

NO	COUNT	CARDED/COMBED/ HOSIERY	CONE/HANK
1	60S	COMBED	CONE
2	62S	CARDED	CONE
3	62 S	P/C	CONE
4	2/40	CARDED	HANK
5	2/ 60S	COMBED	HANK & CONE
6	2/62S	CARDED	HANK & CONE

Source: TCSM report

3.2.4.6 Organisation chart

Figure 3.5 The Organization chart of TCSM



3.2.4.7 Physical and financial performance

Table 3.13

Physical & financial performance of TCSM for the last 6 (six) years

PARTICULARS	YEAR	TCSM
SPINDLE CAPACITY		25000
UTILISATION %	2012-13	53.5
	2013-14	49.9
	2014-15	39.5
	2015-16	29.09
	2016-17	40.16
	2017-18	50.73
AVERAGE		43.81
VALUE OF PRODUCTION Rs. in lakhs	2012-13	1236
	2013-14	1162
	2014-15	1048
	2015-16	614
	2016-17	732
	2017-18	878
Average/ year		945
HOK	2012-13	49.50
	2013-14	45.68
	2014-15	40.57
	2015-16	42.90
	2016-17	42.18
	2017-18	40.38
Average		43.53
Operating profit (PBIT)Rs. in lakhs	2012-13	-249.2
	2013-14	-394.9
	2014-15	-455.4
	2015-16	-505.52
	2016-17	-434.4
	2017-18	-465.0
Average		-417.40

Source: Annual reports of TCSM.

3.2.4.8 Cost of production details

Table 3.14

Cost of production details of TCSM for the last 5 (five) years

Particulars	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	Average (in lakhs)
I. Sales (without tax and duties)	1185.07	1047.26	639.64	721.09	873.76	893.36
II. Variable expenses						
(a) Raw material cost	814.9	697.2	415	463.58	563.94	590.92
(b) Power and Fuel	211.9	206.87	172.74	172.91	196.03	192.09
(c) All other variable cost	34.1	31.28	17.11	20.71	30.49	26.73
III-Fixed expenses						
(a) Employee cost	497	538.27	493.4	494.06	528.8	510.30
(b) All other Fixed Expenses	28.8	29.2	21.4	16.28	23.77	23.89
IV-Financial charges on						
(a) Long term loans	30.96	46.68	46.68	46.7	46.68	43.54
(b) Working Capital loan	26.25	89.28	118.98	141.66	159.57	107.14
V-Other incomes						
(a) Cash profit	-445.65	-589.03	-669.26	-620.46	-661.60	-597
(b) Depreciation	15.95	15.96	15.9	15.96	15.97	15.94

Source: Annual reports of TCSM.

3.2.5 Alleppey Cooperative Spinning Mills Ltd.(ACSM), Alappuzha

Alleppey Cooperative Spinning Mills Limited was registered on 21 July 1981 to set up a spinning mill in Alleppey district with an ultimate capacity of 250000 spindles and functioning under department of industries, Government of Kerala. The mill has commenced commercial production during October 1999 with 6048 spindles which was increased by another 6048 spindles from 15 December 2011. Also a hank yarn project was implemented in the mill to make available the hank yarn to the hand loom weavers at reasonable price. The Alleppey Cooperative

Spinning Mills producing both carded and combed yarn from 40s to 100s count in cone, hank and double form.

The mill started with the whole hearted interest of Hon'ble Ex. Minister Sri. Thachady Prabhakaran, and the mill started as a primary society and registered on 21.07.1981, with an authorized share capital of 3,00,00,000/- as per the KCS Act 1969. After years, in the year 1999, the mills started its commercial production by the strong leadership of Sri. G. Sudhakaran, then MLA and the present Minister of Kerala for Public Works Department. The trial run inaugurated by Smt. Suseela Gopalan (late), then Hon'ble Minister for Industries, Govt. of Kerala. Initially the Mills started with 6048 spindles to produce coarser counts like 40 combed counts. In the year 2010 the Govt of Kerala availed a hank yarn project a project, to cater the requirements of hank yarn to the traditional sector of hand looms with a reasonable price. In the same year the mill increased its capacity to 12096 spindles with new state of art technology machines.

In the year 2015, the Government of Kerala considered the mill for rehabilitation, modernization and expansion with NCDC assistance, by a total cost of 33.9426 crores. The detailed project of 33.9426 crores was approved by the Govt. of Kerala and availed 22.8199 crores. The project is going on and new state of art technology machines were erected and mill will be able to cater good quality yarn after the completion of the Project. The mill continuing its project implementation under the strong and intellectual management of Sri.M.A. Alimar, Hon'ble chairman and Sri.P.S. Sreekumar, General Manager. During 2015 the mill got ISO 9001: 2008 certification and the Alleppey Cooperative Spinning Mill was the one and only spinning mills under Govt. of Kerala got this certificate of Quality Management System. During 2017, they transitioned the ISO : 2008 certificate to ISO 9001: 2015 certificate which is the latest form of ISO Certification.

Now, the Mills having 247 employees and producing a wide range of cotton yarn of carded and combed counts from 30s to 100s, auto coned yarn in cone and hank form according to the requirement of market. The mill thinking for improving the performance of the mill day by day and expecting that they can cross all constraints because all employees of the Alleppey Cooperative Spinning Mills are

positive minded due to the positive approach of approved trade union leaders.
(<http://www.acsm.co.in>).

3.2.5.1 Basic details of the Mill

Table.3.15

Basic details of ACSM.

Mill Name	Commissioned on	Spindle capacity	Product	Management	Remarks
ACSM	1999	12500	Cotton yarn	Govt. nominated board	Under expansion to 25000

Source: ACSM report

3.2.5.2 The staff details of ACSM.

Total staff - 247

The category wise details of these staff are-

Managerial staff - 24 (Male-10, Female- 14)

Operating workers including supervisors and jobbers-

Permanent workers - 203 (Male-156, Female- 47)

Badalies - 8 (Male-8, Female- 0)

Casuals - 7 (Male-4, Female- 3)

Trainees - 5 (Male-0, Female-5)

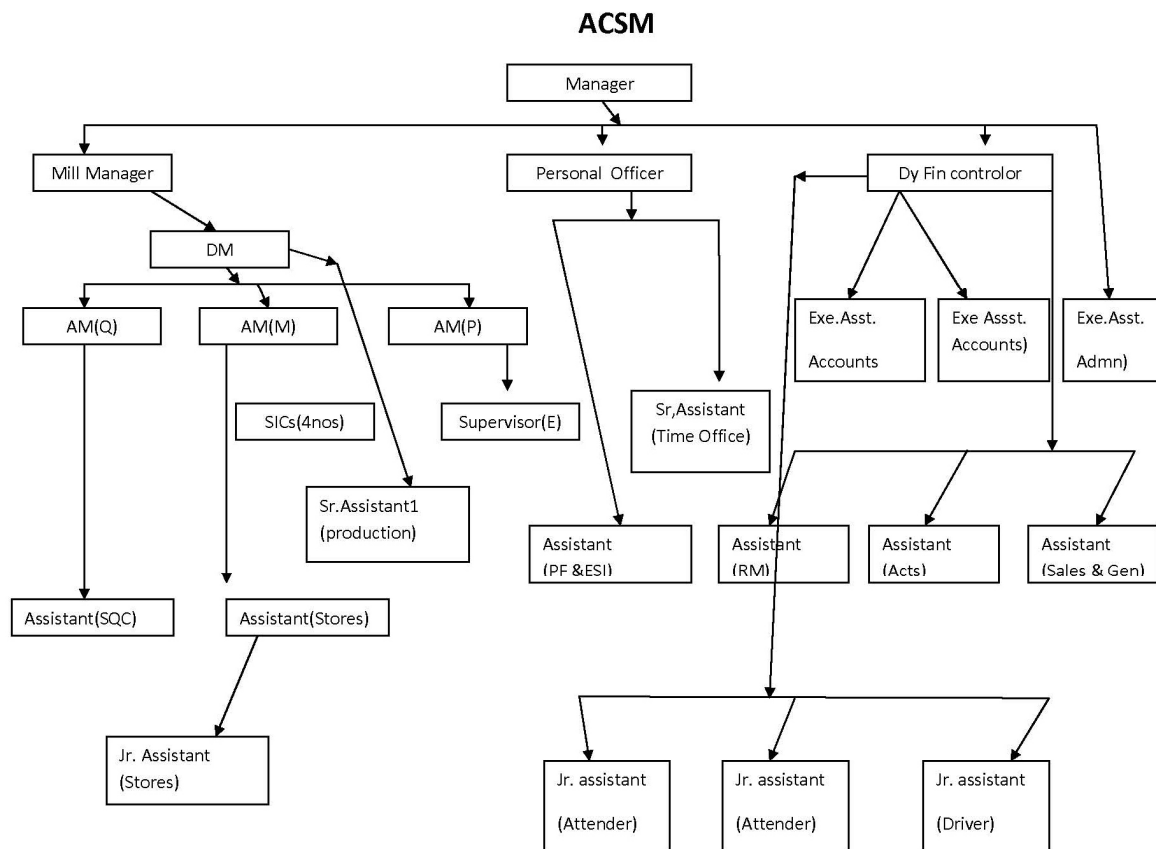
3.2.5.3 Financial prudence

Financial status as on December 2017

Authorized capital	716 lakhs
Paid up capital	716 lakhs
Accumulated net loss	732.13 lakhs
Net worth	(-) 7.13 lakhs

3.2.5.4 The Organization structure

Figure 3.6 The Organisation structure of ACSM.



3.2.5.5 Physical and financial performance

Table 3.16

Physical & financial performance of ACSM for the last 6 (six) years

Particulars	Year	ACSM
SPINDLE CAPACITY		12500
UTILISATION %	2012-13	68.8
	2013-14	54.0
	2014-15	90.1
	2015-16	89.81
	2016-17	82.46
	2017-18	90.19
AVERAGE		79.2
VALUE OF PRODUCTION Rs. in lakhs	2012-13	1053
	2013-14	746
	2014-15	1301
	2015-16	1147
	2016-17	1370
	2017-18	1539
Average/ year		1192.6
HOK	2012-13	28.25
	2013-14	34.65
	2014-15	27.09
	2015-16	27.00
	2016-17	32.18
	2017-18	30.00
Average		30.00
Operating profit (PBIT)Rs. in lakhs	2012-13	+63.7
	2013-14	-116.1
	2014-15	-151.3
	2015-16	-240.96
	2016-17	-212.67
	2017-18	-200.36
Average		-142.94

Source: Annual reports of ACSM.

3.2.5.6 Cost of production details

Table 3.17

Cost of production details of ACSM for the last 5 (five) years

Particulars	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	Average (in lakhs)
I. Sales (without tax and duties)	742.86	1347.27	1156.61	1321.77	1486.22	1210.94
II. Variable expenses						
(a) Raw material cost	442.51	758.83	668.66	859.18	957.13	737.26
(b) Power and Fuel	140.53	221.16	236.1	251.92	289.57	227.85
(c) All other variable cost	46.48	79.71	78.27	76.05	78.11	71.72
III-Fixed expenses						
(a) Employee cost	198.3	366.96	383.91	377.47	387.68	343.46
(b) All other Fixed Expenses	33.57	24.99	21.11	18.38	27.64	25.13
IV-Financial charges on						
(a) Long term loans	20.76	44.04	52.32	65.32	318.48	100.18
(b) Working Capital loan	27.38	63.73	91.95	0	132.24	63.06
V-Other incomes						
(a) Cash profit	-160.95	-257.53	-369.94	-373.43	-647.46	-361.86
(b) Depreciation	84.48	60.84	64.56	49.44	216	95.06

Source: Annual reports of ACSM.

3.2.6 Quilon Cooperative Spinning Mills Ltd.(QCSM), Kollam

Quilon Cooperative Spinning Mill is one among the oldest cooperative spinning mill in the state, located at Karamcode, 22 kms from Kollam and 55 kms from Trivandrum. The Quilon Cooperative Spinning Mills Ltd. was registered as an Industrial cooperative society, under the Cooperative Societies Act on 13.02.1976, governed by the Industries department. The foundation stone was laid on 26.08.1978 by the Hon'ble Ex. Chief Minister Sri.A. K. Antony while production of the mill

started in October 1983 and the mill went into full production in February 1986. The inauguration of the mill also took place on 11.02.1986 by the Hon'ble Chief Minister of Kerala, late Shri K. Karunakaran while Sri. E. Ahammed was the Minister for Industries. The initial stages of the mill witnessed the able guidance of the founder chairman late sri. P. Ravindran, ably assisted by political stalwarts like late Sri. R. S. Unni, Sri. C.V. Padmarajan, Sri. P.K. Gurudasan and Sri. J. Chitharanjan. They having a 25000 spindle capacity spinning mill, producing 62's carded cotton yarn, 50s PC yarn and 60s PC yarn. The mill achieved the Corporate Social Responsibility by providing employment to 274 persons directly as an industrial unit in the remote area of Quillion district and is indirectly responsible for the socio- economic changes on and around Chathanoor gramapanchayath.

The mill started trial production in October 1983 by running one single shift and appointed around 25 staff, both technical and non technical and 78 skilled workers. The commercial production of the Mills started in November 1986 when all the 3 shifts started working, worker apprentices were appointed and they were put on probation for two years. The blow room of the mill had Scrutchers 2 Nos, MBO-3 Nos. Mono cylinder 1 No, Auto mixer -1 No, ERM cleaners 2 Nos., and Filter plant -1 No. The Carding department, had Tandem cards- 8 Nos. and HP Cards 12 Nos. The Drawing department had Draw frames -8 Nos. The Simplex department had speed frames- 7 Nos. The Spinning department had 52 Nos. spinning ring frames, with a total capacity of 24960 spindles. The Winding department had winding machines 4 Nos.

The prime objective of the mill was to provide employment to the industrially backward people of rural areas and to cater the needs of handloom weavers of Kerala. Initially the mill was producing hark yarn of various counts like 2/17's, 20's, 2/20's 26's, 30's, 40's, 2/40's, 60's, 2/60's, 80's they were also producing cone yarn of 20's, 40's, 44's, 60's, 62's, 64's, and 80's and hank yarn was sold to Hantex, Hanveev, N.H.D.C and Primary cooperative societies and the cone yarn to their depot agent at Mumbai. However by the year 2001-02 the mill were forced to stop production of hank yarn and switch completely to cone yarn

primarily because many of the primary societies and Hantex owed the mill huge sums against the purchases they had made from the mill and as a result of this the mill started facing financial crisis and ultimately had to stop the production of hank yarn totally. The mill committed to upgrade their plants, machineries, technologies to keep abreast of the changing time. Above all the mill endeavour for all round development of the human resource that plays the key role in the growth of an organization, protecting the environment and contributing towards the economics strength of the country and function as a good corporate citizen. In spite of ups and downs in the textile industry of the country, Quilion Cooperative Spinning Mill is striving strong, even after a span of thirty years, overcoming the financial crisis by its efficient management.(<http://qcsmltd.com>).

3.2.6.1 Basic details of the Mill

Table 3.18

Basic details of QCSM.

Mill Name	Commissioned on	Spindle capacity	Product	Management
QCSM	1983	25000	Cotton & Synthetic blends yarn	Govt. nominated board

Source: QCSM report

3.2.6.2 The staff details of QCSM.

Total staff - 274

The category wise details of these staff are-

Managerial staff - 18 (Male-10, Female-8)

Operating workers including supervisors and jobbers-

Permanent workers - 253 (Male-234, Female-19)

Badalies - 3 (Male-0, Female-3)

Casuals - Nil

Trainees - Nil

3.2.6.3 Management

Elected / Nominated	Nominated Board
Chairman	Sri. Vakkanad Radhakrishnan
Managing Director	Sri.K.P. Varghese John
Board of Directors (Existing Strength)	5 Nos

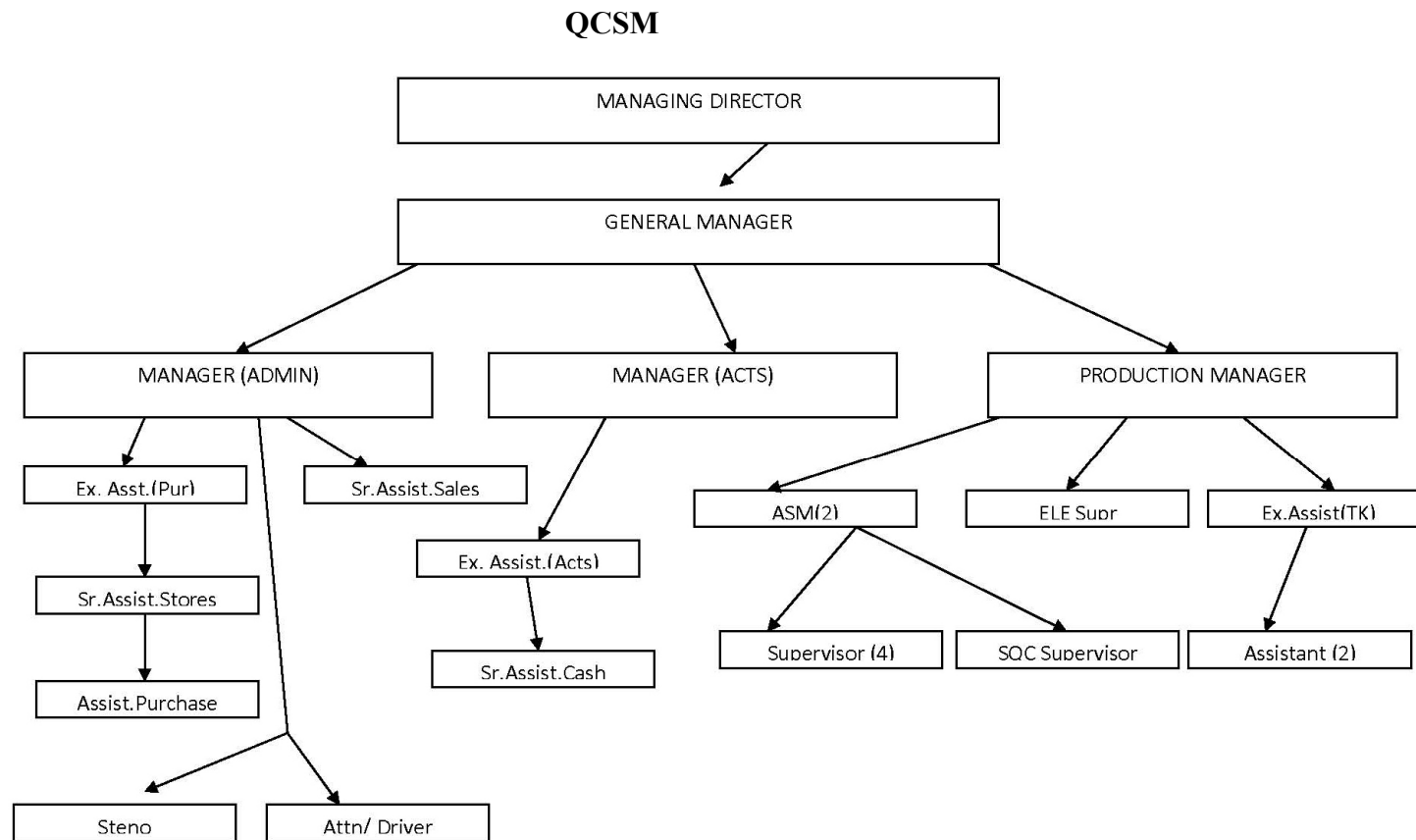
3.2.6.4 Financial prudence

Financial status as on December 2017.

Authorized capital	Rs. 4.00 Crores
Paid up capital	Rs. 2.73 Crores
Accumulated Net loss	Rs 28.32 crores
Net worth	Rs(-) 24.32 crores

3.2.6.5 The Organization structure

Figure 3.7 The Organization structure of QCSM.



3.2.6.6 Physical and financial performance

Table 3.19

Physical & financial performance of QCSM for the last 6 (six) years

PARTICULARS	YEAR	QCSM
SPINDLE CAPACITY		25000
UTILISATION %	2012-13	62.4
	2013-14	58.4
	2014-15	51.7
	2015-16	20.80
	2016-17	30.05
	2017-18	31.65
AVERAGE		42.5
VALUE OF PRODUCTION Rs. in lakhs	2012-13	1771
	2013-14	1848
	2014-15	1428
	2015-16	457
	2016-17	659
	2017-18	541
Average/ year		1117.33
HOK	2012-13	30.39
	2013-14	30.18
	2014-15	28.76
	2015-16	26.72
	2016-17	27.12
	2017-18	26.32
Average		28.32
Operating profit (PBIT)Rs. in lakhs	2012-13	-29.9
	2013-14	-249.7
	2014-15	-494.5
	2015-16	-492.3
	2016-17	-494.5
	2017-18	-469.2
Average		-367.53

Source: Annual reports of QCSM.

3.2.6.7 cost of production details

Table 3.20

Cost of production details of QCSM for the last 5 (five) years

Particulars	2013-14 (in lakhs)	2014-15 (in lakhs)	2015- 16 (in lakhs)	2016- 17 (in lakhs)	2017- 18 (in lakhs)	Average (in lakhs)
I. Sales (without tax and duties)	1717.58	1364.53	470.05	616.53	575.22	948.78
II. Variable expenses						
(a) Raw material cost	1171.6	887.14	294.3	445.44	359.46	631.58
(b) Power and Fuel	259.7	237.2	88.6	85.01	76.07	149.31
(c) All other variable cost	34	36.36	12.9	16.74	13.97	22.79
III-Fixed expenses						
(a) Employee cost	565.3	678.9	514.3	561.72	509.85	566.01
(b) All other Fixed Expenses	67.1	57.2	39.7	44.87	50.46	51.86
IV-Financial charges on						
(a) Long term loans	39.1	39.12	62.2	39.72	39.72	43.97
(b) Working Capital loan	14.6	14.6	44.2	43.5	40.44	31.46
V-Other incomes						
(a) Cash profit	-282.9	-520.53	-599.44	-967.71	-877.72	-649.66
(b) Depreciation	14.9	14.5	14.5	12.1	14.52	14.1

Source: Annual reports of QCSM.

3.2.7 Priyadarsini Cooperative Spinning Mills Ltd.(PRICO), Kottayam

The only large scale factory in Meenadom, the company holds an employee strength of 235 workers. The spinning mill is owned by Priyadarsini Cooperative Society. The mill produce export quality threads. Company is getting a great support from the people of Meenadom and also from the local governing body. Ex. Chief Minister of Kerala Mr. Oomen Chandy is taking special interest in the progress of the company and in the welfare of the workers.

3.2.7.1 Basic details of the Mill

Table 3.21

Basic details of PRICO.

Mill Name	Commissioned on	Spindle capacity	Product	Management
PRICO	2003	25000	Cotton yarn	Elected Board

Source :PRICO report

3.2.7.2 The staff details

Total staff - 235

The category wise details of these staff are-

Managerial staff - 21(Male-14, Female-7)

Operating workers including supervisors and jobbers-

Permanent workers - 186 (Male164, Female-22)

Badalies - 14 (Male-8, Female-6)

Casuals - Nil

Trainees - 14 (Male-7, Female- 7)

3.2.7.3 capacity

Licensed Spindle capacity 25000

Installed spindle capacity 25104

Commissioned spindle capacity 25104

No .of Reeling Machine Nil

3.2.7.4 Management

Elected / Nominated	Elected
Chairman	Sri. C.G. George
Managing Director	Sri. B. Arul Selven
Board of Directors (Existing Strength)	10 Directors

3.2.7.5 Financial prudence

Financial status as on December 2017

Authorized capital	15.00 Crores
Paid up capital	13.76 Crores
Accumulated New loss	31.53 Crores
Net worth	(-)17.77 crores

3.2.7.6 Products

Table 3.22

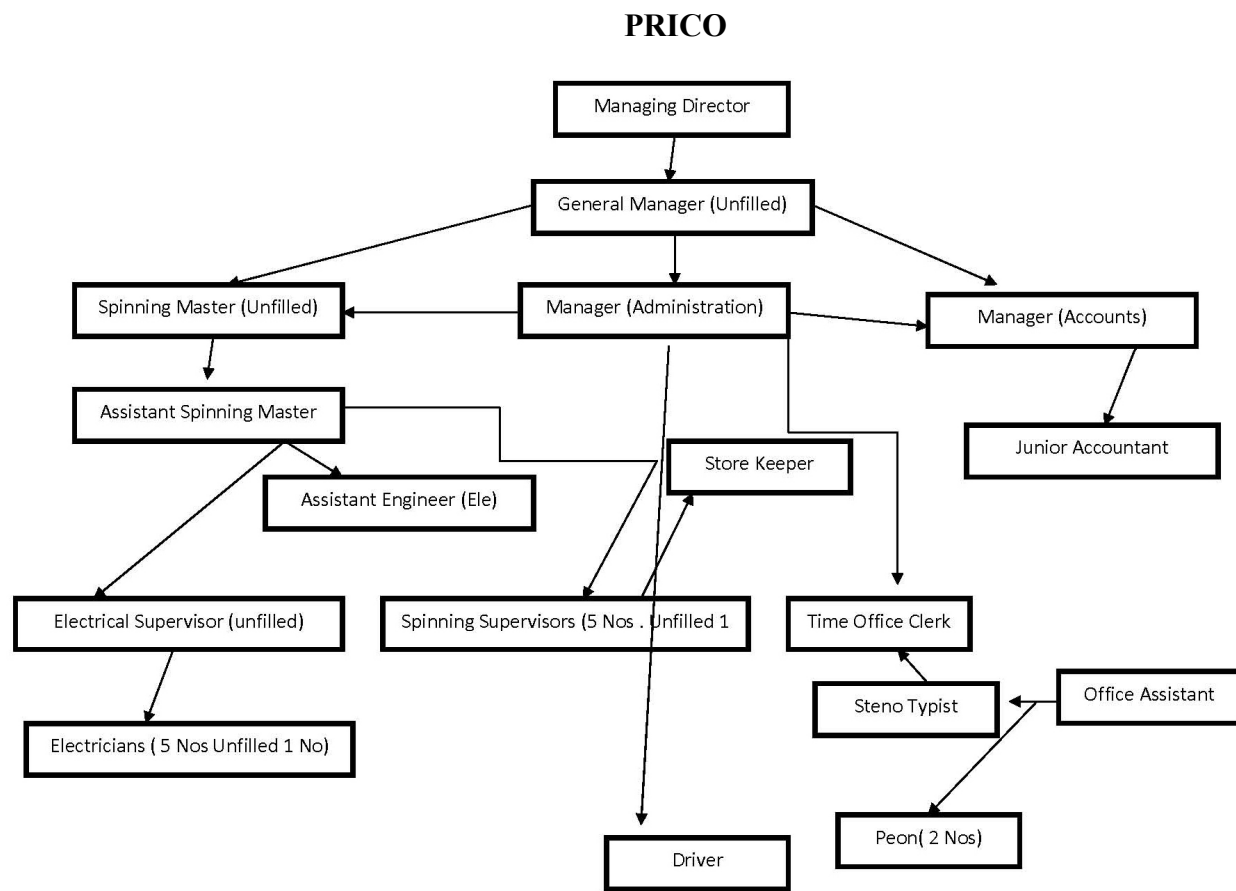
Product details of PRICO.

NO	COUNT	CARDED/COMBO/HOSIERY	CONE/HANK
1	90'S	COMBED WARP	CONE
2	60'S	COMBED WARP	CONE
3	40'S	COMBED HOSIERY	CONE
4	44'S	CARDED WARP	CONE

Source: PRICO report

3.2.7.7 The Organization structure

Figure 3.8 The Organization structure of PRICO.



3.2.7.8 Physical and financial performance

Table 3.23 Physical & financial performance of PRICO for the last 6 (six)years

PARTICULARS	YEAR	PRICO
SPINDLE CAPACITY		25000
UTILISATION &	2012-13	54.1
	2013-14	74.5
	2014-15	78.7
	2015-16	79.73
	2016-17	59.44
	2017-18	22.63
AVERAGE		61.5
VALUE OF PRODUCTION Rs. in lakhs	2012-13	1770
	2013-14	2844
	2014-15	2693
	2015-16	2709
	2016-17	1939
	2017-18	724
Average/ year		2113.16
HOK	2012-13	19.0
	2013-14	18.0
	2014-15	18.1
	2015-16	16.5
	2016-17	19.84
	2017-18	18.18
Average		18.27
Operating profit (PBIT)Rs. in lakhs	2012-13	+146.4
	2013-14	+15.9
	2014-15	-146.1
	2015-16	-148.08
	2016-17	-319.16
	2017-18	-368.12
Average		-136.52

Source: Annual reports of PRICO.

3.2.7.9 Cost of production details

Table 3.24

Cost of production details of PRICO for the last 5(five) years

Particulars	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017- 18 (in lakhs)	Average (in lakhs)
I. Sales (without tax and duties)	2743.34	2724.13	2767.22	1943.11	860.47	2207.65
II.Variable expenses						
(a) Raw material cost	910.57	1767.58	1653.54	1264.89	495.34	1218.38
(b) Power and Fuel	399.47	458.71	515.05	397.54	183.63	384.88
(c) All other variable cost	187.18	204.26	239.59	175.71	57.71	172.89
III-Fixed expenses						
(a) Employee cost	300.61	366.51	390.57	377.63	336.67	354.39
(b) All other Fixed Expenses	32.69	42.66	59.12	43.11	19.75	39.46
IV-Financial charges on						
(a)Long term loans	241.08	241.08	257.25	258.24	259.01	251.33
(b) Working Capital loan	2.52	2.52	3.52	0	0	1.71
V-Other incomes						
(a) Cash profit	-213.45	-377.05	-394.07	-576.18	-832.89	-478.72
(b) Depreciation	188.88	192.16	233.28	214.56	206.40	207.06

Source: Annual reports of PRICO.

3.2.8 K.Karunakaran Memorial Cooperative Spinning Mills Ltd. (KKMCSM), Thrissur

K. Karunakaran Memorial Cooperative Spinning Mills Ltd. (Formally Mala Cooperative Mills Ltd.), Puthenchira East PO, Mala, Thrissur, is one of the five cooperative mills established by the Government of Kerala with an objective to provide quality yarn to handloom and power loom sector and also to provide employment to the skilled and unskilled persons. The mill is having latest technology machinery with 5472 spindles (Ring frame 1824 spindles each).The mill

also added link coner. The mill produce cotton yarn of counts ranging from 30s to 100s. KKMCSM mill was recently commissioned (on 5.08.2017), it's first link coner commissioned on February 2018. (<http://www.kkmcsm.com>).

3.2.8.1. Basic details of the mill

Table 3.25
Basic details of KKMCSM

Mill Name	Commissioned on	Spindle capacity	Product	Management
KKMCSM	2017	5742	Cotton yarn	Elected Board

Source: KKMCSM report

3.2.8.2 The staff details

Total staff - 51

The category wise details of these staff are-

Managerial staff - 5 (Male-4, Female-1)

Operating workers including supervisors and jobbers-

Permanent workers - 33 (Male-33, Female-0)

Badalies - 13 (Male-8, Female-5)

Casuals - Nil

Trainees - Nil

3.2.8.3 Position During 1994-2000

- | | | |
|----|--|------------------|
| 1. | Registered on | 31.08.1994 |
| 2. | Foundation Stone laid on | 29.10.1994 |
| 3. | Amount received from the Government during 1994-1996 | Rs 324.00 lakhs |
| 4. | Promoter's Contribution | Rs. 62.45 lakhs |
| 5. | Amount spent till 1996 for the project | Rs. 387.45 lakhs |

3.2.8.4 Position of the Project till 1996

1. 977 acres of land
2. 68356 sq. feet factory building structure
3. Canteen block (completed)
4. Power house building (partially completed)
5. Compound wall (completed)
6. Gate house (Completed)
7. Administrative block structure (Partially completed)
8. Advance to machinery : Rs 89.24 lakhs

3.2.8.5 Total Project cost of the first phase of spinning mills project approved by the Government with 7296 spindles

Targeted project spindleage	16416 spindles
First phase project cost (7296 spindles)	Rs 2413.95 lakhs
Amount spent earlier (1994- 1996)	Rs. 387.45 lakhs
Balance amount required for completing the project	Rs. 2026. 50 lakhs

3.2.8.6 Amount received from the Government during 2013- 2017

Year	Amount (Rs in lakhs)
2012-13	400.28
2013-14	200.00
2014-15 (June 2014)	150.00
2015-16 (June 2015)	200.00

2015-16 (October 2015)	300.00
2015-16 (Feb 2016)	100.00
2015-16(March 2016)	100.00
2017-18 (November 2017)	375.00
2017-18 (November 2017)	146.62
Total	1971.90

(Share Capital : Rs. 1625 .28 lakhs + Govt loan Rs. 346.62 lakhs = Rs. 1917.90 lakhs)

3.2.8.7 Present position (As on 04.05.2018)

Installed machinery commissioned on 05.08.2017 (5472 spindles)

Training to workers started from 19.09.2017

Finished product (cotton yarn) first load on trial basis was despatched on 27.12.2017

First link corner commissioned on February 2018

Daily production with one link corner in 3 shifts 590 Kgs- 40s carded

Daily production with two link corner is 3 shifts 1180 kgs.

(from June 2018 when second link corner is added with same manpower)

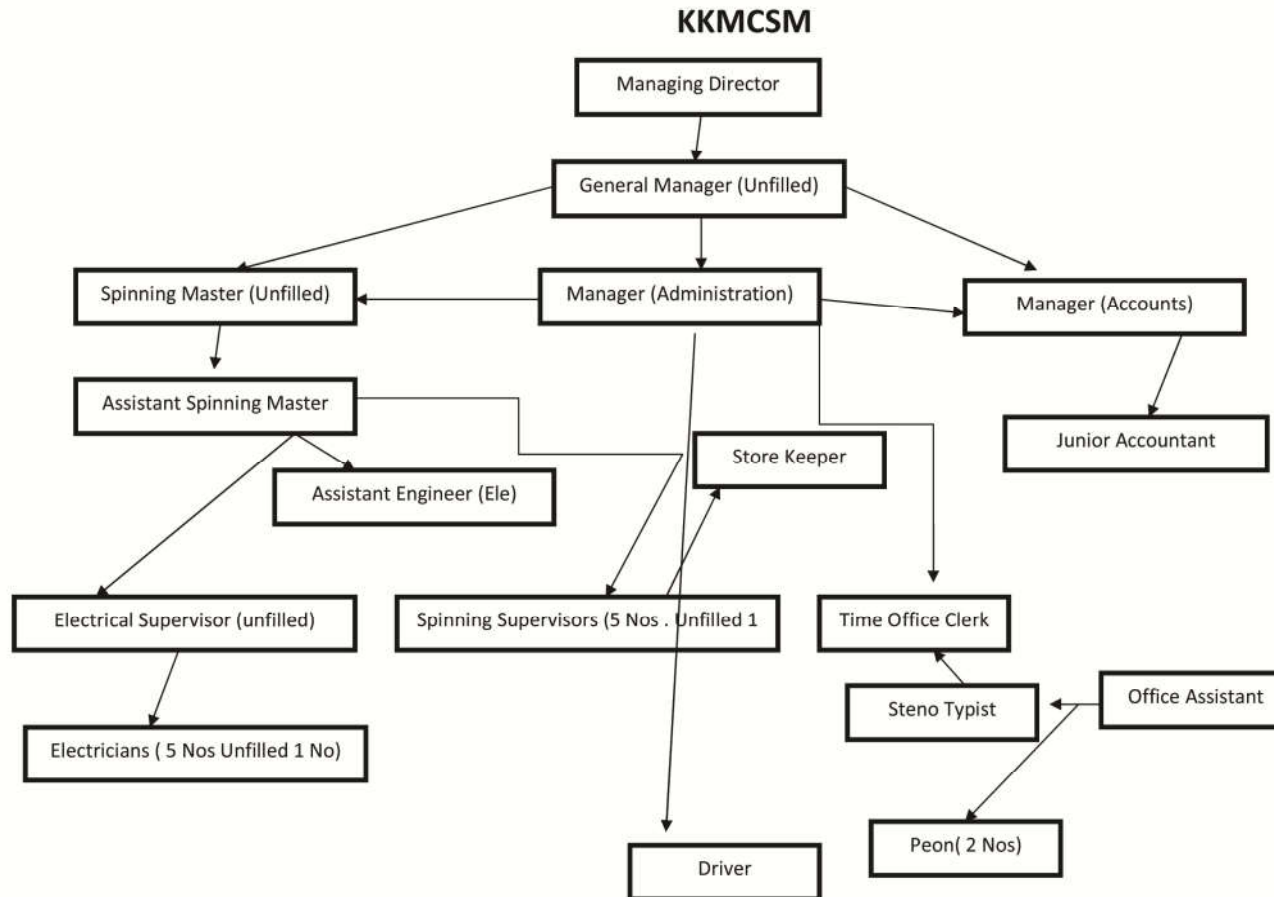
Daily production with three link coners in 2 shifts 1770 kgs.

(with same man power when 3rd link corner is added)

When 3rd link coner is added, the mill will be able to make net profit from the initial month itself

3.2.8.8 The Organization structure

Figure 3.9 The Organization structure of KKMCSM.



3.3 Combined Performance of Cooperative Spinning Mills

3.3.1 Physical and financial performance

Table 3.26

Physical & financial performance of Cooperative Spinning Mills for the last 6 (six) years

Particulars	Year	QCSM	ACSM	TCSM	MCSM	CCSM	MALCO	PRICO
SPINDLE CAPACITY		25000	12500	25000	25000	20000	12000	25000
Utilisation %	2012-13	62.4	68.8	53.5	70.0	76.7	80.2	54.1
	2013-14	58.4	54.0	49.9	67.2	72.9	68.7	74.5
	2014-15	51.7	90.1	39.5	65.3	85.8	67.7	78.7
	2015-16	20.80	89.81	29.09	60.70	68.31	65.33	79.73
	2016-17	30.05	82.46	40.16	60.58	57.20	55.55	59.44
	2017-18	31.65	90.19	50.73	68.86	67.90	53.06	22.63
Average		42.5	79.2	43.81	65.44	71.46	65.09	61.5
Value of production Rs . in lakhs	2012-13	1771	1053	1236	2170	1658	930	1770
	2013-14	1848	746	1162	2166	1536	899	2844
	2014-15	1428	1301	1048	1963	1704	876	2693
	2015-16	457	1147	614	1617	1527	851	2709

	2016-17	659	1370	732	2075	1504	998	1939
	2017-18	541	1539	878	2508	1822	868	724
Average/ year		1117.33	1192.6	945	2083.16	1625.16	903.66	2113.16
HOK	2012-13	30.39	28.25	49.50	30.39	35.24	26.44	19.0
	2013-14	30.18	34.65	45.68	30.18	33.52	24.71	18.0
	2014-15	28.76	27.09	40.57	28.76	30.00	26.18	18.1
	2015-16	26.72	27.00	42.90	26.72	31.52	22.47	16.5
	2016-17	27.12	32.18	42.18	31.18	34.13	25.18	19.84
	2017-18	26.32	30.00	40.38	30.36	32.18	23.92	18.18
Average		28.32	30.00	43.53	29.59	32.76	24.81	18.27
Operating Profit (PBIT) Rs. in lakhs	2012-13	-29.9	+63.7	-249.2	-116	-35.1	+30.6	+146.4
	2013-14	-249.7	-116.1	-394.9	-339.3	-211.5	-44.7	+15.9
	2014-15	-469.6	-151.3	-455.4	-386.1	-284.1	-159.4	-146.1
	2015-16	-492.3	-240.96	-505.52	-488.60	-19.12	-155.45	-148.08
	2016-17	-494.5	-212.67	-434.4	-283.15	-330.35	-132.08	-319.16
	2017-18	-469.2	-200.36	-465.0	-234.39	-242.84	-143.14	-368.12
Average		-367.53	-142.94	-417.40	-307.92	-187.16	-100.69	-136.52

Source: Annual reports of the mills

3.3.2 Combined basic details of all cooperative spinning mills

Table 3.27 Combined basic details of all cooperative spinning mills

No	Mills	Commissioned on	Spindle capacity	Product	Management	Remarks
1	QCSM	1983	25000	Cotton & Synthetic blends yarn	Govt. nominated board	
2	ACSM	1999	12500	Cotton yarn	Govt. nominated board	Under expansion to 25000
3	TCSM	1986	25000	Cotton & synthetic blends	Govt. nominated board	
4	MCSM	1980	25000	Cotton & synthetic blends	Govt. nominated board	
5	CCSM	1964	20000	Cotton & synthetic blends	Govt. nominated board	
6	MALCOTEX	1997	12000	Cotton yarn	Elected board	Under expansion
7	PRICO	2003	25000	Cotton yarn	Elected Board	
8	KKMCSM	2017	5742	Cotton yarn	Elected Board	

Source: Annual reports of mills

3.3.3 Combined labour performance of all cooperative spinning mills

Table 3.28

Labour productivity based on unit of production and work hour

Name of mill	Spindle capacity	Average total work hour (per month)	Average total units of production (in kg.) – per month	Labour productivity (work hour basis)	Percentage of work hour
MCSM	25000	74160	150000	2.02	49.44
CCSM	20000	65760	120000	1.82	54.8
MALCOTEX	12000	35280	102000	2.89	34.58
TCSM	25000	73680	150000	2.03	49.12
ACSM	12500	52320	75000	1.43	69.76
QCSM	25000	59760	150000	2.51	39.84
PRICO	25000	48240	150000	3.10	32.16
KKMCSM	5742	10560	34452	3.26	30.65
AVERAGE LP		419760	931452	2.21	45.06

Source: Annual reports of mills

Table 3.29

Labour productivity based on total cost of production and employee cost

Name of mill	Spindle capacity	Average total units of production (in Kg.)	Average total cost of production (in lakhs)	Average employee cost (in lakhs)	Labour productivity (cost basis)	Percentage of employee cost.
MCSM	25000	150000	181.94	42.82	4.24	23.53
CCSM	20000	120000	154.41	41.92	3.68	27.14
MALCOTEX	12000	102000	89.31	22.34	3.99	25.01
TCSM	25000	150000	128.86	46.09	2.79	35.76
ACSM	12500	75000	118.24	31.33	3.77	26.49
QCSM	25000	150000	134.96	38.44	3.51	28.48
PRICO	25000	150000	213.48	30.72	6.94	14.39
KKMCSM	5742	34452	37.89	4.54	8.34	11.98
Average LP		931452	1059.09	258.2	4.10	24.37

Source: Annual reports of mills

In next chapter researcher make an attempt to assess the labour productivity of cooperative spinning mills in Kerala, also discussing the trend and growth of the financial performance of cooperative spinning mills.

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Introduction

The previous chapter of this study discussed the profile of all cooperative spinning mills in Kerala. In this chapter researcher made an attempt to assess the growth pattern of financial performance of the spinning mills by using the variables, Sales, Increase or decrease in stock, Value of production, Variable expenses, Fixed expenses, Cost of production, Profit before depreciation interest and taxes, Financial charges, Profit before depreciation and taxes, Other incomes, Cash profit or loss, Depreciation and Net profit/ loss.

4.1 Labour productivity

Productivity is an important aspect of any industry that may be used as an indicator for efficiency of production. The labour is industry's most valuable asset. It is important to improve efficiency of production by improving productivity of labour.

Different measures of productivity serve different purposes (Thomas et.al,1993). Different aspects of productivity measures are as follows:

a) Economic Model:

In this model, Total Factor Productivity (TFP) is the ratio of total output to the total cost of labour,material,equipment,energy and capital. In the form of equation it can be shown as follows:

$$TFP = \frac{\text{Total output.}}{\text{Labour+ Material+ Equipment+ Energy+ Capital}}$$

b) Project Specific Model:

In this model, Productivity is the ratio of output to the total cost of labour,material and equipment. . In the form of equation it can be shown as follows:

$$\text{Productivity} = \frac{\text{Output}}{\text{Labour + Material + Equipment}}$$

c) Activity Oriented Model:

In this model, Labour Productivity is the ratio of output to input. In the form of equation it can be shown as follows:

$$\text{Labour productivity} = \frac{\text{Output}}{\text{Work hour}}$$

Or

$$\text{Labour productivity} = \frac{\text{Output}}{\text{Labour cost}}$$

4.2 Growth pattern of financial performance of cooperative spinning mills in Kerala

In this section the researcher used the following variables to examine the growth pattern of financial performance of cooperative spinning mills in Kerala.

- Sales
- Increase or decrease in stock
- Value of production
- Variable expenses
- Fixed Expenses
- Cost of production
- Profit before depreciation, interest and taxes
- Financial charges
- Profit before depreciation and taxes
- Other incomes
- Cash profit or loss
- Depreciation
- Net profit or loss

KKMCSM Mill was recently commissioned (on 5.08.2017), its first linker commissioned on February 2018, so not considered for this analysis. The monthly financial data of the various companies for the six years not showing the normality, hence the data converted in to natural logarithm and applied the analysis of variance to know the significance of difference among various spinning mills. In the case of the variables Increase or decrease in stock, Value of production, Profit

before depreciation, interest and taxes, Profit before depreciation and taxes, Cash profit or loss and Net profit or loss which consists of negative values and the conversion to the natural logarithms are not possible. Hence in these variables non-parametric (Kruskal Wallis H) test was applied to find out the significance of difference among various spinning mills of Kerala.

4.3 Sales

Sales refers to proceeds of goods sold or receipts for services rendered by the business. It is the major source of revenue of any business. It can be cash sales or credit sales. Assets sold do not come under this. Return of goods by the customers(sold earlier) to the business is called sales returns.

Sales without taxes and duties of the selected cooperative spinning mills for the years 2012-13 to 2017-18 are presented in Table 4.1.

Table 4.1

Sales of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	1016.49	742.86	1347.27	1156.61	1321.77	1486.23	6.54
QCSM	1658.43	1717.58	1364.53	470.05	616.53	575.22	-16.18
PRICO	1765.26	2743.34	2707.03	2778.77	1943.11	860.47	-11.29
TCSM	1283.8	1185.07	1047.26	639.64	721.09	873.76	-6.21
Malcotex	536.34	884.5	899.19	799.55	1077.77	874.38	8.49
MCSM	2173.05	2143.86	1976.8	1652.51	2015.82	2487.2	2.28
CCSM	1604.33	1519.02	1761.27	1377.58	1534.35	1831.24	2.23
Total	10037.7	10936.23	11103.35	8874.71	9230.44	8988.5	-1.82

Source: TEXTFED annual reports

Table reveals that Sales of all the spinning mills showed a fluctuating trend throughout the study period. The CAGR was highest for Malcotex (8.49 per cent) and lowest for QCSM (-16.18 percent). Positive value of CAGR indicates the increase in Sales, even though they have the fluctuation, but the negative value of CAGR indicates the decrease in Sale for the study period.

Analysis of variance was applied to know the variation in the Sales among cooperative spinning mills and it is presented in table 4.2.

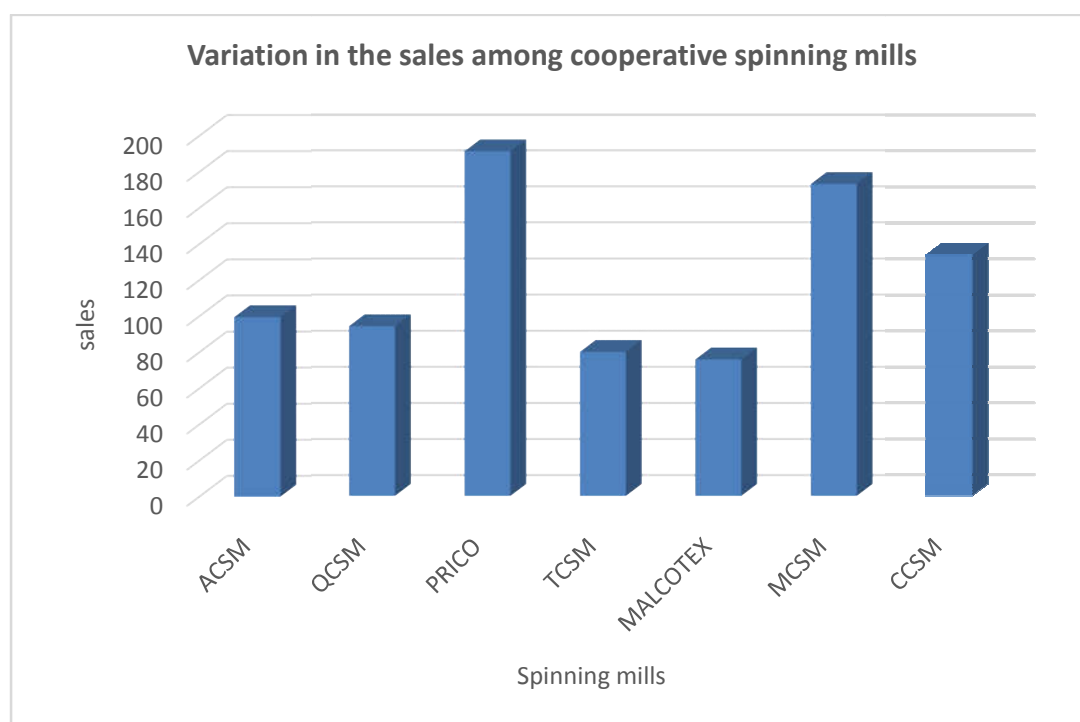
Table 4.2
Variation in the Sales among cooperative spinning mills

Company	N	Sales		Log of sales		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	71	99.59	32.67	4.50	0.58	47.23	.000
QCSM	68	94.15	49.57	4.35	0.70		
PRICO	67	191.01	75.71	5.13	0.59		
TCSM	72	79.87	25.92	4.31	0.40		
MALCOTEX	67	75.70	19.38	4.29	0.26		
MCSM	72	172.91	34.19	5.13	0.19		
CCSM	72	133.72	30.14	4.87	0.24		
Total	489	121.00	59.24	4.66	0.58		

Source: Secondary data

Table 4.2 shows that the average of the Sales of all the spinning mills, which varies between 75.70 and 191.01. Analysis of variance shows that there exist significant variation in the Sales among various spinning mills, since the p-value (F=47.23, p=0.000) is less than 0.01 at .01 level of significance. The Sales of the spinning mill is highest for PRICO (191.01) and it is least for MALCOTEX (75.70).

Figure 4.1 Variation in the Sales among cooperative spinning mills



4.4 Increase or decrease in stock

The goods lying with a business for sale on any given date are called stock.

Increase or decrease in stock of the selected cooperative spinning mills for the years 2012-13 to 2017-18 are presented in Table 4.3.

Table 4.3

Increase or decrease in stock of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	36.37	2.35	-45.91	-9.52	48.56	52.15	6.19
QCSM	112.26	130.77	63.21	-12.99	42.69	-34.62	—
PRICO	50.86	95.69	-13.91	-58.37	-3.39	-135.49	—
TCSM	-48.47	6.97	0.34	-25.46	11.54	4.27	—
Malcotex	-3.04	6.4	-22.85	52.17	-79.01	-5.92	11.75
MCSM	-34.49	22.56	-14.18	-34.67	59.75	3.41	—
CCSM	54.46	17.22	-57.26	24.26	-29.91	-9	—
Total	167.95	281.96	-90.56	-64.58	50.23	-125.2	—

Source: TEXTFED annual reports

Table shows that Stock of all the spinning mills showed a fluctuating trend throughout the study period. The CAGR was highest for Malcotex (11.75 per cent) and lowest for ACSM (6.19 percent). Positive value of CAGR indicates the increase in Stock, even though they have the fluctuation, but the negative value of CAGR indicates the decrease in Stock for the study period.

Analysis of variance was applied to know the variation in the Increase or decrease in stock among cooperative spinning mills and it is presented in table 4.4.

Table 4.4

Variation in the Increase or decrease in stock among cooperative spinning mills

Company	N	Mean	SD	Mean rank	Chi-Square	p-value
ACSM	72	1.17	24.66	239.14	4.11	.662
QCSM	72	4.19	22.74	263.02		
PRICO	72	-0.90	48.19	221.98		
TCSM	72	-0.71	10.54	228.40		
MALCOTEX	72	-0.73	19.32	234.89		
MCSM	72	0.03	25.36	225.09		
CCSM	72	0.00	21.66	235.01		
Total	504	0.44	26.74			

Source: Secondary data

Table 4.4 shows that the average Increase or decrease of stock of all the spinning mills, which varies between 4.19 and -0.90. Kruskal-Wallis test shows that there is no significant variation in the stock among various spinning mills, since the p-value (Chi-square = 4.11, df=6, p=0.662) is greater than 0.05 at .05 level of significance.

4.5 Value of production

Value of production means cost of goods without freight and duty. Value of production of the selected cooperative spinning mills for the years 2012-13 to 2017-18 are presented in Table 4.5.

Table 4.5**Value of production of the cooperative spinning mills for various years**

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	1052.86	745.21	1301.36	1147.09	1370.33	1538.38	6.52
QCSM	1770.69	1848.35	1427.74	457.06	659.22	540.6	-17.94
PRICO	1816.12	2839.03	2693.12	2720.4	1939.72	724.98	-14.19
TCSM	1235.33	1192.04	1047.6	614.18	732.63	878.03	-5.53
Malcotex	533.3	890.9	876.34	851.72	998.76	868.46	8.47
MCSM	2138.56	2166.42	1962.62	1617.84	2075.57	2490.61	2.57
CCSM	1658.79	1536.24	1704.01	1401.84	1504.44	1822.24	1.58
Total	10205.65	11218.19	11012.79	8810.13	9280.67	8863.3	-2.32

Source: TEXTFED Annual reports

Table shows that the Value of production of all the spinning mills showed a fluctuating trend throughout the study period. The CAGR was highest for Malcotex (8.47 percent) and lowest for QCSM (-17.94 percent). Positive value of CAGR indicates the increase in Value of production, even though they have the fluctuation, but the negative value of CAGR indicates the decrease in Value of production for the study period. ASCM, Malcotex, MCSM and CCSM are shows the increase in Value of production, but all other mills shows the decrease in value of production.

Analysis of variance was applied to know the variation in the Value of production among cooperative spinning mills and it is presented in table 4.6.

Table 4.6**Variation in the Value of production among cooperative spinning mills**

Company	N	Mean	SD	Mean rank	Chi-square	p-value
ACSM	72	99.38	33.35	205.27	270.6	.000
QCSM	72	93.11	55.81	194.25		
PRICO	72	176.85	80.39	393.87		
TCSM	72	79.16	25.01	133.65		
MALCOTEX	72	69.72	22.81	111.04		
MCSM	72	172.94	33.28	383.13		
CCSM	72	133.72	25.84	295.57		
Total	504	117.84	59.77			

Source: Secondary data

Table 4.6 shows that the average of the Value of production of all the spinning mills, which varies between 69.72 and 176.85. Kruskal-Wallis test shows that there exist significant variation in the Value of production among various spinning mills, since the p-value (Chi-square=270.6, df=6, p=0.000) is less than 0.01 at .01 level of significance. The Value of production of the spinning mill is highest for PRICO (176.85) and it is least for MALCOTEX (69.72).

4.6 Variable expenses

Variable expenses is a expense which tends to vary directly with the volume of output. It varies almost in direct proportion to the total volume of production. If the volume of production is decreased or increased there will be corresponding and proportionate decrease or increase in the aggregate amount. Here it includes raw material cost, power and fuel expense, other variable cost and total variable expenses.

4.6.1 Raw material cost

Raw material cost of the selected cooperative spinning mills for the years 2012-13 to 2017-18 are presented in Table 4.7.

Table 4.7

Raw material cost of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	549.78	442.51	758.8	668.66	859.18	957.13	9.68
QCSM	976.95	1171.61	887.44	294.39	445.44	359.46	-15.35
PRICO	1182.99	1910.57	1767.58	1653.54	1264.89	499.58	-13.38
TCSM	732.08	814.99	697.86	415	463.58	563.94	-4.26
Malcotex	289.38	525.48	534.75	478.12	618.22	540.67	10.98
MCSM	1338	1460.85	1222.22	965.34	1168.83	1429.2	1.11
CCSM	887.84	892.63	1029.97	756.61	941.86	1069.31	3.15
Total	5957.02	7218.64	6898.62	5231.66	5762	5419.29	-1.56

Source: TEXTFED Annual reports

Table shows that the Raw material cost of all the spinning mills showed a fluctuating trend throughout the study period. The CAGR was highest for Malcotex (10.98 per cent) and lowest for QCSM (-15.35 percent). Positive value of CAGR indicates the increase in Raw material cost, even though they have the fluctuation, but the negative value of CAGR indicates the decrease in Raw material cost for the study period. ASCM, Malcotex, MCSM and CCSM are shows the increase in Raw material cost, but all other mills shows the decrease.

Analysis of variance was applied to know the variation in the Raw material cost among cooperative spinning mills and it is presented in table 4.8.

Table 4.8

Variation in the Raw material cost among cooperative spinning mills

Company	N	Cost		Log of cost		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	70	60.52	17.89	3.93	0.77	15.07	.000
QCSM	67	61.72	29.93	3.67	1.21		
PRICO	67	123.57	45.36	4.31	1.45		
TCSM	72	51.21	16.39	3.88	0.36		
MALCOTEX	67	44.58	8.51	3.52	0.98		
MCSM	72	105.34	21.01	4.64	0.21		
CCSM	72	77.48	15.46	4.33	0.21		
Total	487	74.92	36.38	4.04	0.94		

Source: Secondary data

Table 4.8 shows that the average of the Raw material cost of all the spinning mills, which varies between 44.58 and 123.57. Analysis of variance shows that there exist significant variation in the Raw material cost among various spinning mills, since the p-value (F=15.07, p=0.000) is less than 0.01 at .01 level of significance. The Raw material cost of the spinning mill is highest for PRICO (123.57) and it is least for MALCOTEX (44.58).

4.6.2 Power and fuel expense

Power and Fuel expense of the selected cooperative spinning mills for the years 2012-13 to 2017-18 are presented in Table 4.9.

Table 4.9**Power and Fuel expense of the cooperative spinning mills for various years**

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	163.41	140.53	222.16	236.1	251.92	289.54	10.00
QCSM	232.25	259.79	237.29	88.61	85.01	76.07	-16.97
PRICO	147.66	399.47	458.75	515.05	397.54	180.41	3.40
TCSM	207.27	211.93	206.83	172.74	172.89	196.03	-0.92
Malcotex	90.15	145.13	157.26	171.8	163.14	157.87	9.79
MCSM	288.05	335.98	336.19	348.83	366.92	430.17	6.91
CCSM	239.24	246.51	292.05	267.04	278.41	331.32	5.58
Total	1368.03	1739.34	1910.53	1800.17	1715.83	1661.41	3.29

Source: TEXTFED Annual reports

Analysis of variance was applied to know the variation in the Power and fuel expense among cooperative spinning mills and it is presented in table 4.10.

Table 4.10**Variation in the Power and Fuel expense among cooperative spinning mills**

Company	N	Expense		Log of expense		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	18.11	5.26	2.82	0.51	45.24	.000
QCSM	72	13.60	7.48	2.40	0.72		
PRICO	65	32.29	12.09	3.31	0.75		
TCSM	72	16.22	2.84	2.77	0.19		
MALCOTEX	67	13.21	1.71	2.57	0.13		
MCSM	72	29.25	5.34	3.36	0.18		
CCSM	72	22.98	4.17	3.12	0.20		
Total	492	20.72	9.36	2.90	0.57		

Source: Secondary data

Table 4.10 shows that the average of the Power and fuel expense of all the spinning mills, which varies between 13.21 and 32.29. Analysis of variance shows that there exist significant variation in the Power and fuel expense among various spinning mills, since the p-value ($F=45.24$, $p=0.000$) is less than 0.01 at .01 level of significance. The Power and fuel expense of the spinning mill is highest for PRICO (32.29) and it is least for MALCOTEX (13.21).

4.6.3 Other variable cost

Other variable cost of the selected cooperative spinning mills for the years 2012-13 to 2017-18 are presented in Table 4.11.

Table 4.11

Other variable cost of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	60.93	46.54	79.71	78.27	76.05	78.12	4.23
QCSM	33.7	34.09	36.36	12.94	16.74	13.97	-13.65
PRICO	0	187.18	219.17	238.63	175.71	56.69	-21.25
TCSM	40.51	34.16	32.83	17.11	20.71	30.49	-4.63
Malcotex	30.96	50.6	57.66	54.58	58.5	37.15	3.08
MCSM	32.59	31.77	27.85	27.34	29.93	26.63	-3.31
CCSM	48.67	41.74	41.02	36.41	30.64	41.32	-2.69
Total	247.36	426.08	494.6	465.28	408.28	284.37	2.35

Source: TEXFED Annual reports

Analysis of variance was applied to know the variation in the Other variable cost among cooperative spinning mills and it is presented in table 4.12.

Table 4.12**Variation in the Other variable cost among cooperative spinning mills**

Company	N	Cost		Log of cost		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	71	5.91	1.54	1.71	0.46	131.82	.000
QCSM	68	2.17	0.97	0.59	0.80		
PRICO	56	15.67	5.56	2.63	0.63		
TCSM	72	2.44	0.94	0.81	0.44		
MALCOTEX	67	4.32	0.99	1.43	0.26		
MCSM	72	2.45	0.47	0.88	0.19		
CCSM	72	3.33	0.93	1.16	0.29		
Total	478	4.87	4.64	1.28	0.77		

Source: Secondary data

Table 4.12 shows that the average of the Other variable cost of all the spinning mills, which varies between 2.17 and 15.67. Analysis of variance shows that there exist significant variation in the Other variable cost among various spinning mills, since the p-value ($F=131.82$, $p=0.000$) is less than 0.01 at .01 level of significance. The Other variable cost of the spinning mill is highest for PRICO (15.67) and it is least for QCSM (2.17).

4.6.4 Total Variable expenses

Total variable expenses of the selected cooperative spinning mills for the years 2012-13 to 2017-18 are presented in Table 4.13.

Table 4.13

Total Variable expenses of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	774.12	629.58	1060.67	983.03	1187.15	1324.79	9.37
QCSM	1242.9	1465.49	1161.09	395.94	547.19	449.5	-15.59
PRICO	1330.65	2497.22	2445.5	2407.22	1838.14	736.68	-9.38
TCSM	979.86	1061.08	937.52	604.85	657.18	790.46	-3.52
Malcotex	410.49	721.21	749.67	704.5	839.86	735.69	10.21
MCSM	1658.64	1828.6	1586.26	1341.51	1565.68	1886	2.16
CCSM	1175.75	1180.88	1363.04	1060.06	1250.91	1441.95	3.46
Total	7572.41	9384.06	9303.75	7497.11	7886.11	7365.07	-0.46

Source: TEXTFED Annual reports

Table shows that the Total variable expenses of all the spinning mills exhibits a fluctuating trend throughout the study period. The CAGR was highest for Malcotex (10.21 per cent) and lowest for QCSM (-15.59 percent). Positive value of CAGR indicates the increase in total variable expenses, even though they have the fluctuation, but the negative value of CAGR indicates the decrease in Total variable expenses for the study period. ASCM, Malcotex, MCSM and CCSM are shows the increase in Total variable expenses, but all other mills shows the decrease.

Analysis of variance was applied to know the variation in the Total variable expenses among cooperative spinning mills and it is presented in table 4.14.

Table 4.14

Variation in the Total variable expenses among cooperative spinning mills

Company	N	Expense		Log expense		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	82.77	26.38	4.29	0.74	17.98	.000
QCSM	72	73.08	40.77	3.97	1.05		
PRICO	72	156.33	71.44	4.70	1.21		
TCSM	72	69.87	19.46	4.20	0.31		
MALCOTEX	67	62.11	9.72	3.83	1.06		
MCSM	72	137.04	23.54	4.91	0.17		
CCSM	72	103.79	18.89	4.63	0.19		
Total	499	98.21	48.87	4.36	0.87		

Source: Secondary data

Table 4.14 shows that the average of the Total variable expenses of all the spinning mills, which varies between 62.11 and 156.33. Analysis of variance shows that there exist significant variation in the Total variable expenses among various spinning mills, since the p-value (F=17.98, p=0.000) is less than 0.01 at .01 level of significance. The Total variable expenses of the spinning mill is PRICO (156.33) and it is least for MALCOTEX (62.11).

4.7 Fixed expenses

A fixed expense is an expense that will be the same total amount regardless of changes in the amount of sales, production, or some other activity. Here it includes employee cost, other fixed expenses and total fixed expenses.

4.7.1 Employee cost

Employee cost refers the actual amount paid for all the employee working in the company as wages and benefits. Employee cost includes salaries, wages, commissions, medicare, insurance premium paid by the employer and pension deposits as well as the cost of all other fringe benefits.

Employee cost of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.15.

Table 4.15**Employee cost of the cooperative spinning mills for various years**

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	184.57	198.46	366.96	383.91	377.47	387.68	13.17
QCSM	499.31	565.39	678.98	514.35	561.72	509.9	0.35
PRICO	218.19	300.61	357.16	381.66	377.63	336.67	7.50
TCSM	468.71	497.03	535.71	493.45	494.08	528.9	2.03
Malcotex	123.8	216.34	276.27	291.5	283.08	268.56	13.78
MCSM	550.43	597.57	682.97	680.539	715.66	766.78	5.68
CCSM	469.28	502.29	547.84	556.79	529.24	563.62	3.10
Total	2514.29	2877.69	3445.89	3302.199	3338.88	3362.11	4.96

Source: Annual reports of cooperative spinning mills, 2012-13 to 2017-18

Table shows that Employee cost of all the spinning mills exhibits an increase in trend throughout the study period. The CAGR was highest for Malcotex (13.78 percent) and lowest for QCSM (0.35 percent). Positive value of CAGR indicates the increase in Employee cost. Analysis of variance was applied to know the variation in the Employee cost among cooperative spinning mills and it is presented in table 4.16.

Table 4.16**Variation in the Employee cost among cooperative spinning mills**

Company	N	Cost		Log cost		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	26.38	8.32	3.18	0.53	144.74	.000
QCSM	72	46.25	7.10	3.82	0.15		
PRICO	72	27.39	6.64	3.27	0.33		
TCSM	72	41.92	3.85	3.73	0.09		
MALCOTEX	67	21.78	2.79	3.07	0.13		
MCSM	72	55.47	6.77	4.01	0.12		
CCSM	72	44.01	3.75	3.78	0.09		
Total	499	37.76	12.94	3.56	0.42		

Source: Secondary data

Table 4.16 shows that the average of Employee cost of all the spinning mills, which varies between 21.78 and 55.47. Analysis of variance shows that there exist significant variation in the Employee cost among various spinning mills, since the p-value ($F=144.74$, $p=0.000$) is less than 0.01 at .01 level of significance. The Employee cost of the spinning mill is highest for MCSM (55.47) and it is least for MALCOTEX (21.78).

4.7.2 Other fixed expenses

Other fixed expenses of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.17.

Table 4.17

Other fixed expenses of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	30.46	33.57	24.99	21.11	18.38	27.64	-1.61
QCSM	57.13	67.12	57.24	39.73	44.87	50.46	-2.05
PRICO	0	32.69	41.78	59.11	43.11	19.75	-9.59
TCSM	33.42	28.84	29.73	21.4	16.28	23.67	-5.59
Malcotex	4.8	6.58	9.8	11.17	7.9	7.32	7.29
MCSM	95.89	75.51	79.45	84.33	77.39	72.14	-4.63
CCSM	49.15	64.59	77.21	66.3	54.48	59.5	3.24
Total	270.85	308.9	320.2	303.15	262.41	260.48	-0.65

Source: Annual reports of cooperative spinning mills, 2012-13 to 2017-18

Table shows that Other fixed expenses of all the spinning mills demonstrates a decrease in trend throughout the study period except for the mills Malcotex and CCSM. The CAGR was highest for Malcotex (7.29 percent) and lowest for PRICO (-9.59 percent).

Analysis of variance was applied to know the variation in the Other fixed expenses among cooperative spinning mills and it is presented in table 4.18.

Table 4.18**Variation in the Other fixed expenses among cooperative spinning mills**

Company	N	Expenses		Log expenses		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	2.17	0.76	0.71	0.36	300.13	.000
QCSM	72	4.40	1.39	1.42	0.37		
PRICO	60	3.27	1.92	1.03	0.58		
TCSM	72	2.13	0.66	0.71	0.32		
MALCOTEX	67	0.71	0.20	-0.38	0.27		
MCSM	72	6.73	1.67	1.88	0.25		
CCSM	72	5.16	1.51	1.59	0.31		
Total	487	3.54	2.31	1.01	0.78		

Source: Secondary data

Table 4.18 shows that the average of Other fixed expenses of all the spinning mills, which varies between 0.71 and 6.73. Analysis of variance shows that there exist significant variation in the Other fixed expenses among various spinning mills, since the p-value (F=300.13, p=0.000) is less than 0.01 at .01 level of significance. The Other fixed expenses of the spinning mill is highest for MCSM (6.73) and it is least for MALCOTEX (0.71).

4.7.3 Total fixed expenses

Total fixed expenses of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.19.

Table 4.19**Total fixed expenses of the cooperative spinning mills for various years**

Company	2012-13(in lakhs)	2013-14(in lakhs)	2014-15(in lakhs)	2015-16 (in lakhs)	2016-17(in lakhs)	2017-18(in lakhs)	CAGR
ACSM	215.03	232.03	391.95	405.02	395.85	415.32	11.60
QCSM	556.44	632.51	736.22	554.08	606.59	560.36	0.12
PRICO	218.19	333.3	398.94	440.77	420.74	356.42	8.52
TCSM	502.13	525.87	565.44	514.85	510.36	552.57	1.61
Malcotex	128.6	222.92	286.07	302.67	290.98	275.88	13.57
MCSM	646.32	673.08	762.42	764.869	793.05	838.92	4.44
CCSM	518.43	566.88	625.05	623.09	583.72	623.12	3.11
Total	2785.14	3186.59	3766.09	3605.349	3601.29	3622.59	4.48

Source: Annual reports of cooperative spinning mills from 2012-13 to 2017-18

Table shows that Total fixed expenses of all the spinning mills exhibits an increase in trend throughout the study period. The CAGR was highest for Malcotex (13.57 percent) and lowest for QCSM (0.12 percent). Positive value of CAGR indicates the increase in Total fixed expenses. Analysis of variance was applied to know the variation in the Total fixed expenses among cooperative spinning mills and it is presented in table 4.20.

Table 4.20

Variation in the total fixed expenses among cooperative spinning mills

Company	N	Expense		Log expense		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	28.54	8.04	3.29	0.41	195.31	.000
QCSM	72	50.64	7.96	3.91	0.16		
PRICO	72	30.12	8.02	3.35	0.36		
TCSM	72	44.04	3.91	3.78	0.09		
MALCOTEX	67	22.49	2.87	3.10	0.13		
MCSM	72	62.20	6.68	4.12	0.11		
CCSM	72	49.17	4.57	3.89	0.10		
Total	499	41.22	14.67	3.64	0.42		

Source: Secondary data

Table 4.20 shows that the average of Total fixed expenses of all the spinning mills, which varies between 22.49 and 62.20. Analysis of variance shows that there exist significant variation in the Total fixed expense among various spinning mills, since the p-value (F=195.31, p=0.000) is less than 0.01 at .01 level of significance. The Total fixed expenses of the spinning mill is highest for MCSM (62.20) and it is least for MALCOTEX (22.49).

4.8 Cost of production

Cost of production represents the works cost plus administrative expenses. In other words prime cost, factory overheads and administrative expenses are included in the cost of production. Administrative overhead consists of all expenses incurred in formulating the policies, directing the organization and controlling the operations. Administrative overhead are not directly related to the production, selling, distribution, research and development.

Cost of production of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.21.

Table 4.21

Cost of production of the cooperative spinning mills for various years

Company	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR
ACSM	989.15	861.61	1452.62	1388.05	1583	1740.11	9.87
QCSM	1799.34	2098	1897.31	950.02	1153.78	1009.86	-9.18
PRICO	1548.84	2830.52	2844.44	2847.99	2258.88	1093.1	-5.64
TCSM	1481.99	1586.95	1502.96	1119.7	1167.54	1343.03	-1.63
Malcotex	539.09	944.13	1035.74	1007.17	1130.84	1011.57	11.06
MCSM	2304.96	2501.68	2348.68	2106.379	2358.73	2724.92	2.83
CCSM	1694.18	1747.76	1988.09	1683.15	1834.63	2065.07	3.35
Total	10357.55	12570.65	13069.84	11102.46	11487.4	10987.66	0.99

Source: TEXFED Annual reports from 2012-13 to 2017-18

Table shows that Cost of production of all the spinning mills demonstrates a fluctuating trend throughout the study period. The CAGR was highest for Malcotex (11.06 percent) and lowest for QCSM (-9.18 percent).

Analysis of variance was applied to know the variation in the Cost of production among cooperative spinning mills and it is presented in table 4.22.

Table 4.22**Variation in the Cost of production among cooperative spinning mills**

Company	N	Cost		Log cost		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	111.31	33.36	4.62	0.55	34.04	.000
QCSM	72	123.73	45.96	4.73	0.45		
PRICO	72	186.44	76.04	5.04	0.79		
TCSM	72	113.92	21.82	4.72	0.21		
MALCOTEX	67	84.61	10.94	4.43	0.13		
MCSM	72	199.24	24.82	5.29	0.12		
CCSM	72	152.96	21.58	5.02	0.15		
Total	499	139.43	55.08	4.84	0.50		

Source: Secondary data

Table 4.22 shows that the average Cost of production of all the spinning mills, which varies between 84.61 and 199.24. Analysis of variance shows that there exist significant variation in the Cost of production among various spinning mills, since the p-value (F=34.04, p=0.000) is less than 0.01 at .01 level of significance. The Cost of production of the spinning mill is highest for MCSM (199.24) and it is least for MALCOTEX (84.61).

4.9 Profit before depreciation, interest and taxes

Profit is the excess of revenues over expenses in an accounting year. It represents increase in owner's equity. Here profit is calculated before deducting depreciation, interest and taxes.

Profit before depreciation, interest and taxes of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.23.

Table 4.23**Profit before depreciation, interest and taxes of the cooperative spinning mills for various years**

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	63.71	-116.4	-151.26	-240.96	-212.67	-201.73	-
QCSM	-28.65	-249.65	-469.57	-492.96	-494.56	-469.26	59.36
PRICO	267.28	8.51	-151.32	-127.59	-319.16	-368.12	-
TCSM	-246.66	-394.91	-455.36	-505.52	-434.91	-465	11.15
Malcotex	-5.79	-53.23	-159.4	-155.45	-132.08	-143.11	70.67
MCSM	-166.4	-335.26	-386.06	-488.539	-283.16	-234.31	5.87
CCSM	-35.39	-211.52	-284.08	-281.31	-330.19	-242.83	37.85
Total	-151.9	-1352.46	-2057.05	-2292.33	-2206.73	-2124.36	55.22

Source: RIAB yearly reports from 2012-13 to 2017-18

Analysis of variance was applied to know the variation in the Profit before depreciation, interest and taxes among cooperative spinning mills and it is presented in table 4.24.

Table 4.24**Variation in the Profit before depreciation, interest and taxes among cooperative spinning mills**

Company	N	Mean	SD	Mean rank	Chi-square	p-value
ACSM	72	-11.93	14.36	328.08	163.8	.000
QCSM	72	-30.62	17.36	166.95		
PRICO	72	-9.59	23.38	315.68		
TCSM	72	-34.76	9.09	120.38		
MALCOTEX	67	-9.69	8.57	356.96		
MCSM	72	-26.30	13.94	202.32		
CCSM	72	-19.24	11.94	267.07		
Total	499	-20.41	17.68			

Source: Secondary data

Table 4.24 discloses all the mills are running in negative value of profit, the average profit of all the spinning mills, which varies between -9.59 and -34.76. Kruskal-Wallis test shows that there exist significant variation in the loss among various spinning mills, since the p-value (Chi-square=163.8, df=6, p=0.000) is less

than 0.01 at .01 level of significance. The loss of the spinning mill is highest for TCSM (-34.76) and it is least for PRICO (-9.59).

4.10 Financial charges

Here it includes long term loans and working capital loans. Long term loans is a form of debt that is paid off over an extended time frame that exceeds one year in duration. It can use to purchase assets, inventory or equipment which can then be used to create additional income for the business. A working capital loan is a loan that is taken to finance the everyday operations of a company and should be repaid within a short period of time normally one accounting year. Working capital loans are not used to buy long-term assets or investments and are, instead, used to cover accounts payable, wages, etc.

4.10.1 Long term loans

Long term loans of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.25.

Table 4.25

Long term loans of the cooperative spinning mills for various years

Company	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	CAGR
ACSM	16.67	20.76	44.04	52.32	165.33	318.48	63.50
QCSM	34.08	39.12	39.12	62.28	58.52	39.72	2.59
PRICO	241.08	241.08	241.08	257.25	258.24	259.01	1.20
TCSM	30.96	30.96	46.68	46.68	46.7	46.68	7.08
Malcotex	91.86	159.15	159.56	155.21	153.61	153.56	8.94
MCSM	92.13	92.16	190.08	190.08	263.28	263.17	19.12
CCSM	53.54	60	60	60	104.8	116.92	13.90
Total	560.32	643.23	780.56	823.82	1050.48	1197.54	13.49

Source: Annual reports of cooperative spinning mills from 2012-13 to 2017-18

Table shows that Long term loans of all the spinning mills exhibits an increase in trend throughout the study period. The CAGR was highest for ACSM (63.50 per cent) and lowest for PRICO (1.20 percent). Positive value of CAGR

indicates the increase in Long term loans even though there is a decrease in particular year for the certain mills.

Analysis of variance was applied to know the variation in the Long term loans among cooperative spinning mills and it is presented in table 4.26.

Table 4.26

Variation in the Long term loans among cooperative spinning mills

Company	N	Loans		Log loans		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	8.58	9.11	1.59	1.07	162.67	.000
QCSM	72	3.79	0.99	1.30	0.26		
PRICO	72	20.80	0.72	3.03	0.03		
TCSM	72	3.45	0.62	1.22	0.19		
MALCOTEX	67	13.03	0.45	2.57	0.03		
MCSM	72	15.15	5.88	2.63	0.44		
CCSM	72	6.32	2.19	1.78	0.36		
Total	499	10.13	7.33	2.01	0.82		

Source: Secondary data

Table 4.26 shows that the average Long term loans of all the spinning mills, which varies between 3.45 and 20.80. Analysis of variance shows that there exist significant variation in the Long term loans among various spinning mills, since the p-value (F=162.67, p=0.000) is less than 0.01 at .01 level of significance. The Long term loans of the spinning mill is highest for PRICO (20.80) and it is least for TCSM (3.45).

4.10.2 Working capital loans

Working capital loans of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.27.

Table 4.27**Working capital loans of the cooperative spinning mills for various years**

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	11.77	27.38	63.73	91.95	0	132.24	49.66
QCSM	9.94	14.64	14.64	44.4	109.26	430.56	87.40
PRICO	3.36	2.52	2.52	3.52	0	0	-100.00
TCSM	14.28	26.28	89.28	118.98	141.66	159.57	49.52
Malcotex	6.06	13	43.41	54.24	58.69	59.04	46.14
MCSM	55.1	51.18	32.2	30.39	28.47	25.66	-11.96
CCSM	24.3	26.73	84	100.2	119.58	150.59	35.53
Total	124.81	161.73	329.78	443.68	457.66	957.66	40.44

Source: Annual reports of cooperative spinning mills from 2012-13 to 2017-18

Analysis of variance was applied to know the variation in the Working capital loans among cooperative spinning mills and it is presented in table 4.28.

Table 4.28.**Variation in the Working capital loans among cooperative spinning mills**

Company	N	Loans		Log loans		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	59	5.54	3.66	1.41	0.87	99.03	.000
QCSM	67	9.31	13.87	1.29	1.28		
PRICO	47	0.25	0.10	-1.42	0.27		
TCSM	72	7.64	4.66	1.72	0.92		
MALCOTEX	65	3.61	1.60	1.13	0.63		
MCSM	72	3.10	1.06	1.08	0.32		
CCSM	68	7.43	3.69	1.84	0.64		
Total	450	5.50	6.62	1.12	1.20		

Source: Secondary data

Table 4.28 shows that the average Working capital loans of all the spinning mills, which varies between 0.25 and 9.31. Analysis of variance shows that there exist significant variation in the Working capital loans among various spinning mills, since the p-value (F=99.03, p=0.000) is less than 0.01 at .01 level of

significance. The Working capital loans of the spinning mill is highest for QCSM (9.31) and it is least for PRICO (0.25).

4.10.3 Total financial charges

Total financial charges of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.29.

Table 4.29

Total financial charges of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	28.44	48.14	107.77	144.27	165.33	450.72	58.49
QCSM	44.02	53.76	53.76	106.68	167.78	470.28	48.41
PRICO	244.44	243.6	243.6	260.77	258.24	259.01	0.97
TCSM	45.24	57.24	135.96	165.66	188.36	206.25	28.77
Malcotex	97.92	172.15	202.97	209.45	212.3	212.6	13.79
MCSM	147.23	143.34	222.28	220.47	291.75	288.83	11.89
CCSM	77.84	86.73	144	160.2	224.38	267.51	22.84
Total	685.13	804.96	1110.34	1267.5	1508.14	2155.2	21.05

Source: Annual reports of cooperative spinning mills from 2012-13 to 2017-18

Table shows that Total financial charges of all the spinning mills exhibits an increase in trend throughout the study period. The CAGR was highest for ACSM (58.49 percent) and lowest for PRICO (0.97 percent). Positive value of CAGR indicates the increase in Total financial charges even though there is a decrease in particular year.

Analysis of variance was applied to know the variation in the Total financial charges among cooperative spinning mills and it is presented in table 4.30.

Table 4.30**Variation in the Total financial charges among cooperative spinning mills**

Company	N	Financial charges		Log financial charges		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	13.12	11.75	2.19	0.90	30.18	.000
QCSM	72	12.45	13.45	2.10	0.85		
PRICO	72	20.97	0.66	3.04	0.03		
TCSM	72	11.09	5.23	2.26	0.60		
MALCOTEX	67	16.53	1.53	2.80	0.10		
MCSM	72	18.25	4.99	2.86	0.29		
CCSM	72	13.34	5.88	2.47	0.53		
Total	499	15.09	8.32	2.53	0.66		

Source: Secondary data

Table 4.30 shows that the average Total financial charges of all the spinning mills, which varies between 11.09 and 20.97. Analysis of variance shows that there exist significant variation in the Total financial charges among various spinning mills, since the p-value ($F=30.18$, $p=0.000$) is less than 0.01 at .01 level of significance. The Total financial charges of the spinning mill is highest for PRICO (20.97) and it is least for TCSM (11.09).

4.11 Profit before depreciation and taxes

Profit after paying interest for long term loans and working capital loans and before paying depreciation and taxes is considering here.

Profit before depreciation and taxes of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.31.

Table 4.31**Profit before depreciation and taxes of
the cooperative spinning mills for various years**

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	35.27	-164.54	-259.03	-385.23	-378	-652.45	—
QCSM	-72.67	-303.41	-523.33	-599.64	-662.34	-939.54	53.20
PRICO	22.84	-235.09	-394.92	-388.36	-577.4	-627.13	—
TCSM	-291.9	-452.15	-591.32	-671.18	-623.27	-671.25	14.89
Malcotex	-103.71	-225.38	-362.37	-364.9	-344.38	-355.71	22.80
MCSM	-313.63	-478.6	-608.34	-709.009	-574.91	-523.14	8.90
CCSM	-113.23	-298.25	-428.08	-441.51	-554.57	-510.34	28.52
Total	-837.03	-2157.42	-3167.39	-3559.83	-3714.87	-4279.56	31.25

Source: RIAB yearly reports from 2012-13 to 2017-18

Analysis of variance was applied to know the variation in the Profit before depreciation and taxes among cooperative spinning mills and it is presented in table 4.32.

Table 4.32**Variation in the Profit before
depreciation and taxes among cooperative spinning mills**

Company	N	Mean	SD	Mean rank	Chi-square	p-value
ACSM	72	-25.06	21.22	327.13	96.53	.000
QCSM	72	-43.07	24.93	203.85		
PRICO	72	-30.56	23.72	271.61		
TCSM	72	-45.85	12.83	165.52		
MALCOTEX	67	-26.22	9.32	334.78		
MCSM	72	-44.55	14.90	179.58		
CCSM	72	-32.58	15.08	273.40		
Total	499	-35.50	19.99			

Source: Secondary data

Table 4.32 discloses all the mills are running in negative value of profit, the average profit of all the spinning mills, which varies between -25.06 and -45.85. Kruskal-Wallis test shows that there exist significant variation in the loss among various spinning mills, since the p-value (Chi-square=96.53, df=6, p=0.000) is less than 0.01 at .01 level of significance. The loss of the spinning mill is highest for TCSM (-45.85) and it is least for ACSM (-25.06).

4.12 Other incomes

Income is the increase in the net worth of an organization either from business activity or other activities.

Other incomes of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.33.

Table 4.33

Other incomes of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	3.3	3.32	1.5	15.29	4.64	3.62	1.55
QCSM	39.75	20.42	2.8	0.2	0.14	61.77	7.62
PRICO	0	21.88	23.48	14.78	1.22	0.64	-50.66
TCSM	4.82	6.5	2.33	1.92	2.76	9.65	12.27
Malcotex	0.18	1.68	2.73	2.09	0.09	0.461	16.97
MCSM	7.7	52.17	28.51	5.14	7.78	7.06	-1.44
CCSM	7.31	6.41	5.32	6.24	0.27	1.41	-23.99
Total	63.06	112.38	66.67	45.66	16.9	84.611	5.02

Source: Annual reports of cooperative spinning mills from 2012-13 to 2017-18

Table shows that Other incomes of all the spinning mills exhibits fluctuating trend throughout the study period. The CAGR was highest for Malcotex (16.97 per cent) and lowest for PRICO (-50.66 percent). Positive value of CAGR indicates the increase in Other incomes even though fluctuation is shown, but the negative value indicates the decrease in Other incomes for the various years of the certain mills.

Analysis of variance was applied to know the variation in the Other incomes among cooperative spinning mills and it is presented in table 4.34.

Table 4.34

Variation in the Other incomes among cooperative spinning mills

Company	N	Income		Log income		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	67	0.47	1.07	-1.63	1.32	3.08	.006
QCSM	49	2.55	5.27	-0.78	2.20		
PRICO	47	1.32	1.88	-1.06	2.07		
TCSM	72	0.39	0.53	-1.41	0.92		
MALCOTEX	30	0.24	0.27	-2.29	1.65		
MCSM	71	1.53	3.90	-1.35	1.90		
CCSM	33	0.82	1.11	-1.29	1.60		
Total	369	1.05	2.81	-1.37	1.71		

Source: Secondary data

Table 4.34 shows that the average Other incomes of all the spinning mills, which varies between 0.24 and 2.55. Analysis of variance shows that there exist significant variation in the Other incomes among various spinning mills, since the p-value ($F=3.08$, $p=0.006$) is less than 0.01 at .01 level of significance. The Other incomes of the spinning mill is highest for QCSM (2.55) and it is least for MALCOTEX (0.24).

4.13 Cash profit or loss

It includes profit before depreciation and taxes and by adding other incomes.

Cash profit or loss of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.35.

Table 4.35**Cash profit or loss of the cooperative spinning mills for various years**

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	38.57	-161.22	-257.53	-369.94	-373.36	-648.83	-
QCSM	-32.92	-282.99	-520.53	-599.44	-662.2	-877.77	72.84
PRICO	22.84	-213.21	-371.44	-373.58	-576.18	-626.49	-
TCSM	-287.08	-445.65	-588.99	-669.26	-620.51	-661.6	14.93
Malcotex	-103.53	-223.7	-359.64	-362.81	-344.29	-355.249	22.81
MCSM	-305.93	-426.43	-579.83	-703.869	-567.13	-516.08	9.11
CCSM	-105.92	-291.84	-422.76	-435.27	-554.3	-508.93	29.90
Total	-773.97	-2045.04	-3100.72	-3514.17	-3697.97	-4194.95	32.54

Source: RIAB yearly reports from 2012-13 to 2017-18

Analysis of variance was applied to know the variation in the Cash profit or loss among cooperative spinning mills and it is presented in table 4.36.

Table 4.36**Variation in the Cash profit or loss among cooperative spinning mills**

Company	N	Mean	SD	Mean rank	Chi-square	p-value
ACSM	72	-24.62	21.01	325.92	90.36	.000
QCSM	72	-41.33	25.17	206.71		
PRICO	72	-29.70	23.76	273.13		
TCSM	72	-45.46	12.86	163.12		
MALCOTEX	67	-26.11	9.28	329.83		
MCSM	72	-43.05	15.55	186.52		
CCSM	72	-32.21	15.15	270.31		
Total	499	-34.72	19.95			

Source: Secondary data

Table 4.36 discloses that all the mills are running in negative value of cash profit, the average cash profit of all the spinning mills, which varies between -24.62 and -45.46. Kruskal-Wallis test shows that there exist significant variation in the cash profit among various spinning mills, since the p-value (Chi-square=90.36, df=6, p=0.000) is less than 0.01 at .01 level of significance. The cash profit or loss of the spinning mill is highest for TCSM (-45.46) and it is least for ACSM(-24.62).

4.14 Depreciation

Depreciation is a measure of the wearing out, consumption or other loss of values of a depreciable asset arising from use, effluxion of time or obsolescence through technology and market changes. Depreciation is allocated so as to charge fair proportion of depreciable amount in each accounting period during the expected useful life of the asset.

Depreciation of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.37.

Table 4.37

Depreciation of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	85.2	84.48	60.84	64.56	49.44	216	16.77
QCSM	17.01	14.97	14.52	14.52	14.52	14.52	-2.60
PRICO	211.2	188.88	192.12	233.28	214.56	206.4	-0.38
TCSM	17.04	15.95	15.96	15.96	15.96	15.96	-1.09
Malcotex	50.85	81	81	81	81	118.2	15.09
MCSM	85.92	85.92	91.56	91.56	91.56	91.56	1.07
CCSM	90	91	101	102	99.96	144.88	8.26
Total	557.22	562.2	557	602.88	567	807.52	6.38

Source: Annual reports of cooperative spinning mills from 2012-13 to 2017-18

Analysis of variance was applied to know the variation in the Depreciation among cooperative spinning mills and it is presented in table 4.38.

Table 4.38**Variation in the Depreciation among cooperative spinning mills**

Company	N	Depreciation		Log depreciation		F-value	p-value
		Mean	SD	Mean	SD		
ACSM	72	7.79	4.72	1.92	0.48	1281.23	.000
QCSM	72	1.25	0.08	0.22	0.06		
PRICO	72	17.31	1.24	2.85	0.07		
TCSM	72	1.34	0.03	0.30	0.02		
MALCOTEX	67	7.36	1.51	1.98	0.17		
MCSM	72	7.47	0.22	2.01	0.03		
CCSM	72	8.73	2.15	2.12	0.34		
Total	499	7.32	5.44	1.63	0.95		

Source: Secondary data

Table 4.38 shows that the average Depreciation of all the spinning mills, which varies between 1.25 and 17.31. Analysis of variance shows that there exist significant variation in the Depreciation among various spinning mills, since the p-value ($F=1281.23$, $p=0.000$) is less than 0.01 at .01 level of significance. The Depreciation is highest for PRICO (17.31) and it is least for QCSM (1.25).

4.15 Net profit or loss

Net profit/loss here indicates cash profit/loss less depreciation.

Net profit or loss of the selected cooperative spinning mills of Kerala for the years 2012-13 to 2017-18 are presented in Table 4.39.

Table 4.39

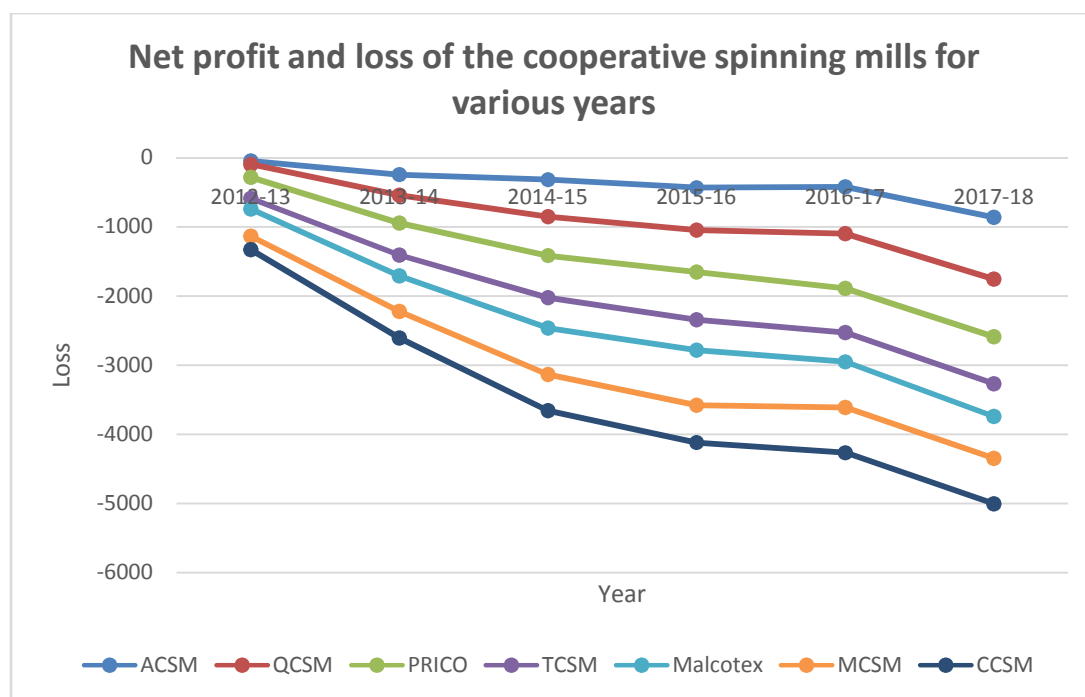
Net profit or loss of the cooperative spinning mills for various years

Company	2012-13 (in lakhs)	2013-14 (in lakhs)	2014-15 (in lakhs)	2015-16 (in lakhs)	2016-17 (in lakhs)	2017-18 (in lakhs)	CAGR
ACSM	-46.63	-245.7	-318.37	-434.5	-422.8	-864.83	62.70
QCSM	-49.93	-297.96	-535.05	-613.96	-676.72	-892.29	61.69
PRICO	-188.36	-402.09	-563.56	-606.86	-790.74	-832.89	28.11
TCSM	-304.12	-461.6	-604.95	-685.22	-636.47	-677.56	14.28
Malcotex	-154.38	-304.7	-440.64	-443.81	-425.29	-473.449	20.54
MCSM	-391.85	-512.35	-671.39	-795.429	-658.69	-607.64	7.59
CCSM	-195.92	-382.84	-523.76	-537.27	-654.26	-653.81	22.24
Total	-1331.19	-2607.24	-3657.72	-4117.05	-4264.97	-5002.47	24.69

Source: RIAB yearly reports from 2012-13 to 2017-18

Table reveals that all the cooperative spinning mills are running in loss and it is increasing year by year.

Figure 4.2 Net profit or loss of the cooperative spinning mills for various years



Analysis of variance was applied to know the variation in the Net profit or loss among cooperative spinning mills and it is presented in table 4.40.

Table 4.40
Variation in the Net profit or loss among cooperative spinning mills

Company	N	Mean	SD	Mean rank	Chi-square	p-value
ACSM	72	-32.40	23.76	326.70	68.37	.000
QCSM	72	-42.58	25.11	242.11		
PRICO	72	-47.01	23.92	206.13		
TCSM	72	-46.80	12.83	208.17		
MALCOTEX	67	-33.47	9.48	329.29		
MCSM	72	-50.52	15.68	185.12		
CCSM	72	-40.94	16.01	257.99		
Total	499	-42.05	19.99			

Source: Secondary data

Table 4.40 reveals that the average Net profit of all the spinning mills show a negative value, which indicates that all the spinning mills are running in a loss condition. The Net loss is highest for MCSM and it is least for ACSM. Kruskal-Wallis test shows that there exist significant variation in net loss among various spinning mills, since the p-value (Chi-square=68.37, df=6, p=0.000) is less than 0.01 at .01 level of significance.

4.16 Results of testing of Hypotheses

H1: There exist significant difference in the Sales and Value of production of various spinning mills in Kerala.

Consolidated results of analysis of variance applied to know the significance of difference in Sales and Value of production is given in Table 4.41.

Table 4.41**Consolidated result of analysis of variance of Sales and Value of production**

Parameter	F/ Chi-squarevalue	p-value	Significance
Sales	47.23	.000	Significant
Increase or decrease in Stock	4.11	.662	Not Significant
Value of production	270.69	.000	Significant
Raw material cost	15.07	.000	Significant
Power and Fuel expense	45.24	.000	Significant
Other variable cost	131.82	.000	Significant
Total variable expense	17.98	.000	Significant
Fixed expense	195.31	.000	Significant
Employee cost	144.74	.000	Significant
Other fixed expenses	300.13	.000	Significant

The first hypothesis states that, there exist significant difference in the Sales and Value of production of various spinning mills in Kerala is accepted.

H2: There exist significant difference in the Cost of production of various spinning mills in Kerala.

H3: There exist significant difference in the Net profit or loss of various spinning mills in Kerala.

Consolidated result of the analysis of variance applied to know the variation in cost of production and Net profit are given in Table.4.42.

Table 4.42
Consolidated result of analysis of
variance of Cost of production and Net profit or Loss

Parameter	F/Chi-square value	p-value	Significance
Cost of production	34.04	.000	Significant
Profit before depreciation, interest and tax.	163.86	.000	Significant
Total financial charges	30.18	.000	Significant
Long term loans	162.67	.000	Significant
Working capital loans	99.03	.000	Significant
Profit before depreciation and tax	96.53	.000	Significant
Other income	3.08	.006	Significant
Cash profit or loss	90.36	.000	Significant
Depreciation	1281.23	.000	Significant
Net profit or loss	68.37	.000	Significant

The second hypothesis states that, there exist significant difference in the Cost of production of various spinning mills in Kerala is accepted.

The third hypothesis states that, there exist significant difference in the Net profit or loss of various spinning mills in Kerala is accepted.

To meet the first objective of this study, to examine the growth pattern of specific financial variables of cooperative spinning mills in Kerala , total values of selected variables of all cooperative spinning mills were collected for the years 2012-13 to 2017-18. CAGR calculated for all spinning mills. Positive value of CAGR indicates the increase in different variable's costs but the negative value of CAGR indicates the decrease in the different variable's costs for the study period. Analysis of variance was applied to know the variation in the different variables among cooperative spinning mills in this chapter. Study shows that there exist

significant difference among various cooperative spinning mills in Kerala with respect to sales, value production, cost of production and net profit.

4.17 Conclusion

In this chapter, Labour productivity and growth pattern of cooperative spinning mills in Kerala, the researcher examined the growth pattern of the selected financial variables. Study shows that there exist significant difference among various cooperative spinning mills in Kerala with respect to sales, value production, cost of production and net profit.

In next chapter researcher make an analysis of the data collected from supervisors/jobbers are presented. Perception of supervisors/jobbers with regard to the labour productivity in cooperative spinning mills is presented in that chapter.

References

Thomas, Susan and Moni.(1993).*Trade Union as a Factor in Political Socialization*, A Study report of its Role in FACT, Kerala ,pp-201-204

Introduction

In previous chapter researcher assessed the labour productivity of cooperative spinning mills in Kerala and growth pattern of financial performance of these spinning mills with specific variables. This chapter presents the analysis and interpretations of the data collected by using a questionnaire distributed among the supervisors and jobbers of the eight spinning mills in Kerala viz. MCSM, CCSM, MALCOTEX, TCSM, ACSM, QCSM, PRICO and KKMCSM. Perception of supervisors/jobbers with regard to the labour productivity in cooperative spinning mills is analysed. The data collected from the respondents are analysed and presented in the form of tables and figures with necessary interpretations.

The important factors which determine the success of any labour industry is the labour productivity of the human resource working in the industry, irrespective of the position and department of the workers. This factor is highly important in the case of the effective functioning of labour industry because individual participation has a major influence. Therefore the present study examines the labour productivity of the employees of the spinning mills in Kerala.

5.1 Labour Productivity of employees of spinning mills

Labour Productivity is a combination of many factors. The present study examines the labour productivity of employees of spinning mills in Kerala. For the purpose of the study, a survey was conducted among the supervisors and jobbers working in various departments of spinning mills. In this survey, an attempt was made to know the Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation.

There are eight cooperative mills functioning in Kerala, and all the spinning mills are taken for the study. Altogether 107 supervisors/jobbers are working in the various department of cooperative spinning mills in Kerala. All these supervisors/jobbers were considered for the data collection. Hence, in the case of

spinning mills and supervisors/jobbers the researcher adopted the method of census. In some organisations supervisors are also known as jobbers.

5.1.1 Break-up of respondents based on Mills

The details of the respondents selected for the present study on the basis of their institution (Spinning Mill) are presented in Table 5.1.

Table 5. 1

Break-up of the respondents on the basis of Mills

Spinning Mill	Number
MCSM	20
CCSM	14
MALCOTEX	9
TCSM	20
ACSM	13
QCSM	16
PRICO	12
KKMCSM	3
Total	107

Source: primary data

5.1.2 Gender-wise distribution

The distribution of the respondents on the basis of their gender is presented in Table 5. 2.

Table 5.2

Break-up of respondents based on their gender

Gender	Number	Percent
Male	97	90.7
Female	10	9.3
Total	107	100.0

Source: primary data

It can be observed from Table 5.2 that 90.7 percent of the respondents are males and 9.3 percent of them are females. The gender-wise distribution shows that most of the workers in the spinning mills are males.

5.1.3 Age-wise distribution of respondents

The respondents selected for the study based on their age is presented in Table 5. 3.

Table 5.3
Distribution of respondents-Age-wise

Age group	Number	Percent
Upto 40 years	23	21.5
40 – 45 years	33	30.8
45 – 50 years	43	40.2
50 years & above	8	7.5
Total	107	100.0

Source: primary data

Among the respondents, majority of the respondents (71 percent) are in the age group of 40 – 50 years. The percentage of workers belonging to the age group of 50 and above is 7.5. The respondents belonging to the age group of below 40 years are 21.5 percent.

5.1.4 Qualifications of respondents

The breakup of respondents on the basis of their qualifications is given in Table 5.4.

Table 5.4
Break up of respondents on the basis of their qualifications

Qualifications	Number	Percent
SSLC	14	13.1
Plus Two	2	1.9
Technical Education	91	85.0
Total	107	100.0

Source: primary data

It can be observed from Table 5.4 that majority of the respondents (85 percent) are having technical education and 13.1 percent of them are possessing SSLC qualification. Only 1.9 percent of them have Plus two qualifications.

5.1.5 Marital Status of respondents

The distribution of the respondents on the basis marital status is presented in Table 5. 5.

Table 5.5

Distribution of respondents based on their marital status

Marital status	Number	Percent
Married	105	98.1
Unmarried	2	1.9
Total	107	100.0

Source: primary data

Among the workers, most of the respondents (98.1 percent) are married, only 1.9 percentage are unmarried.

5.1.6. Department-wise distribution of respondents

The distribution of the respondents on the basis of their department is shown in Table 5.6.

Table 5.6

Department wise Distribution of respondents

Department	Number	Percent
Draw frame	27	25.2
Spinning	51	47.7
Cone winding	29	27.1
Total	107	100

Source: primary data

Among the respondents, 25.2 percent of them working in the Draw frame department, 27.1 percent of them are working in Cone winding department. It is quite natural that the number of workers needed in the Spinning department is higher. Most of the supervisors and jobbers are responsible for multiple departments depending on the nature of the functioning. The supervisors of the above departments are also responsible for the activities in other departments like Mixing, Blow room, Carding, Simplex, Comber, and Cone packing.

5.1.7 Nature of functioning of the department

The distribution of the respondents on the basis of the nature of functioning of the department is presented in Table 5.7.

Table 5.7

Nature of functioning of the department

Nature	Number	Percent
Fully automated	0	0.00
Semi-automated	107	100.0
Manual	0	0.00
Total	107	100.0

Source: primary data

Table shows that cent percent of the workers are working in a semi-automated department which indicates that all the departments are functioning in semi-automated manners.

5.1.8 Experience of service

The break-up of the respondents selected for the study on the basis of their experience or years of service is shown in Table 5.8.

Table 5.8

Experience-wise break-up of respondents

Experience	Number	Percent
Up to 15 years	5	4.7
15 – 20 years	36	33.6
20 – 25 years	30	28.0
25 – 30 years	28	26.2
30 years and above	8	7.5
Total	107	100.0

Source: primary data

Table 5.8 shows the break-up of respondents by their years of experience in the spinning mill. Majority (33.6 percent) of the workers have service of 15-20 years. Among the rest of them, 28 percent of workers have 20-25 years of service while 26.2 percent of them have 25 to 30 years of service. The remaining 7.5 percent of workers have above 30 years of service.

5.2 Labour Productivity with respect to various factors affecting productivity

In order to study the labour productivity of employees, an analysis has been made to examine the labour productivity with respect to various factors determining productivity of employees. As explained above, the important factors that affect the productivity of employees in their work are Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation.

Questions relating to these dimensions are framed in 5 point scale ranging from '5' to very high and '1' for very low opinion. To measure the perception level of productivity of employees with respect to these factors, questions relating to these aspects are grouped and the sum of the scores for each aspect is calculated, on the basis of which average productivity score is obtained.

Table 5.9 presents the result of the analysis made by the researcher to study the productivity of employees with respect to various factors affecting the productivity of spinning mill workers in Kerala.

Table 5.9

Productivity of employees with respect to various factors affecting the productivity

Components of productivity	No of statements	Minimum Score	Maximum Score	Score obtained	Percentage score
Quality of work	4	4	20	13.91	69.53
Quantity of work	4	4	20	12.10	60.51
Attitude towards Supervisors/Jobbers	4	4	20	13.86	69.30
Ability to undertake responsibility	4	4	20	9.20	45.98
Attitude towards discipline	4	4	20	14.42	72.10
Absenteeism	4	4	20	9.35	46.73
Ability to grasp new ideas	4	4	20	10.35	51.73
Skill	4	4	20	7.46	37.29
Safety measures and working conditions	4	4	20	10.21	51.03
Training	4	4	20	12.55	62.76
Wage payment	4	4	20	11.98	59.91
Facilities to employees	4	4	20	11.32	56.59
Motivation	4	4	20	9.02	45.09
Total	52	52	260		

Source: primary data

Table reveals that the component Attitude towards discipline records the highest percentage score (72.10). Percentage score of the most of the components of labour productivity i.e., Quality of work (69.53), Quantity of work (60.51), Attitude towards Supervisors/Jobbers (69.3), Ability to grasp new ideas (51.73), Safety measures and working conditions (51.03), Training (62.76), Wage payment (59.91), and Facilities to employees (56.59) are in between 50% to 70%. The components Ability to undertake responsibility (45.98), Absenteeism (46.73), Skill (37.29) and Motivation (45.09) are with percentage score below 50%.

Average score of the productivity of each components are calculated to know the level of productivity of each component and one sample t-test was applied to know the significance of difference with neutral score and it is presented in Table 5.10 .

Table 5.10

**Average score of Productivity of employees with respect
to various factors affecting the productivity (test value = 12)**

Components	N	Mean	SD	t-value	p-value
Quality of work	107	13.9065	.66634	29.596	.000
Quantity of work	107	12.1028	1.38001	.771	.443
Attitude towards Supervisors/Jobbers	107	13.8598	3.47620	5.534	.000
Ability to undertake responsibility	107	9.1963	.81772	-35.467	.000
Attitude towards discipline	107	14.4206	1.49235	16.778	.000
Absenteeism	107	9.3458	4.21163	-6.519	.000
Ability to grasp new ideas	107	10.3458	.76606	-22.337	.000
Skill	107	7.4579	1.77126	-26.525	.000
Safety measures and working conditions	107	10.2056	1.74690	-10.625	.000
Training	107	12.5514	.49969	11.415	.000
Wage payment	107	11.9813	.72660	-.266	.791
Facilities to employees	107	11.3178	2.49754	-2.826	.006
Motivation	107	9.0187	3.35053	-9.204	.000

Source: primary data.

Table 5.10 shows that the average score of the productivity of employees of various components varying between 7.46 and 14.42. One sample t-test reveals that the average score of the labour productivity of the components Quality of work (13.9065), Attitude towards Supervisors/Jobbers (13.8598), Attitude towards discipline (14.4206) and Training (12.5514) are higher than the test value (12) and there exist significant difference, since the t-values are greater than table value (2.58) at 0.01 level of significance.

While considering the employees labour productivity components viz. Ability to undertake responsibility (9.1963), Absenteeism (9.3458), Ability to grasp new ideas (10.3458), Skill (7.4579), Safety measures and working conditions (10.2056), Facilities to employees (11.3178) and Motivation (9.0187) the average scores are less than the test value (12) and there exist significant difference, since the t-values are greater than table value (2.58) at 0.01 level of significance. The negative t-value indicates that the significantly lower value of the mean score and it can be concluded that the productivity is significantly lower.

But in the case of the components Quantity of work (12.1028) and Wage payment (11.9813) the calculated t-values are less than the table value, indicates that there is no significant difference.

Comparative analyses of the productivity of employees of spinning mills in Kerala with respect to various factors affecting the productivity of workers along with the overall productivity has been made by the researcher and are shown in the following pages.

5.2.1 Quality of work

The quality of work plays an important role in the performance of the industry. An assessment about the quality of work of the employees in the spinning mills has been assessed by using the perception of supervisors and jobbers and the analysis was done by comparing the various mills and various departments.

5.2.1.1 Comparison of quality of work among various spinning mills

Comparison of the labour productivity component, quality of work among various mills are presented in Table 5.11

Table 5.11

Comparison of quality of work among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	14.0500	.68633	1.518	.170
CCSM	14	13.5714	.51355		
MALCOTEX	9	13.8889	.60093		
TCSM	20	13.8500	.93330		
ACSM	13	13.6923	.75107		
QCSM	16	14.2500	.44721		
PRICO	12	13.9167	.28868		
KKMCSM	3	14.0000	.00000		
Total	107	13.9065	.66634		

Source: primary data

The spinning mill-wise perception of the jobbers and supervisors with regard to quality of work of their employees is shown in Table 5.11.

The perception of the jobbers and supervisors with regard to quality of work has been assessed. It can be seen that the total mean score of perception about quality of work is 13.91 as against a maximum of 20 with a standard deviation of 0.66. This shows that the perception of supervisors about quality of work of the employee is higher.

Mill-wise analysis shows that perception of supervisors about the quality of work is maximum at MCSM with a mean score of 14.05 and standard deviation of 0.68. Perception about quality of work is minimum in CCSM with a mean score of 13.57 and a standard deviation of 0.51.

The perception of the supervisors and jobbers with regard to the quality of work among spinning mills is statistically not significant as the F-ratio is 1.518 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the quality of work among the eight spinning mills of Kerala.

5.2.1.2 Comparison of quality of work among various departments

Comparison of the labour productivity component, quality of work among various departments are presented in Table 5.12.

Table 5.12

Comparison of quality of work among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	14.1111	.80064	1.757	.178
Spinning	51	13.8235	.59011		
Cone winding	29	13.8621	.63943		
Total	107	13.9065	.66634		

Source: primary data

Department-wise analysis shows that perception of supervisors about the quality of work is maximum at Draw frame department with a mean score of 14.11 and standard deviation of 0.80. Perception about quality of work is minimum in Spinning department with a mean score of 13.82 and a standard deviation of 0.59.

The perception of the supervisors and jobbers with regard to the quality of work among departments is statistically not significant as the F-ratio is 1.757 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the quality of work among the various departments of spinning mills of Kerala.

5.2.2 Quantity of work

Like quality of work, the quantity of work also plays an important role in the performance of the industry. An assessment about the quantity of work of the employees in the spinning mills has been assessed by using the perception of supervisors and jobbers and the analysis was done by comparing the various mills and various departments.

5.2.2.1 Comparison of Quantity of work among various spinning mills

Comparison of the labour productivity component, Quantity of work among various mills are presented in Table 5.13.

Table 5. 13

Comparison of Quantity of work among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	11.9500	1.46808	3.534	.002
CCSM	14	13.0000	.00000		
MALCOTEX	9	12.3333	1.32288		
TCSM	20	12.7000	.92338		
ACSM	13	12.0769	1.44115		
QCSM	16	11.6875	1.53704		
PRICO	12	11.0000	1.47710		
KKMCSM	3	11.0000	1.73205		
Total	107	12.1028	1.38001		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Quantity of work is maximum at CCSM with a mean score of 13.00 and standard deviation of 0.00. Perception about Quantity of work is minimum in PRICO and KKMCSM with a mean score of 11.00 each and a standard deviation of 1.47 and 1.73.

The perception of the supervisors and jobbers with regard to the Quantity of work among spinning mills is statistically significant as the F-ratio is 3.534 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Quantity of work among the eight spinning mills of Kerala.

5.2.2.2 Comparison of Quantity of work among various departments

Comparison of the labour productivity component, Quantity of work among various departments are presented in Table 5.14.

Table 5. 14

Comparison of Quantity of work among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	12.4444	1.18754	1.302	.276
Spinning	51	12.0588	1.40587		
Cone winding	29	11.8621	1.48141		
Total	107	12.1028	1.38001		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Quantity of work is maximum at Draw frame department with a mean score of 12.44 and standard deviation of 1.18. Perception about Quantity of work is minimum in Cone winding department with a mean score of 11.86 and a standard deviation of 1.48.

The perception of the supervisors and jobbers with regard to the Quantity of work among departments is statistically not significant as the F-ratio is 1.302 which

is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Quantity of work among the various departments of spinning mills of Kerala.

5.2.3 Attitude towards Supervisors/Jobbers

Supervision has a significant relationship with productivity. However, supervision can only be taken positively with acceptance. Therefore, it is important to ensure a positive attitude to work. The supervisor's personality strongly influences the subordinate's "satisfaction with the supervisor". Personality traits of the supervisor, in particular agreeableness, extroversion and emotional stability, are positively related to subordinate attitude and have a greater effect on subordinate satisfaction with supervision than do more general work-related attitudes.

5.2.3.1 Comparison of Attitude towards Supervisors/Jobbers among various spinning mills

Comparison of the labour productivity component, Attitude towards Supervisors/Jobbers among various mills are presented in Table 5.15

Table 5. 15
Comparison of Attitude towards Supervisors /
Jobbers among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	15.1500	1.03999	18.157	.000
CCSM	14	16.1429	1.02711		
MALCOTEX	9	15.7778	1.20185		
TCSM	20	8.8500	3.49850		
ACSM	13	12.6154	4.07305		
QCSM	16	14.8750	2.18708		
PRICO	12	15.5000	.90453		
KKMCSM	3	15.6667	1.15470		
Total	107	13.8598	3.47620		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Attitude towards Supervisors/Jobbers is maximum at CCSM with a mean score of 16.14 and standard deviation of 1.027. Perception about Attitude towards Supervisors/Jobbers is minimum in TCSM with a mean score of 8.85 and a standard deviation of 3.49.

The perception of the supervisors and jobbers with regard to the Attitude towards Supervisors/Jobbers among spinning mills is statistically significant as the F-ratio is 18.157 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Attitude towards Supervisors/Jobbers among the eight spinning mills of Kerala.

5.2.3.2 Comparison of Attitude towards Supervisors/Jobbers among various departments

Comparison of the labour productivity component, Attitude towards Supervisors/Jobbers among various departments are presented in Table 5.16.

Table 5. 16

Comparison of Attitude towards Supervisors/Jobbers among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	12.8148	3.59526	1.714	.185
Spinning	51	14.3137	3.40288		
Cone winding	29	14.0345	3.40674		
Total	107	13.8598	3.47620		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Attitude towards Supervisors/Jobbers is maximum at Spinning department with a mean score of 14.31 and standard deviation of 3.40. Perception about Attitude towards Supervisors/Jobbers is minimum in Draw frame department with a mean score of 12.81 and a standard deviation of 3.59.

The perception of the supervisors and jobbers with regard to the Attitude towards Supervisors/Jobbers among departments is statistically not significant as the F-ratio is 1.714 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Attitude towards Supervisors / Jobbers among the various departments of spinning mills of Kerala.

5.2.4 Ability to undertake responsibility

A duty or obligation to satisfactorily perform or complete a task (assigned by someone, or created by one's own promise or circumstances) that one must fulfill, and which has a consequent penalty for failure. Ability to undertake responsibility is considered as a good quality of every employee.

5.2.4.1 Comparison of ability to undertake responsibility among various spinning mills

Comparison of the labour productivity component, Ability to undertake responsibility among various mills are presented in Table 5.17.

Table 5. 17

Comparison of Ability to undertake responsibility among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	9.2500	.78640	3.740	.001
CCSM	14	8.8571	1.02711		
MALCOTEX	9	8.8889	.92796		
TCSM	20	9.8000	.52315		
ACSM	13	9.5385	.66023		
QCSM	16	8.9375	.77190		
PRICO	12	8.8333	.57735		
KKMCSM	3	8.6667	.57735		
Total	107	9.1963	.81772		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Ability to undertake responsibility is maximum at TCSM with a mean score of 9.80 and standard deviation of 0.523. Perception about Ability to undertake responsibility is minimum in KKMCSM with a mean score of 8.66 and a standard deviation of 0.577.

The perception of the supervisors and jobbers with regard to the Ability to undertake responsibility among spinning mills is statistically significant as the F-ratio is 3.740 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Ability to undertake responsibility among the eight spinning mills of Kerala.

5.2.4.2 Comparison of Ability to undertake responsibility among various departments

Comparison of the labour productivity component, Ability to undertake responsibility among various departments are presented in Table 5.18.

Table 5. 18

Comparison of Ability to undertake responsibility among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	9.4444	.80064	2.004	.140
Spinning	51	9.0588	.83455		
Cone winding	29	9.2069	.77364		
Total	107	9.1963	.81772		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Ability to undertake responsibility is maximum at Draw frame department with a mean score of 9.44 and standard deviation of 0.80. Perception about Ability to undertake responsibility is minimum in Spinning department with a mean score of 9.058 and a standard deviation of 0.83.

The perception of the supervisors and jobbers with regard to the Ability to undertake responsibility among departments is statistically not significant as the F-ratio is 2.004 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Ability to undertake responsibility among the various departments of spinning mills of Kerala.

5.2.5 Attitude towards discipline

Discipline means process of controlling one's behavior and actions, either through self-motivation or through teaching and punishment. It is very much important that whether the employees ready to obey the rules and regulations of the company.

5.2.5.1 Comparison of Attitude towards discipline among various spinning mills

Comparison of the labour productivity component, Attitude towards discipline among various mills are presented in Table 5.19.

Table 5. 19

Comparison of Attitude towards discipline among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	14.6000	1.09545	12.971	.000
CCSM	14	15.5714	.51355		
MALCOTEX	9	15.2222	.97183		
TCSM	20	12.5000	1.23544		
ACSM	13	14.0000	1.52753		
QCSM	16	14.6875	1.40089		
PRICO	12	15.2500	.45227		
KKMCSM	3	15.3333	.57735		
Total	107	14.4206	1.49235		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Attitude towards discipline is maximum at CCSM with a mean score of 15.57 and standard deviation of 0.513. Perception about Attitude towards discipline is minimum in TCSM with a mean score of 12.50 and a standard deviation of 1.235.

The perception of the supervisors and jobbers with regard to the Attitude towards discipline among spinning mills is statistically significant as the F-ratio is 12.971 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Attitude towards discipline among the eight spinning mills of Kerala.

5.2.5.2 Comparison of Attitude towards discipline among various departments

Comparison of the labour productivity component, Attitude towards discipline among various departments are presented in Table 5.20.

Table 5. 20.

Comparison of Attitude towards discipline among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	13.7407	1.65466	4.161	.018
Spinning	51	14.7255	1.38677		
Cone winding	29	14.5172	1.35279		
Total	107	14.4206	1.49235		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Attitude towards discipline is maximum at Spinning department with a mean score of 14.725 and standard deviation of 1.386. Perception about Attitude towards discipline is minimum in Draw frame department with a mean score of 13.74 and a standard deviation of 1.654.

The perception of the supervisors and jobbers with regard to the Attitude towards discipline among departments is statistically significant as the F-ratio is 4.161 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Attitude towards discipline among the various departments of spinning mills of Kerala.

5.2.6 Absenteeism

Absenteeism means either habitual evasion of work, or willful absence as in a strike action. It does not include involuntary or occasional absence due to valid causes, or reasons beyond one's control, such as accidents or sickness.

5.2.6.1 Comparison of Absenteeism among various spinning mills

Comparison of the labour productivity component, Absenteeism among various mills are presented in Table 5.21.

Table 5.21

Comparison of Absenteeism among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	8.2000	2.46235	14.664	.000
CCSM	14	16.1429	1.02711		
MALCOTEX	9	7.3333	1.65831		
TCSM	20	6.1000	.30779		
ACSM	13	8.2308	3.05924		
QCSM	16	10.1250	4.81491		
PRICO	12	10.1667	4.70654		
KKMCSM	3	10.3333	5.77350		
Total	107	9.3458	4.21163		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Absenteeism is maximum at CCSM with a mean score of 16.14 and standard deviation of 1.027. Perception about Absenteeism is minimum in TCSM with a mean score of 6.10 and a standard deviation of 0.307.

The perception of the supervisors and jobbers with regard to the Absenteeism among spinning mills is statistically significant as the F-ratio is 14.664 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Absenteeism among the eight spinning mills of Kerala.

5.2.6.2 Comparison of Absenteeism among various departments

Comparison of the labour productivity component, Absenteeism among various departments are presented in Table 5.22.

Table 5.22

Comparison of Absenteeism among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	8.1111	3.55542	2.218	.114
Spinning	51	10.1569	4.56672		
Cone winding	29	9.0690	3.92729		
Total	107	9.3458	4.21163		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Absenteeism is maximum at Spinning department with a mean score of 10.156 and standard deviation of 4.566. Perception about Absenteeism is minimum in Draw frame department with a mean score of 8.11 and a standard deviation of 3.55.

The perception of the supervisors and jobbers with regard to the Absenteeism among departments is statistically not significant as the F-ratio is 2.218 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Absenteeism among the various departments of spinning mills of Kerala.

5.2.7 Ability to grasp new ideas

A thought or collection of thoughts that generate in the mind. An idea is usually generated with intent, but can also be created unintentionally. Ideas often form during brainstorming sessions or through discussions. As far as considered to employees ability to grasp new idea is very important.

5.2.7.1 Comparison of Ability to grasp new ideas among various spinning mills

Comparison of the labour productivity component, Ability to grasp new ideas among various mills are presented in Table 5.23.

Table 5.23

Comparison of Ability to grasp new ideas among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	10.1500	.81273	2.357	.029
CCSM	14	11.0000	.00000		
MALCOTEX	9	10.5556	.72648		
TCSM	20	10.2000	.95145		
ACSM	13	10.3846	.76795		
QCSM	16	10.0625	.77190		
PRICO	12	10.3333	.49237		
KKMCSM	3	10.3333	.57735		
Total	107	10.3458	.76606		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Ability to grasp new ideas is maximum at CCSM with a mean score of 11.00 and standard deviation of 0.00. Perception about Ability to grasp new ideas is minimum in QCSM with a mean score of 10.06 and a standard deviation of 0.77.

The perception of the supervisors and jobbers with regard to the Ability to grasp new ideas among spinning mills is statistically significant as the F-ratio is 2.357 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Ability to grasp new ideas among the eight spinning mills of Kerala.

5.2.7.2 Comparison of Ability to grasp new ideas among various departments

Comparison of the labour productivity component, Ability to grasp new ideas among various departments are presented in Table 5.24.

Table 5.24

Comparison of Ability to grasp new ideas among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	10.0741	.91676	2.687	.073
Spinning	51	10.4902	.67446		
Cone winding	29	10.3448	.72091		
Total	107	10.3458	.76606		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Ability to grasp new ideas is maximum at Spinning department with a mean score of 10.49 and standard deviation of 0.674. Perception about Ability to grasp new ideas is minimum in Draw frame department with a mean score of 10.07 and a standard deviation of 0.916.

The perception of the supervisors and jobbers with regard to the Ability to grasp new ideas among departments is statistically not significant as the F-ratio is 2.687 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Ability to grasp new ideas among the various departments of spinning mills of Kerala

5.2.8 Skill

A skill is the ability to carry out a task with determined results often within a given amount of time, energy, or both. Skills can often be divided into domain-general and domain-specific skills. For example, in the domain of work, some general skills would include time management, teamwork and leadership, self-motivation and others, whereas domain-specific skills would be used only for a certain job. Skill usually requires certain environmental stimuli and situations to assess the level of skill being shown and used.

5.2.8.1 Comparison of Skill among various spinning mills

Comparison of the labour productivity component, Skill among various mills are presented in Table 5.25.

Table 5. 25
Comparison of Skill among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	7.4500	2.01246	2.807	.010
CCSM	14	8.0000	.00000		
MALCOTEX	9	7.5556	1.58990		
TCSM	20	8.4000	1.50088		
ACSM	13	7.3846	1.80455		
QCSM	16	7.1875	2.13600		
PRICO	12	6.0000	1.47710		
KKMCSM	3	6.0000	1.73205		
Total	107	7.4579	1.77126		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Skill is maximum at TCSM with a mean score of 8.40 and standard deviation of 1.50. Perception about Skill is minimum in PRICO and KKMCSM with a mean scores of 6.00 and a standard deviations of 1.47 and 1.73 respectively.

The perception of the supervisors and jobbers with regard to the Skill among spinning mills is statistically significant as the F-ratio is 2.807 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Skill among the eight spinning mills of Kerala.

5.2.8.2 Comparison of Skill among various departments

Comparison of the labour productivity component, Skill among various departments are presented in Table 5.26.

Table 5.26
Comparison of Skill among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	8.1852	1.79823	3.213	.044
Spinning	51	7.2549	1.64734		
Cone winding	29	7.1379	1.82687		
Total	107	7.4579	1.77126		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Skill is maximum at Draw frame department with a mean score of 8.185 and standard deviation of 1.798. Perception about Skill is minimum in Cone winding department with a mean score of 7.137 and a standard deviation of 1.826.

The perception of the supervisors and jobbers with regard to the Skill among departments is statistically significant as the F-ratio is 3.213 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Skill among the various departments of spinning mills of Kerala

5.2.9 Safety measures and working conditions

The supervisor needs to be informed about any workplace safety hazards or risks. They are legally obligated to ensure their employees have a safe working environment and will take care of the unsafe conditions. If the employees were not wearing the correct safety equipment for a task, they may get injured. Depending on the job, equipment like earplugs, earmuffs, hard hats, safety goggles, gloves or a full-face mask greatly reduce the risk of workplace injury.

5.2.9.1 Comparison of Safety measures and working conditions among various spinning mills

Comparison of the labour productivity component, Safety measures and working conditions among various mills are presented in Table 5.27.

Table 5.27
Comparison of Safety measures and working conditions among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	10.2500	1.99671	3.315	.003
CCSM	14	10.4286	.51355		
MALCOTEX	9	10.1111	1.53659		
TCSM	20	11.3500	1.53125		
ACSM	13	10.3077	1.79743		
QCSM	16	9.8750	2.06155		
PRICO	12	8.7500	1.13818		
KKMCSM	3	8.6667	1.15470		
Total	107	10.2056	1.74690		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Safety measures and working conditions is maximum at TCSM with a mean score of 11.35 and standard deviation of 1.53. Perception about Safety measures and working conditions is minimum in KKMCSM with a mean score of 8.66 and a standard deviation of 1.15.

The perception of the supervisors and jobbers with regard to the Safety measures and working conditions among spinning mills is statistically significant as the F-ratio is 3.315 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Safety measures and working conditions among the eight spinning mills of Kerala.

5.2.9.2 Comparison of Safety measures and working conditions among various departments

Comparison of the labour productivity component, Safety measures and working conditions among various departments are presented in Table 5.28.

Table 5.28
Comparison of Safety measures and working conditions among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	11.0000	1.86052	3.941	.022
Spinning	51	9.9412	1.56731		
Cone winding	29	9.9310	1.77142		
Total	107	10.2056	1.74690		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Safety measures and working conditions is maximum at Draw frame department with a mean score of 11.00 and standard deviation of 1.86. Perception about Safety measures and working conditions is minimum in Cone winding department with a mean score of 9.93 and a standard deviation of 1.77.

The perception of the supervisors and jobbers with regard to the Safety measures and working conditions among departments is statistically significant as the F-ratio is 3.941 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Safety measures and working conditions among the various departments of spinning mills of Kerala.

5.2.10 Training

Training is teaching, or developing in oneself or others, any skills and knowledge that relate to specific useful competencies. Training has specific goals of improving one's capability, capacity, productivity and performance. It forms the core of apprenticeships and provides the backbone of content at institutes of technology. In addition to the basic training required for a trade, occupation or profession, need

to continue training beyond initial qualifications: to maintain, upgrade and update skills throughout working life. People within many professions and occupations may refer to this sort of training as professional development.

5.2.10.1 Comparison of Training among various spinning mills

Comparison of the labour productivity component, Training among various mills are presented in Table 5.29.

Table 5.29

Comparison of Training among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	12.5500	.51042	4.646	.000
CCSM	14	12.5714	.51355		
MALCOTEX	9	12.6667	.50000		
TCSM	20	12.1500	.36635		
ACSM	13	12.3846	.50637		
QCSM	16	12.7500	.44721		
PRICO	12	12.9167	.28868		
KKMCSM	3	13.0000	.00000		
Total	107	12.5514	.49969		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Training is maximum at KKMCSM with a mean score of 13.00 and standard deviation of 0.00. Perception about Training is minimum in TCSM with a mean score of 12.15 and a standard deviation of 0.366.

The perception of the supervisors and jobbers with regard to the Training among spinning mills is statistically significant as the F-ratio is 4.646 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Training among the eight spinning mills of Kerala.

5.2.10.2 Comparison of Training among various departments

Comparison of the labour productivity component, Training among various departments are presented in Table 5.30.

Table 5.30

Comparison of Training among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	12.3704	.49210	2.502	.087
Spinning	51	12.6275	.48829		
Cone winding	29	12.5862	.50123		
Total	107	12.5514	.49969		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Training is maximum at Spinning department with a mean score of 12.627 and standard deviation of 0.488. Perception about Training is minimum in Draw frame department with a mean score of 12.37 and a standard deviation of 0.49.

The perception of the supervisors and jobbers with regard to the Training among departments is statistically not significant as the F-ratio is 2.502 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Training among the various departments of spinning mills of Kerala.

5.2.11 Wage payment

Wage is a monetary compensation (or remuneration, personnel expenses, labour) paid by an employer to an employee in exchange for work done. Depending on the structure and traditions of different economies around the world, wage rates will be influenced by market forces (supply and demand), legislation, and tradition. The relationship between productivity and wages is a central issue for fair distribution between labour and capital. Trade unions are keen to apply a wage setting mechanism that takes account of economic realities, creates inclusive growth

and makes sure that labour is getting its fair share from the wealth created. For this the guiding principle is that nominal wage increases should compensate for inflation and reflect real productivity increase.

5.2.11.1 Comparison of Wage payment among various spinning mills

Comparison of the labour productivity component, Wage payment among various mills are presented in Table 5.31.

Table 5.31
Comparison of Wage payment among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	12.0000	.64889	2.673	.014
CCSM	14	12.1429	1.02711		
MALCOTEX	9	12.2222	.83333		
TCSM	20	11.5500	.60481		
ACSM	13	11.6154	.65044		
QCSM	16	12.3125	.47871		
PRICO	12	12.1667	.57735		
KKMCSM	3	12.3333	.57735		
Total	107	11.9813	.72660		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Wage payment is maximum at KKMCSM with a mean score of 12.33 and standard deviation of 0.577. Perception about Wage payment is minimum in TCSM with a mean score of 11.55 and a standard deviation of 0.604.

The perception of the supervisors and jobbers with regard to the Wage payment among spinning mills is statistically significant as the F-ratio is 2.673 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Wage payment among the eight spinning mills of Kerala.

5.2.11.2 Comparison of Wage payment among various departments

Comparison of the labour productivity component, Wage payment among various departments are presented in Table 5.32.

Table 5.32

Comparison of Wage payment among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	11.9259	.67516	0.306	.737
Spinning	51	12.0392	.77358		
Cone winding	29	11.9310	.70361		
Total	107	11.9813	.72660		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Wage payment is maximum at Spinning department with a mean score of 12.039 and standard deviation of 0.773. Perception about Wage payment is minimum in Draw frame department with a mean score of 11.925 and a standard deviation of 0.675.

The perception of the supervisors and jobbers with regard to the Wage payment among departments is statistically not significant as the F-ratio is 0.306 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Wage payment among the various departments of spinning mills of Kerala

5.2.12 Facilities to employees

Facilities to employees plays a vital role in workplace performance. Good facilities to employees helps to increase employee engagement and job satisfaction and thus result in higher productivity, as well as improved operating income and net income.

5.2.12.1 Comparison of Facilities to employees among various spinning mills

Comparison of the labour productivity component, Facilities to employees among various mills are presented in Table 5.33.

Table 5.33

Comparison of Facilities to employees among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	10.6000	2.18608	8.073	.000
CCSM	14	14.7143	2.05421		
MALCOTEX	9	11.2222	1.64148		
TCSM	20	9.7500	2.09950		
ACSM	13	10.8462	1.81871		
QCSM	16	11.0625	2.46221		
PRICO	12	12.3333	1.77525		
KKMCSM	3	10.3333	1.52753		
Total	107	11.3178	2.49754		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Facilities to employees is maximum at CCSM with a mean score of 14.71 and standard deviation of 2.054. Perception about Facilities to employees is minimum in TCSM with a mean score of 9.75 and a standard deviation of 2.099.

The perception of the supervisors and jobbers with regard to the Facilities to employees among spinning mills is statistically significant as the F-ratio is 8.073 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Facilities to employees among the eight spinning mills of Kerala.

5.2.12.2 Comparison of Facilities to employees among various departments

Comparison of the labour productivity component, Facilities to employees among various departments are presented in Table 5.34.

Table 5.34

Comparison of Facilities to employees among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	10.4074	3.02883	2.471	.089
Spinning	51	11.6471	2.18012		
Cone winding	29	11.5862	2.35307		
Total	107	11.3178	2.49754		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Facilities to employees is maximum at Spinning department with a mean score of 11.647 and standard deviation of 2.18. Perception about Facilities to employee is minimum in Draw frame department with a mean score of 10.407 and a standard deviation of 3.028.

The perception of the supervisors and jobbers with regard to the Facilities to employees among departments is statistically not significant as the F-ratio is 2.471 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Facilities to employees among the various departments of spinning mills of Kerala

5.2.13 Motivation

Motivation is the reason for people's actions, willingness and goals. Motivation is one's direction to behaviour, or what causes a person to want to repeat a behaviour, a set of force that acts behind the motives. Most employees need motivation to feel good about their jobs and perform optimally. Some employees are money motivated while others find recognition and rewards personally motivating. Motivation levels within the workplace have a direct impact on employee

productivity. Workers who are motivated and excited about their jobs carry out their responsibilities to the best of their ability and production numbers increase as a result.

5.2.13.1 Comparison of Motivation among various spinning mills

Comparison of the labour productivity component, Motivation among various mills are presented in Table 5.35.

Table 5.35
Comparison of Motivation among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	7.5500	1.90498	13.061	.000
CCSM	14	14.8571	1.02711		
MALCOTEX	9	7.6667	1.11803		
TCSM	20	7.9500	1.14593		
ACSM	13	8.1538	2.23033		
QCSM	16	8.7500	3.67877		
PRICO	12	8.8333	4.21757		
KKMCSM	3	8.6667	4.61880		
Total	107	9.0187	3.35053		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the Motivation is maximum at CCSM with a mean score of 14.857 and standard deviation of 1.027. Perception about Motivation is minimum in MCSM with a mean score of 7.55 and a standard deviation of 1.90.

The perception of the supervisors and jobbers with regard to the Motivation among spinning mills is statistically significant as the F-ratio is 13.061 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Motivation among the eight spinning mills of Kerala.

5.2.13.2 Comparison of Motivation among various departments

Comparison of the labour productivity component, Motivation among various departments are presented in Table 5.36.

Table 5.36

Comparison of Motivation among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	8.4815	2.96610	0.992	.374
Spinning	51	9.4902	3.54047		
Cone winding	29	8.6897	3.33920		
Total	107	9.0187	3.35053		

Source: primary data

Department-wise analysis shows that perception of supervisors about the Motivation is maximum at Spinning department with a mean score of 9.49 and standard deviation of 3.54. Perception about Motivation is minimum in Draw frame department with a mean score of 8.48 and a standard deviation of 2.966.

The perception of the supervisors and jobbers with regard to the Motivation among departments is statistically not significant as the F-ratio is 0.992 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Motivation among the various departments of spinning mills of Kerala.

5.3 Components classification of Labour productivity

Labour productivity components are classified individual/personal factors and institutional factors considering the nature of the components.

5.3.1 Labour Productivity – Individual factors

The labour productivity components Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude

towards discipline, Absenteeism, Ability to grasp new ideas, and Skill are treated as individual/personal factors.

5.3.1.1 Comparison of Labour productivity of individual factors among various spinning mills

Comparison of the labour productivity of individual factors among various mills are presented in Table 5.37.

Table 5. 37

Comparison of labour productivity of individual factors among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	90.8000	5.26758	12.052	.000
CCSM	14	102.2857	2.05421		
MALCOTEX	9	91.5556	3.84419		
TCSM	20	82.4000	3.89872		
ACSM	13	87.9231	7.67530		
QCSM	16	91.8125	8.79560		
PRICO	12	91.0000	8.92392		
KKMCSM	3	91.3333	10.96966		
Total	107	90.6355	8.33202		

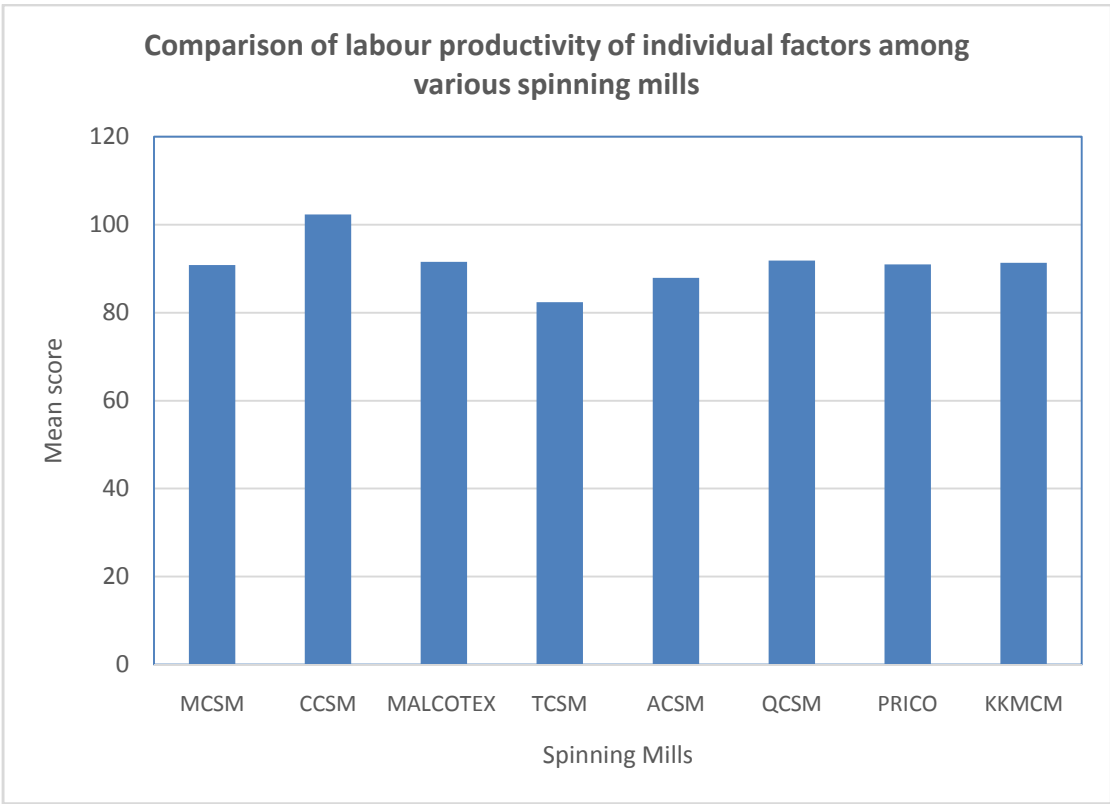
Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the labour productivity – individual factors - is maximum at CCSM with a mean score of 102.28 and standard deviation of 2.05. Perception about labour productivity – individual factors - is minimum in TCSM with a mean score of 82.40 and a standard deviation of 3.89.

The perception of the supervisors and jobbers with regard to the labour productivity – individual factors - among spinning mills is statistically significant as

the F-ratio is 12.052 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the labour productivity – individual factors - among the eight spinning mills of Kerala. The mill-wise perception of supervisors regarding the labour productivity – individual factors - is given in figure 5.1.

Figure 5.1 comparison of labour productivity of individual factors among various spinning mills



5.3.1.2 Comparison of labour productivity of individual factors among various departments

Comparison of the labour productivity – individual factors - among various departments are presented in Table 5.38.

Table 5. 38
Comparison of labour productivity – individual factors - among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	143.1111	11.52033	1.220	.299
Spinning	51	147.6275	13.83757		
Cone winding	29	144.7586	12.60571		
Total	107	145.7103	12.98403		

Source: primary data

Department-wise analysis shows that perception of supervisors about the labour productivity – individual factors - is maximum at Spinning department with a mean score of 147.62 and standard deviation of 13.83. Perception about labour productivity – individual factors - is minimum in Draw frame department with a mean score of 143.11 and a standard deviation of 11.52.

The perception of the supervisors and jobbers with regard to the labour productivity – individual factors - among departments is statistically not significant as the F-ratio is 1.220 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the labour productivity – individual factors - among the various departments of spinning mills of Kerala.

5.3.2 Labour Productivity – Institutional factors

The labour productivity components Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation are considered as the institutional factors.

5.3.2.1 Comparison of Labour Productivity - Institutional factors- among various spinning mills

Comparison of the Labour productivity components related with institutional factors, of various mills are presented in Table 5.39.

Table 5. 39
Comparison of Labour Productivity –
Institutional factors among various spinning mills

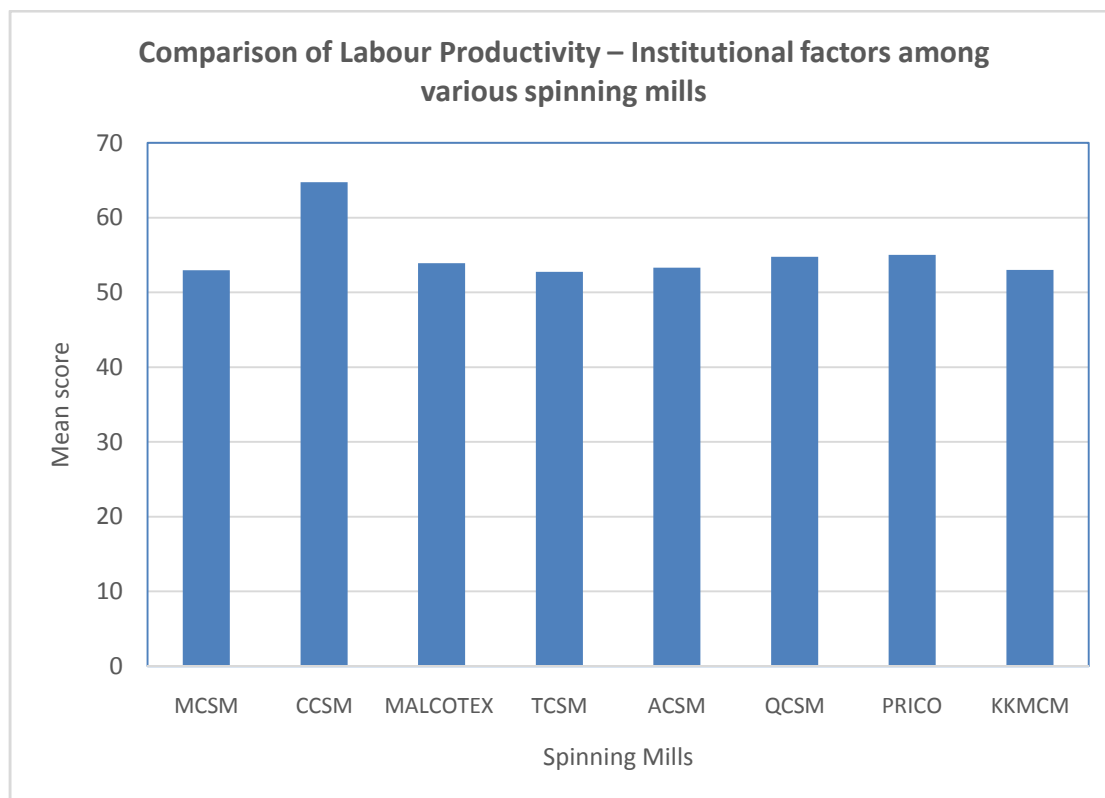
Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	52.9500	3.06894	15.541	.000
CCSM	14	64.7143	2.05421		
MALCOTEX	9	53.8889	2.31541		
TCSM	20	52.7500	1.68195		
ACSM	13	53.3077	3.27579		
QCSM	16	54.7500	5.74456		
PRICO	12	55.0000	6.14965		
KKMCSM	3	53.0000	5.29150		
Total	107	55.0748	5.31410		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers with regard to the institutional factor of labour productivity is maximum at CCSM with a mean score of 64.7143 and standard deviation of 2.05421. Perception about labour productivity – institutional factors is minimum in TCSM with a mean score of 52.750 and a standard deviation of 1.68.

The perception of the supervisors and jobbers with regard to the institutional factors among spinning mills is statistically significant as the F-ratio is 15.541 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Perception about labour productivity – institutional factors-among the eight spinning mills of Kerala. The mill-wise perception of supervisors regarding the institutional factors is given in figure 5.2.

Figure 5.2 comparison of labour productivity – institutional factors among various spinning mills



5.3.2.2 Comparison of labour productivity – institutional factors - among various departments

Comparison of the labour productivity component, institutional factors among various departments are presented in Table 5.40.

Table 5. 40

Comparison of institutional factors among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	54.1852	4.98488	.845	.433
Spinning	51	55.7451	5.49488		
Cone winding	29	54.7241	5.31102		
Total	107	55.0748	5.31410		

Source: primary data

Department-wise analysis shows that perception of supervisors about the institutional factors is maximum at Spinning department with a mean score of 55.74 and standard deviation of 5.49. Perception about institutional factors is minimum in Draw frame department with a mean score of 54.18 and a standard deviation of 4.98.

The perception of the supervisors and jobbers with regard to the institutional factors among departments is statistically not significant as the F-ratio is .845 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the institutional factors among the various departments of spinning mills of Kerala.

5.4 Labour Productivity – Total

Comparison of the labour productivity components, institutional factors and individual factors together analysed here.

5.4.1 Comparison of labour productivity total among various spinning mills

Comparison of the labour productivity components, institutional factors and individual factors together among various mills are presented in Table 5.41.

Table 5. 41

Comparison of labour productivity total among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	20	143.7500	7.91318	14.135	.000
CCSM	14	167.0000	.00000		
MALCOTEX	9	145.4444	5.70331		
TCSM	20	135.1500	3.58762		
ACSM	13	141.2308	9.95116		
QCSM	16	146.5625	14.41744		
PRICO	12	146.0000	14.80786		
KKMCSM	3	144.3333	16.19671		
Total	107	145.7103	12.98403		

Source: primary data

Mill-wise analysis shows that perception of supervisors and jobbers about the institutional and individual factors together is maximum at CCSM with a mean score of 167.0 and standard deviation of 0.00. Perception about the institutional and individual factors together is minimum in TCSM with a mean score of 135.15 and a standard deviation of 3.58.

The perception of the supervisors and jobbers with regard to the institutional and individual factors together among spinning mills is statistically significant as the F-ratio is 14.135 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the institutional and individual factors together among the eight spinning mills of Kerala. The mill-wise perception of supervisors and jobbers regarding the institutional and individual factors together is given in figure 5.3.

Figure 5.3 comparison of mean scores of labour productivity total among various spinning mills



5.4.2 Comparison of labour productivity total among various departments

Comparison of the labour productivity of institutional and individual factors together among various departments are presented in Table 5.42.

Table 5. 42

Comparison of labour productivity total among various departments

Department	Number	Mean	SD	F ratio	Table value
Draw frame	27	143.1111	11.52033	1.179	.312
Spinning	51	147.6275	13.83757		
Cone winding	29	144.7586	12.60571		
Total	107	145.7103	12.98403		

Source: primary data

Department-wise analysis shows that perception of supervisors about the labour productivity of institutional and individual factors together is maximum at Spinning department with a mean score of 147.62 and standard deviation of 13.837. Perception about these factors is minimum in Draw frame department with a mean score of 143.11 and a standard deviation of 11.52.

The perception of the supervisors and jobbers with regard to the institutional and individual factors together among departments is statistically not significant as the F-ratio is 1.179 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the institutional and individual factors together among the various departments of spinning mills of Kerala.

5.5 Results of Testing of Hypotheses

H4: There exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity on various departments.

Department wise difference in the perception of supervisors and jobbers with regard to various components of labour productivity is given in Table 5.43.

Table 5.43

Department wise difference in the perception of supervisors and jobbers with regard to various components of labour productivity.

Components	F-value	p-value	Hypotheses
Quality of work	1.757	.178	Rejected
Quantity of work	1.302	.276	Rejected
Attitude towards Supervisor / Jobber	1.714	.185	Rejected
Ability to undertake responsibility	2.004	.140	Rejected
Attitude towards discipline	4.161	.018	Accepted
Absenteeism	2.218	.114	Rejected
Ability to grasp new ideas	2.687	.073	Rejected
Skill	3.213	.044	Accepted
Safety measures and working conditions	3.941	.022	Accepted
Training	2.502	.087	Rejected
Wage payment	0.306	.737	Rejected
Facilities to employees	2.471	.089	Rejected
Motivation	0.992	.374	Rejected

The fourth hypothesis states that, there exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity on various departments is rejected.

H5: There exist significant difference in the perception and supervisors jobbers with regard to the labour productivity based on various spinning mills.

Mill wise difference in the perception of supervisors and jobbers with regard to various components of labour productivity is given in Table 5.44.

Table 5.44

Mill wise difference in the perception of supervisors and jobbers with regard to various components of labour productivity.

Components	F-value	p-value	Hypotheses
Quality of work	1.518	.170	Rejected
Quantity of work	3.534	.002	Accepted
Attitude towards Supervisor / Jobber	18.157	.000	Accepted
Ability to undertake responsibility	3.740	.001	Accepted
Attitude towards discipline	12.971	.000	Accepted
Absenteeism	14.664	.000	Accepted
Ability to grasp new ideas	2.357	.029	Accepted
Skill	2.807	.010	Accepted
Safety measures and working conditions	3.315	.003	Accepted
Training	4.646	.000	Accepted
Wage payment	2.673	.014	Accepted
Facilities to employees	8.073	.000	Accepted
Motivation	13.061	.000	Accepted

The fifth hypothesis states that, there exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity based on various spinning mills is accepted.

To meet the second and third objectives of this study, to examine the perception of supervisors with regard to the labour productivity and to compare among various cooperative spinning mills in Kerala , to compare the perception of supervisors with regard to the labour productivity among various departments of cooperative spinning mills in Kerala, in this chapter researcher made analysis and interpretations of the data collected by using a questionnaire distributed among the supervisors and jobbers of the eight spinning mills in Kerala. Perception of supervisors and jobbers to different labour productivity components and comparison among cooperative spinning mills and departments has been made by using One sample t-test and ANOVA.

5.6 Conclusion

In this chapter, an analysis has been made to examine the labour productivity with respect to various factors determining productivity of employees. As per the perception of supervisors and jobbers, the labour productivity of the components Quality of work, Attitude towards Supervisors/Jobbers, Attitude towards discipline and Training are significantly high. While considering the employees labour productivity components viz. Ability to undertake responsibility, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Facilities to employees and Motivation are significantly low. But in the case of the components Quantity of work and Wage payment the productivity is average.

There exist significant difference in the perception of supervisors and jobbers among various spinning mills of Kerala with regard to the institutional factors, individual factors and aggregate of labour productivity. Similarly there exist significant difference in the components of labour productivity viz., Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees and Motivation. But there is no significant difference in the perception of supervisors and jobbers with regard to the Quality of work.

Department wise comparison reveals that there is no significant difference in the institutional factors, individual factors and aggregate of the labour productivity. Similarly, there is no significant difference based on departments in the component of labour productivity viz., Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Absenteeism, Ability to grasp new ideas, Training, Wage payment, Facilities to employees and Motivation. But there exist significant difference in the perception of supervisors and jobbers with regard to the Attitude towards discipline, Skill, Safety measures and working conditions.

Next chapter analyses the data collected from workers of cooperative spinning mills. Perception of workers with regard to the labour productivity in cooperative spinning mills is presented in this chapter.

Introduction

In previous chapter researcher made an analysis of the data collected from supervisors/jobbers were presented. Perception of supervisors/jobbers with regard to the labour productivity in cooperative spinning mills is also presented in that chapter. This chapter presents the analysis and interpretations of the data collected from workers using a questionnaire distributed among the workers of the eight spinning mills in Kerala viz. MCSM, CCSM, MALCOTEX, TCSM, ACSM, QCSM, PRICO and KKMCSM. The data collected from the workers are analysed and presented in the form of tables with necessary interpretations. Perception of workers with regard to the labour productivity in cooperative spinning mills presenting in this chapter.

6.1 Labour productivity of employees of spinning mills

In this study, an attempt was made to know the Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation.

6.1.1 Total workers of various spinning mills in Kerala

The details of the total workers of various spinning mills working in the different departments, having more than one year service, are presented in Table 6.1.

Table 6. 1**Total workers of various spinning mills in Kerala**

Department	MCSM	CCSM	MAL-COTEX	TCSM	ACSM	QCSM	PRICO	KKM-CSM	Total
Mixing	9	6	4	9	6	7	5	1	47
Blow room	6	4	3	6	4	5	3	1	32
Carding	9	6	4	9	6	7	5	1	47
Draw frame	9	6	4	9	6	7	5	1	47
Simplex	23	17	10	24	15	19	14	3	125
Comber	6	4	3	6	4	5	3	1	32
Spinning	105	76	46	108	71	88	64	11	569
Cone winding	105	79	43	103	69	88	67	9	563
Cone packing	13	9	6	14	9	11	8	2	72
Total	285	207	123	288	190	237	174	30	1534

Source: primary data

6.1.2 Gender-wise distribution

The distribution of the total workers on the basis of their gender is presented in Table 6. 2.

Table 6. 2**Break-up of workers based on their gender**

Spinning Mill	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
MCSM	177	62.11	108	37.89	285	100
CCSM	198	95.65	9	4.35	207	100
MALCOTEX	123	100.00	0	0.00	123	100
TCSM	247	85.76	41	14.24	288	100
ACSM	70	36.84	120	63.16	190	100
QCSM	215	90.72	22	9.28	237	100
PRICO	139	79.89	35	20.11	174	100
KKMCSM	27	90.00	3	10.00	30	100
Total	1196	77.97	338	22.03	1534	100

Source: primary data

It can be observed from Table 6.2 that 77.97 percent of the workers are males and 22.03 percent of them are females. The gender-wise distribution of the workers shows that most of the workers in the spinning mills are male.

For the present survey, 297 workers were selected from eight spinning mills in Kerala.

6.1.3. Break-up of sample workers selected from various Mills

The details of the sample selected for the present study on the basis of their institution (Spinning mill) are presented in Table 6.3.

Table 6. 3
Break-up of the workers on the basis of Mills

Spinning Mill	Number	Percent
MCSM	54	18.2
CCSM	39	13.1
MALCOTEX	23	7.7
TCSM	55	18.5
ACSM	36	12.1
QCSM	45	15.2
PRICO	35	11.8
KKMCSM	10	3.4
Total	297	100.0

Source: primary data

6.1.4 Department-wise distribution of respondents

The distribution of the sample workers on the basis of their department is shown in Table 6.4.

Table 6. 4
Department wise distribution of respondents

Department	Number	Percent
Mixing	10	3.4
Blow room	9	3.0
Carding	10	3.4
Draw frame	20	6.7
Simplex	25	8.4
Combber	8	2.7
Spinning	103	34.7
Cone winding	98	33.0
Cone packing	14	4.7
Total	297	100.0

Source: primary data

Among the respondents, 34.7 percent of them are working in spinning department, 33 percent of them are working in cone winding department, 8.4 percent in simplex department and 6.7 percent of them working in the draw frame department. It is quite natural that the number of workers needed in the spinning department is higher.

6.2. Labour productivity with respect to various factors affecting productivity

In order to study the labour productivity of workers, an analysis has been made to examine the labour productivity with respect to various factors determining productivity of workers. The important factors that affect the productivity of employees in their work are Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation.

Questions relating to these dimensions are framed in 5 point scale ranging from ‘5’ to very high and ‘1’ for very low opinion. To measure the perception level of productivity of employees with respect to these factors, questions relating to these aspects are grouped and the sum of the scores for each aspect is calculated, on the basis of which average productivity score is obtained.

Table 6.5 presents the result of the analysis made by the researcher to study the productivity of employees with respect to various factors affecting the productivity of spinning mill workers in Kerala.

Table 6.5
Productivity of employees
with respect to various factors affecting the productivity

Components of productivity	No of statements	Minimum Score	Maximum Score	Score obtained	Percentage score
Quality of work	4	4	20	14.37	71.87
Quantity of work	4	4	20	13.12	65.61
Attitude towards Supervisor s/Jobbers	4	4	20	15.00	74.98
Ability to undertake responsibility	4	4	20	10.40	51.99
Attitude towards discipline	4	4	20	15.16	75.81
Absenteeism	4	4	20	10.27	51.35
Ability to grasp new ideas	4	4	20	11.56	57.79
Skill	4	4	20	9.08	45.42
Safety measures and working conditions	4	4	20	11.34	56.68
Training	4	4	20	13.34	66.68
Wage payment	4	4	20	12.97	64.87
Facilities to employees	4	4	20	12.27	61.35
Motivation	4	4	20	10.34	51.70
Total	52	52	260	159.22	61.24

Source: primary data

Table reveals that the component Attitude towards discipline records the highest percentage score (75.81). Percentage score of the most of the components of labour productivity i.e., Quality of work (71.87), Quantity of work (65.61), Attitude towards Supervisors/Jobbers (74.98), Ability to grasp new ideas (51.99), Safety measures and working conditions (56.68), Training (66.68), Wage payment (64.87), Facilities to employees (61.35), Ability to undertake responsibility (51.99), Absenteeism (51.35), and Motivation (51.70) are in between 50% to 75%. The components Skill (45.42) is with percentage score below 50%.

Average score of the productivity of each components are calculated to know the level of productivity of each component and one sample t-test was applied to know the significance of difference with neutral score and it is presented in Table 6.6.

Table 6.6

Average score of Productivity of workers with respect to various factors affecting the productivity (test value = 12)

Components	N	Mean	SD	t-value	P-value
Quality of work	297	14.3737	1.44437	28.323	.000
Quantity of work	297	13.1212	2.16205	8.937	.000
Attitude towards Supervisors/Jobbers	297	14.9966	3.08713	16.728	.000
Ability to undertake responsibility	297	10.3973	3.08063	-8.966	.000
Attitude towards discipline	297	15.1616	1.62148	33.603	.000
Absenteeism	297	10.2694	4.58937	-6.499	.000
Ability to grasp new ideas	297	11.5589	2.57536	-2.952	.003
Skill	297	9.0842	3.78961	-13.260	.000
Safety measures and working conditions	297	11.3367	2.93184	-3.899	.000
Training	297	13.3367	2.02044	11.402	.000
Wage payment	297	12.9731	2.16840	7.734	.000
Facilities to employees	297	12.2694	2.95258	1.572	.117
Motivation	297	10.3401	4.10366	-6.971	.000

Source: primary data

Table 6.6 shows that the average score of the productivity of workers of various components varying between 9.08 and 15.16. One sample t-test reveals that the average score of the labour productivity of the components Quality of work (14.3737), Attitude towards Supervisors/Jobbers (14.9966), Attitude towards discipline (15.1616), Quantity of work (13.1212), Wage payment (12.9731) and Training (13.3367) are higher than the test value (12) and there exist significant difference, since the t-values are greater than table value (2.58) at 0.01 level of significance.

While considering the employees labour productivity components viz. Ability to undertake responsibility (10.3973), Absenteeism (10.2694), Ability to grasp new ideas (11.5589), Skill (9.0842), Safety measures and working conditions (11.3367), and Motivation (10.3401) the average scores are less than the test value (12) and there exist significant difference, since the t-values are greater than table value (2.58) at 0.01 level of significance. The negative t-value indicates that the significantly lower value of the mean score and it can be concluded that the productivity is significantly lower.

But in the case of the component Facilities to employees (12.2694) the calculated t-values are less than the table value, indicates that there is no significant difference.

6.3 Comparison of productivity of workers with respect to various factors affecting the productivity

Comparative analyses of the productivity of workers of spinning mills in Kerala with respect to various factors affecting the productivity of workers along with the overall productivity has been made by the researcher and are presented in the tables.

6.3.1 Quality of work

6.3.1.1 Comparison of quality of work among various spinning mills

Comparison of the labour productivity component, quality of work among various mills are presented in Table 6.7.

Table 6. 7

Comparison of quality of work among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	14.5556	1.38273	1.996	.056
CCSM	39	14.0513	1.27628		
MALCOTEX	23	14.3043	1.60779		
TCSM	55	14.3818	1.52134		
ACSM	36	13.9722	1.42400		
QCSM	45	14.6444	1.43266		
PRICO	35	14.2286	1.26225		
KKMCSM	10	15.5000	1.77951		
Total	297	14.3737	1.44437		

Source: primary data

The perception of the workers with regard to quality of work has been assessed. It can be seen that the total mean score of perception about quality of work is 14.3737 as against a maximum of 20 with a standard deviation of 1.44437. This shows that the perception of workers about quality of work is higher.

Mill-wise analysis shows that perception of workers about the quality of work is maximum at KKMCSM with a mean score of 15.5000 and standard deviation of 1.77951. Perception about quality of work is minimum in ACSM with a mean score of 13.9722 and a standard deviation of 1.424.

The perception of the workers with regard to the quality of work among spinning mills is statistically not significant as the F-ratio is 1.996 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the quality of work among the eight spinning mills of Kerala.

6.3.1.2 Comparison of quality of work among various departments

Comparison of the labour productivity component, quality of work among various departments are presented in Table 6.8.

Table 6. 8

Comparison of quality of work among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	13.6000	0.51640	3.339	.001
Blow room	9	14.2222	1.20185		
Carding	10	13.9000	1.28668		
Draw frame	20	14.0500	1.14593		
Simplex	25	15.4000	1.87083		
Combber	8	14.7500	1.75255		
Spinning	103	14.0680	1.11375		
Cone winding	98	14.5816	1.58552		
Cone packing	14	14.5714	1.65084		
Total	297	14.3737	1.44437		

Source: primary data

Department-wise analysis shows that perception of workers about the quality of work is maximum at Simplex department with a mean score of 15.40 and standard deviation of 1.87083. Perception about quality of work is minimum in Mixing department with a mean score of 13.60 and a standard deviation of 0.51640.

The perception of the workers with regard to the quality of work among departments is statistically significant as the F-ratio is 3.339 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there exist variation in the quality of work among the various departments of spinning mills of Kerala.

6.3.2 Quantity of work

6.3.2.1 Comparison of Quantity of work among various spinning mills

Comparison of the perception of the workers with regard to the labour productivity component, Quantity of work among various mills are presented in Table 6.9.

Table 6.9

Comparison of Quantity of work among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	12.7778	2.40021	2.238	.031
CCSM	39	13.3846	1.49764		
MALCOTEX	23	13.6522	1.92138		
TCSM	55	13.5455	1.75138		
ACSM	36	13.0000	1.97122		
QCSM	45	13.1333	2.39886		
PRICO	35	12.1429	2.42709		
KKMCSM	10	14.2000	3.08401		
Total	297	13.1212	2.16205		

Source: primary data

Mill-wise analysis shows that perception of workers about the Quantity of work is maximum at KKMCSM with a mean score of 14.20 and standard deviation of 3.08401. Perception about Quantity of work is minimum in PRICO with a mean score of 12.1429 and a standard deviation of 2.42709.

The perception of the workers with regard to the Quantity of work among spinning mills is statistically significant as the F-ratio is 2.238 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Quantity of work among the eight spinning mills of Kerala.

6.3.2.2 Comparison of Quantity of work among various departments

Comparison of the perception of the workers with regard to the labour productivity component, Quantity of work among various departments are presented in Table 6.10.

Table 6. 10

Comparison of Quantity of work among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	12.5000	2.12132	2.382	.017
Blow room	9	12.7778	2.04803		
Carding	10	12.9000	2.18327		
Draw frame	20	13.0500	2.21181		
Simplex	25	14.3600	2.37837		
Combbber	8	14.3750	3.29231		
Spinning	103	12.6311	1.55922		
Cone winding	98	13.3061	2.44700		
Cone packing	14	13.4286	1.91007		
Total	297	13.1212	2.16205		

Source: primary data

Department-wise analysis shows that perception of workers about the Quantity of work is maximum at Combbber department with a mean score of 14.3750 and standard deviation of 3.29231. Perception about Quantity of work is minimum in Mixing department with a mean score of 12.5000 and a standard deviation of 2.12132.

The perception of the workers with regard to the Quantity of work among departments is statistically significant as the F-ratio is 2.382 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Quantity of work among the various departments of spinning mills of Kerala.

6.3.3 Attitude towards Supervisors/Jobbers

6.3.3.1 Comparison of Attitude towards Supervisors/Jobbers among various spinning mills

Comparison of the labour productivity component, Attitude towards Supervisors/Jobbers among various mills are presented in Table 6.11.

Table 6. 11
Comparison of Attitude towards Supervisors/
Jobbers among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	15.6296	1.29289	10.741	.000
CCSM	39	16.3846	1.01607		
MALCOTEX	23	15.0000	3.72949		
TCSM	55	12.4000	4.64120		
ACSM	36	14.1111	3.58391		
QCSM	45	15.9556	1.75752		
PRICO	35	15.8000	1.07922		
KKMCSM	10	16.0500	1.35401		
Total	297	14.9966	3.08713		

Source: primary data

Mill-wise analysis shows that perception of workers about the Attitude towards Supervisors/Jobbers is maximum at CCSM with a mean score of 16.3846 and standard deviation of 1.01607. Perception about Attitude towards Supervisors/Jobbers is minimum in ACSM with a mean score of 14.1111 and a standard deviation of 3.58391.

The perception of the workers with regard to the Attitude towards Supervisors/Jobbers among spinning mills is statistically significant as the F-ratio is 10.741 which is greater than the tabular value at 5 percent level of significance. It

can be concluded that there is a variation in the Attitude towards Supervisors/Jobbers among the eight spinning mills of Kerala.

6.3.3.2 Comparison of Attitude towards Supervisors/Jobbers among various departments

Comparison of the labour productivity component, Attitude towards Supervisors/Jobbers among various departments are presented in Table 6.12.

Table 6. 12
Comparison of Attitude towards Supervisors/
Jobbers among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	14.7000	3.19896	1.953	.052
Blow room	9	14.7778	3.49205		
Carding	10	11.7000	4.98999		
Draw frame	20	14.9500	2.72368		
Simplex	25	15.8400	2.47790		
Combber	8	16.3750	1.18773		
Spinning	103	15.0777	2.88570		
Cone winding	98	14.9388	3.21022		
Cone packing	14	15.2857	2.97240		
Total	297	14.9966	3.08713		

Source: primary data

Department-wise analysis shows that perception of workers about the Attitude towards Supervisors/Jobbers is maximum at Combber department with a mean score of 16.3750 and standard deviation of 1.18773. Perception about Attitude towards Supervisors/Jobbers is minimum in Carding department with a mean score of 11.7000 and a standard deviation of 4.98999.

The perception of the workers with regard to the Attitude towards Supervisors/Jobbers among departments is statistically not significant as the F-ratio is 1.953 which is less than the tabular value at 5 percent level of significance. It can

be concluded that there is no variation in the Attitude towards Supervisors/Jobbers among the workers of various departments of spinning mills in Kerala.

6.3.4 Ability to undertake responsibility

6.3.4.1 Comparison of Ability to undertake responsibility among various spinning mills

Comparison of the labour productivity component, Ability to undertake responsibility among various mills are presented in Table 6.13.

Table 6. 13
Comparison of Ability to undertake responsibility among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	10.4444	3.06327	1.113	.355
CCSM	39	9.6667	2.84081		
MALCOTEX	23	10.5652	3.38212		
TCSM	55	10.6909	2.94312		
ACSM	36	10.4444	2.62346		
QCSM	45	10.4000	3.43379		
PRICO	35	9.9429	2.83821		
KKMCSM	10	12.4000	4.45222		
Total	297	10.3973	3.08063		

Source: primary data

Mill-wise analysis shows that perception of workers about the Ability to undertake responsibility is maximum at KKMCSM with a mean score of 12.400 and standard deviation of 4.45222. Perception about Ability to undertake responsibility is minimum in CCSM with a mean score of 9.6667 and a standard deviation of 2.84081.

The perception of the workers with regard to the Ability to undertake responsibility among spinning mills is statistically not significant as the F-ratio is 1.113 which is less than the tabular value at 5 percent level of significance. It can be

concluded that there is no variation in the Ability to undertake responsibility among the workers of eight spinning mills of Kerala.

6.3.4.2 Comparison of Ability to undertake responsibility among various departments

Comparison of the labour productivity component, Ability to undertake responsibility among various departments are presented in Table 6.14.

Table 6. 14

Comparison of Ability to undertake responsibility among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	10.0000	2.58199	3.757	.000
Blow room	9	9.8889	2.80377		
Carding	10	10.4000	2.75681		
Draw frame	20	10.5000	3.05218		
Simplex	25	12.0000	4.02078		
Combber	8	13.1250	4.45413		
Spinning	103	9.3592	1.91411		
Cone winding	98	10.9184	3.43923		
Cone packing	14	10.4286	3.13085		
Total	297	10.3973	3.08063		

Source: primary data

Department-wise analysis shows that perception of workers about the Ability to undertake responsibility is maximum at Combber department with a mean score of 13.1250 and standard deviation of 4.45413. Perception about Ability to undertake responsibility is minimum in spinning department with a mean score of 9.3592 and a standard deviation of 1.91411.

The perception of the workers with regard to the Ability to undertake responsibility among departments is statistically significant as the F-ratio is 3.757 which is greater than the tabular value at 5 percent level of significance. It can be

concluded that there exist variation in the Ability to undertake responsibility among the various departments of spinning mills of Kerala.

6.3.5 Attitude towards discipline

6.3.5.1 Comparison of Attitude towards discipline among various spinning mills

Comparison of the labour productivity component, Attitude towards discipline among various mills are presented in Table 6.15.

Table 6. 15

Comparison of Attitude towards discipline among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	15.1296	1.42810	6.289	.000
CCSM	39	15.8205	.75644		
MALCOTEX	23	15.3478	1.69515		
TCSM	55	14.1273	2.19473		
ACSM	36	14.8056	1.61810		
QCSM	45	15.5778	1.38972		
PRICO	35	15.5429	.85209		
KKMCSM	10	16.1000	1.52388		
Total	297	15.1616	1.62148		

Source: primary data

Mill-wise analysis shows that perception of workers about the Attitude towards discipline is maximum at KKMCSM with a mean score of 16.1000 and standard deviation of 1.52388. Perception about Attitude towards discipline is minimum in TCSM with a mean score of 14.1273 and a standard deviation of 2.19473.

The perception of the workers with regard to the Attitude towards discipline among spinning mills is statistically significant as the F-ratio is 6.289 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the perception of workers with regard to the Attitude towards discipline among the eight spinning mills of Kerala.

6.3.5.2 Comparison of Attitude towards discipline among various departments

Comparison of the labour productivity component, Attitude towards discipline among various departments are presented in Table 6.16.

Table 6. 16

Comparison of Attitude towards discipline among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	14.9000	1.19722	1.706	.097
Blow room	9	15.0000	1.58114		
Carding	10	13.9000	1.91195		
Draw frame	20	14.8500	1.49649		
Simplex	25	15.8000	1.89297		
Combber	8	16.0000	1.06904		
Spinning	103	15.1068	1.45462		
Cone winding	98	15.2143	1.71861		
Cone packing	14	15.2143	1.71772		
Total	297	15.1616	1.62148		

Source: primary data

Department-wise analysis shows that perception of workers about the Attitude towards discipline is maximum at Combber department with a mean score of 16.000 and standard deviation of 1.06904. Perception about Attitude towards discipline is minimum in Carding department with a mean score of 13.90 and a standard deviation of 1.91195.

The perception of the workers with regard to the Attitude towards discipline among departments is statistically not significant as the F-ratio is 1.706 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Attitude towards discipline among the various departments of spinning mills of Kerala.

6.3.6 Absenteeism

6.3.6.1 Comparison of Absenteeism among various spinning mills

Comparison of the labour productivity component, Absenteeism among various mills are presented in Table 6.17

Table 6. 17

Comparison of Absenteeism among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	9.8148	4.16216	5.783	.000
CCSM	39	13.5128	4.44778		
MALCOTEX	23	9.1739	4.26030		
TCSM	55	8.3273	4.07365		
ACSM	36	9.4167	3.65963		
QCSM	45	11.1333	4.95709		
PRICO	35	10.2571	4.54612		
KKMCSM	10	12.5000	5.27573		
Total	297	10.2694	4.58937		

Source: primary data

Mill-wise analysis shows that perception of workers about the Absenteeism is maximum at CCSM with a mean score of 13.5128 and standard deviation of 4.44778. Perception about Absenteeism is minimum in TCSM with a mean score of 8.3273 and a standard deviation of 4.07365.

The perception of the workers with regard to the Absenteeism among spinning mills is statistically significant as the F-ratio is 5.783 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the perception of workers with regard to Absenteeism among the eight spinning mills of Kerala.

6.3.6.2 Comparison of Absenteeism among various departments

Comparison of the labour productivity component, Absenteeism among various departments are presented in Table 6.18.

Table 6. 18

Comparison of Absenteeism among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	9.1000	3.95671	1.429	.184
Blow room	9	11.1111	5.18277		
Carding	10	9.1000	4.60555		
Draw frame	20	10.1500	4.49883		
Simplex	25	12.4800	4.90850		
Combber	8	12.3750	5.34355		
Spinning	103	9.6311	4.28172		
Cone winding	98	10.4388	4.73432		
Cone packing	14	9.9286	4.32282		
Total	297	10.2694	4.58937		

Source: primary data

Department-wise analysis shows that perception of workers about the Absenteeism is maximum at Simplex department with a mean score of 12.4800 and standard deviation of 4.90850. Perception about Absenteeism is minimum in Mixing and Carding departments with a mean score of 9.1000 each and a standard deviations of 3.95671 and 4.60555 respectively.

The perception of the workers with regard to the Absenteeism among departments is statistically not significant as the F-ratio is 1.429 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Absenteeism among the various departments of spinning mills of Kerala.

6.3.7 Ability to grasp new ideas

6.3.7.1 Comparison of Ability to grasp new ideas among various spinning mills

Comparison of the labour productivity component, Ability to grasp new ideas among various mills are presented in Table 6.19.

Table 6. 19

Comparison of Ability to grasp new ideas among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	11.2963	2.71703	0.879	0.524
CCSM	39	11.6410	2.01947		
MALCOTEX	23	12.0000	2.62851		
TCSM	55	11.4364	2.66502		
ACSM	36	11.3889	2.28383		
QCSM	45	11.7111	2.80926		
PRICO	35	11.2857	2.32090		
KKMCSM	10	13.2000	3.76534		
Total	297	11.5589	2.57536		

Source: primary data

Mill-wise analysis shows that perception of workers about the Ability to grasp new ideas is maximum at KKMCSM with a mean score of 13.2000 and standard deviation of 3.76534. Perception about Ability to grasp new ideas is minimum in PRICO with a mean score of 11.2857 and a standard deviation of 2.32090.

The perception of the workers with regard to the Ability to grasp new ideas among spinning mills is statistically not significant as the F-ratio is 0.879 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the perception of workers with regard to Ability to grasp new ideas among the eight spinning mills of Kerala.

6.3.7.2 Comparison of Ability to grasp new ideas among various departments

Comparison of the labour productivity component, Ability to grasp new ideas among various departments are presented in Table 6.20.

Table 6. 20

Comparison of Ability to grasp new ideas among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	10.7000	0.48305	2.790	.005
Blow room	9	11.2222	2.27913		
Carding	10	11.2000	2.14994		
Draw frame	20	10.8500	1.84320		
Simplex	25	13.2400	3.63180		
Comber	8	12.3750	3.20435		
Spinning	103	11.0000	1.83645		
Cone winding	98	11.8878	2.91418		
Cone packing	14	12.0000	2.98715		
Total	297	11.5589	2.57536		

Source: primary data

Department-wise analysis shows that perception of workers about the Ability to grasp new ideas is maximum at Simplex department with a mean score of 13.2400 and standard deviation of 3.63180. Perception about Ability to grasp new ideas is minimum in Mixing department with a mean score of 10.7000 and a standard deviation of 0.48305.

The perception of the workers with regard to the Ability to grasp new ideas among departments is statistically significant as the F-ratio is 2.790 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Ability to grasp new ideas among the various departments of spinning mills of Kerala.

6.3.8 Skill

6.3.8.1 Comparison of Skill among various spinning mills

Comparison of the labour productivity component, Skill among various mills are presented in Table 6.21.

Table 6. 21
Comparison of Skill among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	8.8889	4.04067	1.604	.134
CCSM	39	8.8974	2.98941		
MALCOTEX	23	9.6087	3.78681		
TCSM	55	9.7455	3.40598		
ACSM	36	8.7222	3.41937		
QCSM	45	9.2444	4.16782		
PRICO	35	7.7143	3.84686		
KKMCSM	10	11.4000	5.46097		
Total	297	9.0842	3.78961		

Source: primary data

Mill-wise analysis shows that perception of workers about the Skill is maximum at KKMCSM with a mean score of 11.4000 and standard deviation of 5.46097. Perception about Skill is minimum in PRICO with a mean scores of 7.7143 and a standard deviation of 3.84686.

The perception of the workers with regard to the Skill among spinning mills is statistically not significant as the F-ratio is 1.604 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Skill among the eight spinning mills of Kerala.

6.3.8.2 Comparison of Skill among various departments

Comparison of the labour productivity component, Skill among various departments are presented in Table 6.22.

Table 6. 22

Comparison of Skill among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	8.0000	3.46410	3.080	.002
Blow room	9	8.5556	3.53946		
Carding	10	8.6000	3.62706		
Draw frame	20	9.1000	3.87842		
Simplex	25	11.2800	4.55997		
Combber	8	11.8750	5.86606		
Spinning	103	8.0388	2.41694		
Cone winding	98	9.5510	4.30565		
Cone packing	14	9.4286	3.61012		
Total	297	9.0842	3.78961		

Source: primary data

Department-wise analysis shows that perception of workers about the Skill is maximum at Combber department with a mean score of 11.8750 and standard deviation of 5.86606. Perception about Skill is minimum in Mixing department with a mean score of 8.000 and a standard deviation of 3.46410.

The perception of the workers with regard to the Skill among departments is statistically significant as the F-ratio is 3.080 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Skill among the various departments of spinning mills of kerala.

6.3.9 Safety measures and working conditions

6.3.9.1 Comparison of Safety measures and working conditions among various spinning mills

Comparison of the labour productivity component, Safety measures and working conditions among various mills are presented in Table 6.23.

Table 6. 23
Comparison of Safety measures and working conditions among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	11.2222	3.17221	1.968	.059
CCSM	39	11.0256	2.29974		
MALCOTEX	23	11.6957	2.86729		
TCSM	55	12.0909	2.56957		
ACSM	36	11.2500	2.61179		
QCSM	45	11.3111	3.24613		
PRICO	35	10.1143	2.94829		
KKMCSM	10	12.0900	4.20185		
Total	297	11.3367	2.93184		

Source: primary data

Mill-wise analysis shows that perception of workers about the Safety measures and working conditions is maximum at TCSM with a mean score of 12.0909 and standard deviation of 2.56957. Perception about Safety measures and working conditions is minimum in PRICO with a mean score of 10.1143 and a standard deviation of 2.94829.

The perception of the workers with regard to the Safety measures and working conditions among spinning mills is statistically not significant as the F-ratio is 1.968 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Safety measures and working conditions among the eight spinning mills of Kerala.

6.3.9.2 Comparison of Safety measures and working conditions among various departments

Comparison of the labour productivity component, Safety measures and working conditions among various departments are presented in Table 6.24.

Table 6. 24
Comparison of Safety measures and working conditions among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	9.8000	1.31656	3.464	.001
Blow room	9	10.8889	2.75882		
Carding	10	11.1000	2.55821		
Draw frame	20	10.7500	2.31414		
Simplex	25	13.5600	3.48903		
Combber	8	11.5000	3.85450		
Spinning	103	10.6699	2.26823		
Cone winding	98	11.6837	3.27312		
Cone packing	14	12.1429	3.08488		
Total	297	11.3367	2.93184		

Source: primary data

Department-wise analysis shows that perception of workers about the Safety measures and working conditions is maximum at Simplex department with a mean score of 13.5600 and standard deviation of 3.48903. Perception about Safety measures and working conditions is minimum in Mixing department with a mean score of 9.8000 and a standard deviation of 1.31656.

The perception of the workers with regard to the Safety measures and working conditions among departments is statistically significant as the F-ratio is 3.464 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Safety measures and working conditions among the various departments of spinning mills of Kerala.

6.3.10 Training

6.3.10.1 Comparison of Training among various spinning mills

Comparison of the labour productivity component, Training among various mills are presented in Table 6.25.

Table 6. 25

Comparison of Training among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	13.3704	2.02155	1.261	.269
CCSM	39	13.1795	1.73010		
MALCOTEX	23	13.4348	2.21208		
TCSM	55	13.0909	2.10179		
ACSM	36	12.9444	1.88140		
QCSM	45	13.6444	2.11225		
PRICO	35	13.3714	1.75039		
KKMCSM	10	14.8000	2.82056		
Total	297	13.3367	2.02044		

Source: primary data

Mill-wise analysis shows that perception of workers about the Training is maximum at KKMCSM with a mean score of 14.800 and standard deviation of 2.82056. Perception about Training is minimum in ACSM with a mean score of 12.9444 and a standard deviation of 1.88140.

The perception of the workers with regard to the Training among spinning mills is statistically not significant as the F-ratio is 1.261 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Training among the eight spinning mills of Kerala.

6.3.10.2 Comparison of Training among various departments

Comparison of the labour productivity component, Training among various departments are presented in Table 6.26.

Table 6. 26

Comparison of Training among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	13.0000	1.49071	2.885	.004
Blow room	9	13.2222	1.85592		
Carding	10	12.9000	1.85293		
Draw frame	20	13.2500	1.99671		
Simplex	25	14.2000	2.79881		
Comerber	8	15.2500	2.76457		
Spinning	103	12.8058	1.21315		
Cone winding	98	13.6429	2.30754		
Cone packing	14	13.2143	2.08211		
Total	297	13.3367	2.02044		

Source: primary data

Department-wise analysis shows that perception of workers about the Training is maximum at Simplex department with a mean score of 14.200 and standard deviation of 2.79881. Perception about Training is minimum in Spinning department with a mean score of 12.8058 and a standard deviation of 1.21315.

The perception of the workers with regard to the Training among departments is statistically significant as the F-ratio is 2.885 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Training among the various departments of spinning mills of Kerala.

6.3.11 Wage payment

6.3.11.1 Comparison of Wage payment among various spinning mills

Comparison of the labour productivity component, Wage payment among various mills are presented in Table 6.27.

Table 6. 27

Comparison of Wage payment among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	13.0000	2.12798	1.908	.068
CCSM	39	12.8974	1.91662		
MALCOTEX	23	13.1304	2.37992		
TCSM	55	12.7636	2.25227		
ACSM	36	12.3333	2.11119		
QCSM	45	13.4222	2.15838		
PRICO	35	12.8000	1.95237		
KKMCSM	10	14.8000	2.61619		
Total	297	12.9731	2.16840		

Source: primary data

Mill-wise analysis shows that perception of workers about the Wage payment is maximum at KKMCSM with a mean score of 14.800 and standard deviation of 2.61619. Perception about Wage payment is minimum in ACSM with a mean score of 12.3333 and a standard deviation of 2.11119.

The perception of the workers with regard to the Wage payment among spinning mills is statistically not significant as the F-ratio is 1.908 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Wage payment among the eight spinning mills of Kerala.

6.3.11.2 Comparison of Wage payment among various departments

Comparison of the labour productivity component, Wage payment among various departments are presented in Table 6.28.

Table 6. 28

Comparison of Wage payment among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	12.2000	1.54919	3.243	.001
Blow room	9	12.6667	1.80278		
Carding	10	12.1000	1.85293		
Draw frame	20	12.6000	1.93037		
Simplex	25	14.4000	2.78388		
Combber	8	14.3750	2.66927		
Spinning	103	12.4951	1.60192		
Cone winding	98	13.2449	2.39011		
Cone packing	14	13.1429	2.41333		
Total	297	12.9731	2.16840		

Source: primary data

Department-wise analysis shows that perception of workers about the Wage payment is maximum at Simplex department with a mean score of 14.400 and standard deviation of 2.78388. Perception about Wage payment is minimum in Carding department with a mean score of 12.100 and a standard deviation of 1.85293.

The perception of the workers with regard to the Wage payment among departments is statistically significant as the F-ratio is 3.243 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Wage payment among the various departments of spinning mills of Kerala.

6.3.12 Facilities to employees

6.3.12.1 Comparison of Facilities to employees among various spinning mills

Comparison of the labour productivity component, Facilities to employees among various mills are presented in Table 6.29.

Table 6. 29
Comparison of Facilities to employees among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	11.8704	3.16255	3.446	.001
CCSM	39	13.8205	2.36055		
MALCOTEX	23	12.3478	2.63902		
TCSM	55	11.2182	3.21277		
ACSM	36	11.6944	2.47062		
QCSM	45	12.4000	2.95727		
PRICO	35	12.9429	2.31292		
KKMCSM	10	13.1000	4.06749		
Total	297	12.2694	2.95258		

Source: primary data

Mill-wise analysis shows that perception of workers about the Facilities to employees is maximum at CCSM with a mean score of 13.8205 and standard deviation of 2.36055. Perception about Facilities to employees is minimum in TCSM with a mean score of 11.2182 and a standard deviation of 3.21277.

The perception of the workers with regard to the Facilities to employees among spinning mills is statistically significant as the F-ratio is 3.446 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Facilities to employees among the eight spinning mills of Kerala.

6.3.12.2 Comparison of Facilities to employees among various departments

Comparison of the labour productivity component, Facilities to employees among various departments are presented in Table 6.30.

Table 6. 30

Comparison of Facilities to employees among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	12.7000	2.31181	1.801	.077
Blow room	9	12.6667	3.04138		
Carding	10	11.7000	2.71006		
Draw frame	20	12.4000	3.34664		
Simplex	25	13.0800	3.87212		
Combbber	8	14.5000	2.97610		
Spinning	103	11.6408	2.28745		
Cone winding	98	12.6020	3.17769		
Cone packing	14	11.5000	3.05715		
Total	297	12.2694	2.95258		

Source: primary data

Department-wise analysis shows that perception of workers about the Facilities to employees is maximum at Combbber department with a mean score of 14.5000 and standard deviation of 2.97610. Perception about Facilities to employees is minimum in Cone packing department with a mean score of 11.500 and a standard deviation of 3.05715.

The perception of the workers with regard to the Facilities to employees among departments is statistically not significant as the F-ratio is 1.801 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Facilities to employees among the various departments of spinning mills of Kerala.

6.3.13 Motivation

6.3.13.1 Comparison of Motivation among various spinning mills

Comparison of the labour productivity component, Motivation among various mills are presented in Table 6.31.

Table 6. 31

Comparison of Motivation among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	9.4630	4.19664	3.883	.000
CCSM	39	12.9744	3.46780		
MALCOTEX	23	10.1304	3.73320		
TCSM	55	9.6545	3.56536		
ACSM	36	9.4722	3.38472		
QCSM	45	10.6889	4.37878		
PRICO	35	9.8000	4.49706		
KKMCSM	10	12.5000	5.16935		
Total	297	10.3401	4.10366		

Source: primary data

Mill-wise analysis shows that perception of workers about the Motivation is maximum at CCSM with a mean score of 12.9744 and standard deviation of 3.46780. Perception about Motivation is minimum in MCSM with a mean score of 9.4630 and a standard deviation of 4.19664.

The perception of the workers with regard to the Motivation among spinning mills is statistically significant as the F-ratio is 3.883 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the Motivation among the eight spinning mills of Kerala.

6.3.13.2 Comparison of Motivation among various departments

Comparison of the labour productivity component, Motivation among various departments are presented in Table 6.32.

Table 6. 32

Comparison of Motivation among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	9.1000	3.38132	2.084	.037
Blow room	9	10.7778	4.43784		
Carding	10	9.5000	3.47211		
Draw frame	20	9.8500	3.91051		
Simplex	25	12.9600	4.60507		
Combber	8	11.5000	4.84031		
Spinning	103	9.6117	3.52090		
Cone winding	98	10.6020	4.41352		
Cone packing	14	10.4286	4.16421		
Total	297	10.3401	4.10366		

Source: primary data

Department-wise analysis shows that perception of workers about the Motivation is maximum at Simplex department with a mean score of 12.9600 and standard deviation of 4.60507. Perception about Motivation is minimum in Mixing department with a mean score of 9.100 and a standard deviation of 3.38132.

The perception of the workers with regard to the Motivation among departments is statistically not significant as the F-ratio is 2.084 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Motivation among the various departments of spinning mills of Kerala.

6.4 Classification of components of Labour productivity

Labour productivity components are classified individual/personal factors and institutional factors considering the nature of the components.

6.4.1 Labour Productivity – Individual factors

The labour productivity components Quality of work, Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, and Skill are treated as individual/personal factors.

6.4.1.1 Comparison of individual factors of Labour productivity among various spinning mills

Comparison of the individual factors of labour productivity among various mills are presented in Table 6.33.

Table 6. 33

Comparison of labour productivity of individual factors among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	98.5370	17.48284	2.012	.054
CCSM	39	103.3590	12.69995		
MALCOTEX	23	99.6522	18.83326		
TCSM	55	94.6545	19.15359		
ACSM	36	95.8611	16.43716		
QCSM	45	101.8000	18.27019		
PRICO	35	96.9143	16.51981		
KKMCSM	10	111.8000	23.24651		
Total	297	98.9630	17.68021		

Source: primary data

Mill-wise analysis shows that perception of workers about the labour productivity – individual factors –is maximum at KKMCSM with a mean score of 111.800 and standard deviation of 23.24651. Perception about labour productivity – individual factors –is minimum in TCSM with a mean score of 94.6545 and a standard deviation of 19.15359.

The perception of the workers with regard to the labour productivity – individual factors - among spinning mills is statistically not significant as the F-ratio

is 2.012 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the labour productivity – individual factors - among the eight spinning mills of Kerala.

6.4.1.2 Comparison of labour productivity – individual factors -among various departments

Comparison of the labour productivity – individual factors - among various departments are presented in Table 6.34.

Table 6. 34

Comparison of labour productivity – individual factors - among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	93.5000	13.11699	3.140	.002
Blow room	9	97.5556	16.87536		
Carding	10	91.7000	18.94466		
Draw frame	20	97.5000	16.47486		
Simplex	25	110.4000	21.33854		
Combbber	8	111.2500	24.18825		
Spinning	103	94.9126	11.87360		
Cone winding	98	100.8367	20.14366		
Cone packing	14	100.2857	17.81714		
Total	297	98.9630	17.68021		

Source: primary data

Department-wise analysis shows that perception of workers about the labour productivity – individual factors - is maximum at Combbber department with a mean score of 111.250 and standard deviation of 24.18825. Perception about labour productivity – individual factors - is minimum in Carding department with a mean score of 91.7 and a standard deviation of 18.94466.

The perception of the workers with regard to the labour productivity – individual factors - among departments is statistically significant as the F-ratio is 3.140 which is greater than the tabular value at 5 percent level of significance. It can

be concluded that there is a variation in the labour productivity – individual factors - among the various departments of spinning mills of Kerala.

6.4.2 Labour Productivity – Institutional factors

The labour productivity components Safety measures and working conditions, Training, Wage payment, Facilities to employees, and Motivation are considered as the institutional factors.

6.4.2.1 Comparison of Labour Productivity – Institutional factors - among various spinning mills

Comparison of the Labour productivity components related with institutional factors, of various mills are presented in Table 6.35.

Table 6. 35

Comparison of Labour Productivity – Institutional factors among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	58.9259	12.42768	1.729	.102
CCSM	39	63.8974	9.05188		
MALCOTEX	23	60.7391	12.46164		
TCSM	55	58.8182	11.95685		
ACSM	36	57.6944	10.81486		
QCSM	45	61.4667	12.74684		
PRICO	35	59.0286	11.45448		
KKMCSM	10	68.1000	16.64966		
Total	297	60.2559	11.95947		

Source: primary data

Mill-wise analysis shows that perception of workers with regard to the institutional factor of labour productivity is maximum at KKMCSM with a mean

score of 68.100 and standard deviation of 16.64966. Perception about labour productivity – institutional factors is minimum in ACSM with a mean score of 57.6944 and a standard deviation of 10.81.

The perception of the workers with regard to the institutional factors among spinning mills is statistically not significant as the F-ratio is 1.729 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the Perception about labour productivity – institutional factors among the eight spinning mills of Kerala.

6.4.2.2 Comparison of labour productivity – Institutional factors - among various departments

Comparison of the labour productivity component, Institutional factors among various departments are presented in Table 6.36.

Table 6. 36
Comparison of Institutional factors among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	56.8000	7.64199	3.119	.002
Blow room	9	60.2222	11.38835		
Carding	10	57.3000	10.99545		
Draw frame	20	58.8500	10.74232		
Simplex	25	68.2000	15.08863		
Combber	8	67.1250	16.19910		
Spinning	103	57.2233	8.21874		
Cone winding	98	61.7755	13.54605		
Cone packing	14	60.4286	12.79251		
Total	297	60.2559	11.95947		

Source: primary data

Department-wise analysis shows that perception of workers about the institutional factors is maximum at Simplex department with a mean score of 68.200 and standard deviation of 15.08863. Perception about institutional factors is

minimum in Mixing department with a mean score of 56.800 and a standard deviation of 7.64199.

The perception of the workers with regard to the institutional factors among departments is statistically significant as the F-ratio is 3.119 which is greater than the tabular value at 5 percent level of significance. It can be concluded that there is a variation in the institutional factors among the various departments of spinning mills of Kerala.

6.5 Labour Productivity – Total

6.5.1 Comparison of labour productivity total among various spinning mills

Comparison of the labour productivity components, institutional factors and individual factors together among various mills are presented in Table 6.37.

Table 6. 37

Comparison of labour productivity total among various spinning mills

Spinning Mill	Number	Mean	SD	F ratio	Table value
MCSM	54	157.4630	29.71863	1.875	.073
CCSM	39	167.2564	21.39198		
MALCOTEX	23	160.3913	30.95413		
TCSM	55	153.4727	30.75221		
ACSM	36	153.5556	26.83435		
QCSM	45	163.2667	30.87615		
PRICO	35	155.9429	27.78483		
KKMCSM	10	179.9000	39.67773		
Total	297	159.2189	29.35056		

Source: primary data

Mill-wise analysis shows that perception of workers about the total labour productivity is maximum at KKMCSM with a mean score of 179.9000 and standard deviation of 39.67773. Perception about total labour productivity is minimum in TCSM with a mean score of 153.4727 and a standard deviation of 30.75221.

The perception of the workers with regard to the total labour productivity among spinning mills is statistically not significant as the F-ratio is 1.875 which is less than the tabular value at 5 percent level of significance. It can be concluded that there is no variation in the total labour productivity among the eight spinning mills of Kerala.

6.5.2 Comparison of labour productivity – Total- among various departments

Comparison of the labour productivity total among various departments are presented in Table 6.38.

Table 6. 38

Comparison of labour productivity total among various departments

Department	Number	Mean	SD	F ratio	Table value
Mixing	10	150.3000	20.27067	3.177	.002
Blow room	9	157.7778	27.92301		
Carding	10	149.0000	29.45052		
Draw frame	20	156.3500	26.86864		
Simplex	25	178.6000	36.19968		
Combber	8	178.3750	40.28803		
Spinning	103	152.1359	19.73553		
Cone winding	98	162.6122	33.43300		
Cone packing	14	160.7143	30.24624		
Total	297	159.2189	29.35056		

Source: primary data

Department-wise analysis shows that perception of workers about the labour productivity total is maximum at Simplex department with a mean score of 178.600 and standard deviation of 36.19968. Perception about total labour productivity is minimum in Carding department with a mean score of 149.000 and a standard deviation of 29.45052.

6.6 Results of Testing of Hypotheses

H6: There exist significant difference in the perception of workers with regard to the labour productivity on various departments.

Department wise difference in the perception of workers with regard to various components of labour productivity is given in Table 6.39.

Table 6.39

Department wise difference in the perception of workers with regard to various components of labour productivity.

Components	F-value	p-value	Hypotheses
Quality of work	3.339	.001	Accepted
Quantity of work	2.382	.017	Accepted
Attitude towards Supervisor / Jobber	1.953	.052	Rejected
Ability to undertake responsibility	3.757	.000	Accepted
Attitude towards discipline	1.706	.097	Rejected
Absenteeism	1.429	.184	Rejected
Ability to grasp new ideas	2.790	.005	Accepted
Skill	3.080	.002	Accepted
Safety measures and working conditions	3.464	.001	Accepted
Training	2.885	.004	Accepted
Wage payment	3.243	.001	Accepted
Facilities to employees	1.801	.077	Rejected
Motivation	2.084	.037	Rejected

The sixth hypothesis states that, there exist significant difference in the perception of workers with regard to the labour productivity on various departments is accepted.

H7: There exist significant difference in the perception and workers with regard to the labour productivity based on various spinning mills.

Mill wise difference in the perception of workers with regard to various components of labour productivity is given in Table 6.40.

Table 6.40
Mill wise difference in the perception of workers with
regard to various components of labour productivity.

Components	F-value	p-value	Hypotheses
Quality of work	1.996	.056	Rejected
Quantity of work	2.238	.031	Accepted
Attitude towards Supervisor / Jobber	10.741	.000	Accepted
Ability to undertake responsibility	1.113	.355	Rejected
Attitude towards discipline	6.289	.000	Accepted
Absenteeism	5.783	.000	Accepted
Ability to grasp new ideas	.879	.524	Rejected
Skill	1.604	.134	Rejected
Safety measures and working conditions	1.968	.059	Rejected
Training	1.261	.269	Rejected
Wage payment	1.908	.068	Rejected
Facilities to employees	3.446	.001	Accepted
Motivation	3.883	.000	Accepted

The seventh hypothesis states that, there exist significant difference in the perception of workers with regard to the labour productivity based on various spinning mills is rejected.

To meet the fourth and fifth objectives of this study, to study the perception of workers with regard to the labour productivity and to compare among various cooperative spinning mills in Kerala , to compare the perception of workers with regard to the labour productivity among various departments of cooperative spinning mills in Kerala, in this chapter researcher made analysis and interpretations of the data collected by using a questionnaire distributed among the workers of the eight spinning mills in Kerala. Perception of workers to different labour productivity components and comparison among cooperative spinning mills and departments has been made by using One sample t-test and ANOVA.

6.7 Conclusion

Perception of workers with regard to the labour productivity reveals that the components of labour productivity Quality of work, Attitude towards Supervisors/ Jobbers, Attitude towards discipline, Quantity of work, Wage payment and Training are significantly high. Ability to undertake responsibility, Absenteeism, Ability to grasp new ideas, facilities to employees, Skill, Safety measures and working conditions and Motivation are significantly low.

There is no significant difference in the perception workers among various spinning mills of Kerala with regard to the institutional factors, individual factors and aggregate of labour productivity. Similarly there is no significant difference in the perception of workers with regard to the Quality of work, Ability to undertake responsibility, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training and Wage payment. But there exist significant difference in the components of labour productivity viz., Quantity of work, Attitude towards Supervisors/Jobbers, Attitude towards discipline, Absenteeism, Facilities to employees and Motivation.

Department wise comparison reveals that there exist significant difference in the institutional factors, individual factors and aggregate of the labour productivity. Similarly, there exist significant difference based on departments in the component of labour productivity viz., Quality of work, Quantity of work, Ability to undertake responsibility, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment and Motivation. But there is no significant difference in the perception of workers with regard to the Attitude towards Supervisors/Jobbers, Attitude towards discipline, Absenteeism and Facilities to employees.

Next and the last chapter deals with findings derived from the study, suggestions for the improvement and conclusion.

Introduction

The changing concepts about the management of industrial organization requires a new look at the concept of productivity as well. In past, productivity was defined in terms of rise in the level of output or services with the same or reduced level of input as a result of better work methods and improved technology. It is however through the employees that the ultimate increase in production is achieved. Employee's performance is more important than equipment and raw materials .If they are not motivated to work harder, better, with sincerity, initiative and co-operation, no amount of sophisticated technology or improved work method is going to help. The work place and the treatment received from the managements affect the organizational climate. Employees what to be treated as if they are some one of value. Their needs and problems are to be carried by the management.

Measuring workers' productivity is important for public sector and private sector decision making. Due to a lack of reliable methods to determine workers' productivity, firms often use specific performance measures, such as how different incentives affect employees' behavior. The public sector also uses these measures to monitor and evaluate personnel. To select the right performance measures, and as a result design better employment contracts and improve productivity, policy makers and managers need to understand the advantages and disadvantages of the available metrics.

7.1 Significance of the Study

The textile industry in Kerala is spread over public, private, cooperative and joint sectors. The textile mill industry in Kerala, however, are not running profitably and mills involved in spinning and weaving are facing problems from demand and supply side. Scarcity of raw material is the biggest obstacle of the textile mills in Kerala, since it constitutes major share of production costs and Kerala although is traditionally regarded as an agriculture state, cotton has never been a prominent among its cash crop in the State. Outdated machinery and stiff competition can be regarded as the other significant problems of the textile mills in Kerala, along with high cost of raw material, low productivity, decreasing profits, lack of working

capital and high cost of labour. There are 8 cooperative spinning mills in Kerala all are running in huge losses from the beginning itself. Government providing so many funds for its modernization . These mills are running only for providing employment to its employees, but the loss of these mills are more than the total wages paid to employees.

7.2 The Research Problem at a Glance

In India, actually experience an absolute lack of commitment to work, lethargy and low productivity adversely affecting the growth of our economy and our nation in industries business houses or in service sector shows an incapacity to work hard. The management employee relation in every sector is not smooth. The well accepted 'give and take' policy has now been replaced by the 'take and give' policy. The situation in Kerala is more or less similar to go in par with the national standard. The productivity of the employees in Kerala is low compared to the other states like Tamil Nadu, Karnataka and Andhra Pradesh, where the literacy rate is much low.

There are total 8 cooperative spinning mills in Kerala namely, (1) Malappuram Cooperative Spinning Mills Ltd.(MCSM), Malappuram (2) The Cannanore Cooperative Spinning Mills Ltd.(CCSM), Kannur (3) The Malabar Cooperative Textiles Ltd.(MALCOTEX), Malappuram (4) The Thrichur Cooperative Spinning Mills Ltd.(TCSM), Thrissur (5) The Alleppey Cooperative Spinning Mills Ltd.(ACSM), Alappuzha (6) The Quilon Cooperative Spinning Mills Ltd.(QCSM), Kollam (7) The Priyadarsini Cooperative Spinning Mills Ltd.(PRICO), Kottayam and (8) K.Karunakaran Memorial Cooperative Spinning Mills Ltd.(KKMCSM), Thrissur. All these cooperative spinning mills are suffering huge losses for the past few years. This is the gap between the ideal situation and the real situation. Poor performance of these mills may be due to the bad work culture prevailing in the organization. Their wage payment system is very poor compared to other industries. In this context it is appropriate to evaluate the productivity and work related problems in the cooperative spinning mills in Kerala.

7.3 Objectives of the Study

- To examine the growth pattern of specific financial variables of cooperative spinning mills in Kerala.
- To examine the perception of supervisors with regard to the labour productivity and to compare among various cooperative spinning mills in Kerala.
- To compare the perception of supervisors with regard to the labour productivity among various departments of cooperative spinning mills in Kerala.
- To study the perception of workers with regard to the labour productivity and to compare among various cooperative spinning mills in Kerala.
- To compare the perception of workers with regard to the labour productivity among various departments of cooperative spinning mills in Kerala

7.4 Hypotheses of the Study

The study is based on the assumption that labour productivity of cooperative spinning mills plays an important role in maximizing the production of the mills and sustaining the industry and thereby increasing the profits of the mills. Accordingly the following hypotheses were developed.

H1: There exist significant difference in the Sales and Value of production of various spinning mills in Kerala.

H2: There exist significant difference in the Cost of production of various spinning mills in Kerala.

H3: There exist significant difference in the Net profit or loss of various spinning mills in Kerala.

H4. There exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity on various departments.

H5. There exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity based on various spinning mills.

H6. There exist significant difference in the perception of workers with regard to the labour productivity on various departments.

H7. There exist significant difference in the perception of workers with regard to the labour productivity based on various spinning mills.

7.5 Methodology of the Study

Measurement of productivity of employees is a difficult task. It is true there is no single criteria which can be used to measure productivity in all situation. Many measures both subjective and objective are suggested by industrial psychologists for measurement of productivity. The validity of each one of these measurement often depends upon the specific set of circumstances under which a particular measure has been evolved and used. In this study multi dimensional criteria is followed for measuring labour productivity.

The study consists of both descriptive and inferential in nature. The study describes the present financial status of the cooperative spinning mills. To arrive at reliable inferences and conclusions the collected data were analysed by using accepted tools, hence, this study is basically descriptive and inferential in character.

The study is based on both primary as well as secondary data. One part of the study is based on financial data collected from cooperative spinning mills in Kerala. Another part of the study is based on the primary data collected from the workers and supervisors of the cooperative spinning mills. For the purpose of the study, both primary and secondary data were used.

Secondary data were obtained from published sources such as annual accounts, annual reports and audit reports of cooperative spinning mills, other publications such as books, periodicals, newspapers, TEXTFED reports, publications of the Department of Cooperation, National Cooperative Union of India, etc.

Documents from official websites of the cooperative spinning mills in Kerala and various websites related to the topics were also utilised.

The secondary data related to performance of cooperative spinning mills was collected for a period of six years from 2012-13 to 2017-18. The study of performance of cooperative spinning mills is primarily based on final accounts, reports and data collected from the records maintained by the Kerala State Cooperative Textile Federation Limited (TEXFED) through the accounting details and monthly performance reports furnished by cooperative spinning mills in prescribed format as per the cooperative spinning mills rules. The format of monthly performance report of cooperative spinning mills is given in Appendix II.

The primary data needed for the study has been collected from the workers and supervisors/jobbers of various cooperative spinning mills in Kerala. The area of study consists of the entire state of Kerala. The investigator has visited all the cooperative spinning mills of the state. Census method was adopted for data collection from the supervisors/jobbers of cooperative spinning mills. The samples of workers required for the study has been selected by adopting random sampling technique. Employees working in the cooperative spinning mills in Kerala for more than one year is considered as the population of workers. Employees working in the cooperative spinning mills in Kerala for more than one year and in the designation or charge of supervisors/jobbers in various departments are considered as the population of supervisors/jobbers. There are eight cooperative mills are functioning in Kerala, and all the spinning mills are taken for the study. Altogether 107 supervisors and jobbers are working in the various department of cooperative spinning mills in Kerala. All these supervisors and jobbers were considered for the data collection. Hence the in the case of spinning mills and supervisors and jobbers the researcher adopted the method of census.

The population of the workers in the cooperative spinning mills is finite. The total number of workers in the various cooperative spinning mills in Kerala are 1534. The sample size is selected under proportional allocation method. Proportionate sampling technique was used for selecting the samples from each

spinning mills of Kerala. The sample size of the study is determined with the help of the equation developed by Yamane and Taro (Yamane and Taro, 1967) to get a representative sample in observing the proportion.

$$n = \frac{N}{1 + Ne^2} = \frac{1534}{1 + 1534 \times (.052)^2} = 297$$

Where n is the sample size; N is the population size and e is the level of precision.

A total of 300 samples were collected from various departments of various spinning mills in Kerala. The questionnaire which is not filled completely are omitted and finally 297 are used for the analysis.

Methods of data collection involves the use of appropriate recording of the data and information. For the purpose the researcher using the tools or instruments of data collection. The present study researcher used questionnaire for collecting the data. The tools were prepared after extensive literature survey and consultation with experts and supervising teacher. A five-point Likert scale each was prepared for collecting data from the cooperative spinning mill staff on labour productivity, and supervisors and jobbers perception of the functioning of spinning mills giving emphasis on labour productivity. The questionnaire for workers and supervisors/jobbers were prepared in such a way that to get the valuable information regarding the labour productivity and basic information regarding the cooperative spinning mills. Data were collected from the workers and supervisors/jobbers of cooperative spinning mills with the help of this questionnaire.

Collected Data were consolidated by using the spread sheet package MS Excel. Statistical package SPSS was used for data analysis. The various analytical techniques used for the study included common statistical tools like simple average (Arithmetic Mean), Standard Deviation, Compound Annual Growth Rate, one sample t-test and Analysis of Variance (ANOVA). Arithmetic Mean and Standard Deviation was used to know the measures of central tendency and dispersion respectively. One sample t-test was applied to assess the significant difference in the

perception score from the assumed score. The monthly financial data of the various companies not showing the normality, hence the data converted in to natural logarithm and applied the analysis of variance to know the significance of difference among various spinning mills. In some financial variables which consists of negative values the conversion to the natural logarithms is not possible, hence non-parametric test - Kruskal Wallis H test was applied.

7.6 Presentation of the Study

The report of the research work has been presented in to seven chapters.

The first chapter '**Introduction**' gives a brief concept of work culture, labour productivity, cooperative spinning mills, significance of study, scope and coverage, objectives of study, hypotheses of the study, research methodology and limitation of the study.

Second chapter '**Review of Literature**' consists of literature related to cooperative spinning mills, labour productivity, and other related studies, thereby the researcher identifying the present gap for conducting the present study.

The third chapter '**Profile of the cooperative spinning mills in Kerala**' contains the brief description of all the eight spinning mills in Kerala. It describes the mission, organisation and development of the mills.

The fourth chapter '**Labour productivity and growth pattern of cooperative spinning mills in kerala**' is discussed the trend and growth of the financial performance of cooperative spinning mills. The indicators considered are Sales, Increase or decrease in stock, Value of production, Variable expenses, Fixed expenses, Cost of production, Profit before depreciation interest and taxes, Financial charges, Profit before depreciation and taxes, Other incomes, Cash profit or loss, Depreciation and Net profit/ loss.

The fifth chapter '**Perception of supervisors and jobbers on labour productivity**' is the analysis of the data collected from primary source are

presented. Perception of supervisors/jobbers with regard to the labour productivity in cooperative spinning mills is presented in this chapter.

In sixth chapter '**Perception of workers on labour productivity**' is also the analysis of the data collected from primary source are presented. Perception of workers with regard to the labour productivity in cooperative spinning mills and the comparison with the perception of supervisors are presented in this chapter . This chapter presented the collected data in tables and graphs and also presented the results of statistical analysis of data.

The seventh and the last chapter "**summary of findings, conclusions and suggestions**" deals with findings derived from the study, suggestions for the improvement and conclusion.

7.7. Summary of Findings

7.7.1 Growth pattern of financial performance of cooperative spinning mills

In this study the researcher used the variables viz., Sales, Increase or decrease in stock, Value of production, Variable expenses, Fixed expenses, Cost of production, Profit before depreciation interest and taxes, Financial charges, Profit before depreciation and taxes, Other incomes, Cash profit or loss, Depreciation and Net profit or loss to measure the growth pattern of financial performance of cooperative spinning mills in Kerala. The findings derived from the each are given below:

7.7.1.1 Sales

Sales of all the spinning mills showed a fluctuating trend throughout the study period. The CAGR was highest for Malcotex (8.49 percent) and lowest for QCSM (-16.18 percent). Positive value of CAGR indicates the increase in sales, even though they have the fluctuation, but the negative value of CAGR indicates the decrease in sale for the study period. Study reveals that the average of the sales of all the spinning mills, which varies between 75.70 and 191.01. Analysis of variance shows that there exist significant variation in the sales among various spinning mills,

since the p-value ($F=47.23$, $p=0.000$) is less than 0.01 at .01 level of significance. The sales of the spinning mill is highest for PRICO (191.01) and it is least for MALCOTEX (75.70).

7.7.1.2 Increase or decrease in stock

Study shows that stock of all the spinning mills showed a fluctuating trend throughout the study period. The average increase or decrease of stock of all the spinning mills, which varies between 4.19 and -0.90. Kruskal-Wallis test shows that there is no significant variation in the stock among various spinning mills, since the p-value (Chi-square = 4.11, $df=6$, $p=0.662$) is greater than 0.05 at .05 level of significance.

7.7.1.3 Value of production

Value production of all the spinning mills showed a fluctuating trend throughout the study period. The average of the Value of production of all the spinning mills, which varies between 69.72 and 176.85. Kruskal-Wallis test shows that there exist significant variation in the Value of production among various spinning mills, since the p-value (Chi-square= 270.6 , $df=6$, $p=0.000$) is less than 0.01 at .01 level of significance. The Value of production of the spinning mill is highest for PRICO (176.85) and it is least for MALCOTEX (69.72).

7.7.1.4 Variable expenses

7.7.1.4.1 Raw material cost

Raw material cost of all the spinning mills showed a fluctuating trend throughout the study period. The average of the Raw material cost of all the spinning mills, which varies between 44.58 and 123.57. Analysis of variance shows that there exist significant variation in the Raw material cost among various spinning mills, since the p-value ($F=15.07$, $p=0.000$) is less than 0.01 at .01 level of significance. The Raw material cost of the spinning mill is highest for PRICO (123.57) and it is least for MALCOTEX (44.58).

7.7.1.4.2 Power and fuel expense

The average of the Power and Fuel expense of all the spinning mills, which varies between 13.21 and 32.29. Analysis of variance shows that there exist significant variation in the Power and Fuel expense among various spinning mills, since the p-value ($F=45.24$, $p=0.000$) is less than 0.01 at .01 level of significance. The Power and Fuel expense of the spinning mill is highest for PRICO (32.29) and it is least for MALCOTEX (13.21).

7.7.1.4.3 Other variable cost

The average of the other variable cost of all the spinning mills, which varies between 2.17 and 15.67. Analysis of variance shows that there exist significant variation in the other variable cost among various spinning mills, since the p-value ($F=131.82$, $p=0.000$) is less than 0.01 at .01 level of significance. The other variable cost of the spinning mill is highest for PRICO (15.67) and it is least for QCSM (2.17).

7.7.1.4.4 Total variable expenses

The average of the total variable expense of all the spinning mills, which varies between 62.11 and 156.33. Analysis of variance shows that there exist significant variation in the fixed expense among various spinning mills, since the p-value ($F=17.98$, $p=0.000$) is less than 0.01 at .01 level of significance. The fixed expense of the spinning mill is PRICO (156.33) and it is least for MALCOTEX (62.11).

7.7.1.5 Fixed expenses

Fixed expenses of all the spinning mills exhibits an increase in trend throughout the study period except in the year 2015-16 for the mills Malcotex and QCCM. There exist significant variation in the fixed expenses among various spinning mills, since the p-value ($F=358.36$, $p=0.000$) is less than 0.01 at .01 level of significance. The fixed expense of the spinning mill is highest for MCSM (62.20) and it is least for MALCOTEX (22.49).

7.7.1.6 Employee cost

Employee cost of all the spinning mills exhibits an increase in trend throughout the study period except in the year 2016-17 for the mills PRICO, Malcotex and CCSM. The average of Employee cost of all the spinning mills, which varies between 21.78 and 55.47. Analysis of variance shows that there exist significant variation in the Employee cost among various spinning mills, since the p-value ($F=144.74$, $p=0.000$) is less than 0.01 at .01 level of significance. The Employee cost of the spinning mills highest for MCSM (55.47) and it is least for MALCOTEX (21.78).

7.7.1.7 Other fixed expenses

Other fixed expenses of all the spinning mills demonstrates a decrease in trend throughout the study period except for the mills Malcotex and CCSM. The average of other fixed expenses of all the spinning mills, which varies between 0.71 and 6.73. Analysis of variance shows that there exist significant variation in the other fixed expenses among various spinning mills, since the p-value ($F=300.13$, $p=0.000$) is less than 0.01 at .01 level of significance. The other fixed expenses of the spinning mills highest for MCSM (6.73) and it is least for MALCOTEX (0.71).

7.7.1.8 Cost of production

Cost of production of all the spinning mills demonstrates a fluctuating trend throughout the study period. The average Cost of production of all the spinning mills, which varies between 84.61 and 199.24. Analysis of variance shows that there exist significant variation in the Cost of production among various spinning mills, since the p-value ($F=34.04$, $p=0.000$) is less than 0.01 at .01 level of significance. The Cost of production of the spinning mills highest for MCSM (199.24) and it is least for MALCOTEX (84.61).

7.7.1.9 Profit before depreciation interest and taxes

All the mills are running in negative value of profit, the average profit of all the spinning mills, which varies between -9.59 and -34.76. Kruskal-Wallis test shows

that there exist significant variation in the loss among various spinning mills, since the p-value (Chi-square=163.8, df=6, p=0.000) is less than 0.01 at .01 level of significance. The loss of the spinning mill is highest for TCSM (-34.76) and it is least for PRICO (-9.59).

7.7.1.10 Financial charges

Financial charges of all the spinning mills exhibits an increase in trend throughout the study period. The average total financial charges of all the spinning mills, which varies between 11.09 and 20.97. Analysis of variance shows that there exist significant variation in the Total financial charges among various spinning mills, since the p-value (F=30.18, p=0.000) is less than 0.01 at .01 level of significance. The Total financial charges of the spinning mill is highest for PRICO (20.97) and it is least for TCSM (11.09).

7.7.1.11 Long term loans

Long term loans of all the spinning mills exhibits an increase in trend throughout the study period. There exist significant variation in the Long term loans among various spinning mills, since the p-value (F=166.184, p=0.000) is less than 0.01 at .01 level of significance. The Long term loans of the spinning mill is highest for PRICO (20.80) and it is least for TCSM (3.45).

7.7.1.12 Working capital loans

The average working capital loans of all the spinning mills, which varies between 0.25 and 9.31. Analysis of variance shows that there exist significant variation in the Working capital loans among various spinning mills, since the p-value (F=99.03, p=0.000) is less than 0.01 at .01 level of significance. The Working capital loans of the spinning mill is highest for QCSM (9.31) and it is least for PRICO (0.25).

7.7.1.13 Profit before depreciation and taxes

All the mills are running in negative value of profit, the average profit of all the spinning mills, which varies between -25.06 and -45.85. Kruskal-Wallis test

shows that there exist significant variation in the loss among various spinning mills, since the p-value (Chi-square=96.53, df=6, p=0.000) is less than 0.01 at .01 level of significance. The loss of the spinning mill is highest for TCSM (-45.85) and it is least for ACSM(-25.06).

7.7.1.14 Other incomes

Other incomes of all the spinning mills exhibit a fluctuating trend throughout the study period. The average other income of all the spinning mills, which varies between 0.24 and 2.55. Analysis of variance shows that there exist significant variation in the other income among various spinning mills, since the p-value (F=3.08, p=0.006) is less than 0.01 at .01 level of significance. The other income of the spinning mill is highest for QCSM (2.55) and it is least for MALCOTEX (0.24).

7.7.1.15 Cash profit or loss

All the mills are running in negative value of cash profit, the average cash profit of all the spinning mills, which varies between -24.62 and -45.46. Kruskal-Wallis test shows that there exist significant variation in the cash profit among various spinning mills, since the p-value (Chi-square=90.36, df=6, p=0.000) is less than 0.01 at .01 level of significance. The cash profit or loss of the spinning mill is highest for TCSM (-45.46) and it is least for ACSM(-24.62).

7.7.1.16 Depreciation

The average depreciation of all the spinning mills, which varies between 1.25 and 17.31. Analysis of variance shows that there exist significant variation in the depreciation among various spinning mills, since the p-value (F=1281.23, p=0.000) is less than 0.01 at .01 level of significance. The depreciation is highest for PRICO (17.31) and it is least for QCSM (1.25).

7.7.1.17 Net profit or loss

All the cooperative spinning mills are running in loss and it is increasing year by year. The average net profit of all the spinning mills show a negative value, which indicates that all the spinning mills are running in a loss condition. The net

loss is highest for MCSM and it is least for ACSM. Kruskal-Wallis test shows that there exist significant variation in net loss among various spinning mills, since the p-value (Chi-square=68.37, df=6, p=0.000) is less than 0.01 at .01 level of significance.

7.7.2 Perception of supervisors and workers on labour oriductivity

In the present research work the perception of supervisors and workers with regard to the labour productivity and its components are assesed. Institution wise difference and department wise difference in the perceptions are tested using the Analysis of variance. The major findings derived from the study are described below in appropriate headings.

As per the perception of workers, Attitude towards discipline records the highest percentage score (75.81). Percentage score of the most of the components of labour productivity i.e., Quality of work (71.87), Quantity of work (65.61), Attitude towards Supervisors/Jobbers (74.98), Ability to grasp new ideas (51.99), Safety measures and working conditions (56.68), Training (66.68), Wage payment (64.87), Facilities to employees (61.35), Ability to undertake responsibility (51.99), Absenteeism (51.35), and Motivation (51.70) are in between 50% to 75%. The component, Skill (45.42) is with percentage score below 50%.

Considering the perception of supervisors/jobbers, Attitude towards discipline records the highest percentage score (72.10). Percentage score of the most of the components of labour productivity i.e., Quality of work (69.53), Quantity of work (60.51), Attitude towards Supervisors/Jobbers (69.3), Ability to grasp new ideas (51.73), Safety measures and working conditions (51.03), Training (62.76), Wage payment (59.91), and Facilities to employees (56.59) are in between 50% to 70%. The components Ability to undertake responsibility (45.98), Absenteeism (46.73), Skill (37.29) and Motivation (45.09) are with percentage score below 50%.

7.7.2.1 Quality of work

Perception of workers about the Quality of work is maximum at KKMCM (15.50) and it is minimum in ACSM (13.9722). There is no significant variation in the Quality of work among the eight spinning mills of Kerala.

Perception of supervisors about the Quality of work is maximum at MCSM (14.05) and it is minimum in ACSM (13.69). There is no significant variation in the Quality of work among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Quality of work is maximum at Simplex department (15.40) and it is minimum in Mixing department (13.60). There exist significant variations in the Quality of work among the various departments of spinning mills of Kerala.

7.7.2.2 Quantity of work

Mill-wise analysis shows that perception of workers about the Quantity of work is maximum at KKMCM (14.20) and it is minimum in PRICO (12.1429). There exist significant variation in the Quantity of work among the spinning mills.

Perception of supervisors and jobbers about the Quantity of work is maximum at CCSM (13.00) and it is minimum in PRICO and KKMCM (11.00). The perception of the supervisors and jobbers with regard to the Quantity of work among spinning mills is statistically significant, hence there is a variation in the Quantity of work among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Quantity of work is maximum at Comber Department (14.37) and it is minimum in Mixing Department (12.50). There is a significant variation in the Quantity of work among the various departments of spinning mills of Kerala.

7.7.2.3 Attitude towards Supervisors/Jobbers

Perception of workers about the Attitude towards Supervisors/Jobbers is maximum at CCSM (16.3846) and it is minimum in ACSM (14.1111). There is a

significant variation in the Attitude towards Supervisors/Jobbers among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Attitude towards Supervisors /Jobbers is maximum at CCSM (16.14) and it is minimum in TCSM (8.85). There is a significant variation in the Attitude towards Supervisor / Jobber among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Attitude towards Supervisors/Jobbers is maximum at Combber department (16.37) and it is minimum in Carding department (11.70). There is no significant variation in the Attitude towards Supervisors/Jobbers among the workers of various departments of spinning mills in Kerala.

7.7.2.4 Ability to undertake responsibility

Perception of workers about the Ability to undertake responsibility is maximum at KKMCM (12.40) and it is minimum in CCSM (9.6667). There is no significant variation in the Ability to undertake responsibility among the workers of eight spinning mills of Kerala.

Mill-wise analysis shows that perception of supervisors and jobbers about the Ability to undertake responsibility is maximum at TCSM (9.80) and it is minimum in KKMCM (8.66). There is a significant variation in the Ability to undertake responsibility among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Ability to undertake responsibility is maximum at Combber department (13.125) and it is minimum in Spinning department (9.359). There exist significant variation in the Ability to undertake responsibility among the various departments of spinning mills of Kerala.

7.7.2.5 Attitude towards discipline

Mill-wise analysis shows that perception of workers about the Attitude towards discipline is maximum at KKMCM (16.10) and it is minimum in TCSM

(14.1273). There exist significant variation in the perception of workers with regard to the Attitude towards discipline among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Attitude towards discipline is maximum at CCSM (15.57) and it is minimum in TCSM (12.50). There exist significant variation in the Attitude towards discipline among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Attitude towards discipline is maximum at Combbber department (16.00) and it is minimum in Carding department (13.90). There is no significant variation in the Attitude towards discipline among the various departments of spinning mills of Kerala.

7.7.2.6 Absenteeism

Perception of workers about the Absenteeism is maximum at CCSM (13.5128) and it is minimum in TCSM (8.3273). There is a significant variation in the perception of workers with regard to Absenteeism among the eight spinning mills of Kerala.

Mill-wise analysis shows that perception of supervisors and jobbers about the Absenteeism is maximum at CCSM (16.14) and it is minimum in TCSM (6.10). There is a significant variation in the Absenteeism among the eight spinning mills of Kerala.

Department-wise analysis shows that there is no significant variation in the Absenteeism among the various departments of spinning mills of Kerala.

7.7.2.7 Ability to grasp new ideas

Mill-wise analysis shows that perception of workers about the Ability to grasp new ideas is maximum at KKMCM (13.20) and it is minimum in PRICO (11.2857). There is no significant variation in the perception of workers with regard to Ability to grasp new ideas among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Ability to grasp new ideas is maximum at CCSM (11.00) and it is minimum in QCSM (10.06). There is a significant variation in the Ability to grasp new ideas among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Ability to grasp new ideas is maximum at Simplex Department (13.24) and it is minimum in Mixing department (10.70). There exist significant variation in the Ability to grasp new ideas among the various departments of spinning mills of Kerala.

7.7.2.8 Skill

Perception of workers about the Skill is maximum at KKMCM (11.40) and it is minimum in PRICO (7.7143). Difference in the perception of the workers with regard to the Skill among spinning mills is statistically not significant.

Mill-wise analysis shows that perception of supervisors and jobbers about the Skill is maximum at TCSM (8.40) and it is minimum in PRICO and KKMCM (6.00). There is a significant variation in the Skill among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Skill is maximum at Comber department (11.87) and it is minimum in Mixing department (8.00). There exist significant variation in the Skill among the various departments of spinning mills of Kerala.

7.7.2.9 Safety measures and working conditions

Mill-wise analysis shows that perception of workers about the Safety measures and working conditions is maximum at TCSM (12.0909) and it is minimum in PRICO (10.1143). There is no significant variation in the Safety measures and working conditions among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Safety measures and working conditions is maximum at TCSM (11.35) and it is minimum in KKMCM (8.66). The perception of the supervisors and jobbers with regard to the Safety

measures and working conditions among spinning mills is statistically significant, hence, there is a variation in the Safety measures and working conditions among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Safety measures and working conditions is maximum at Simplex department (13.56) and it is minimum in Mixing department (9.80). There exist significant variation in the Safety measures and working conditions among the various departments of spinning mills of Kerala.

7.7.2.10 Training

Mill-wise analysis shows that perception of workers about the Training is maximum at KKMCM (14.80) and it is minimum in ACSM (12.9444). There is no significant variation in the perception of workers regarding the Training among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Training is maximum at KKMCM (13.00) and it is minimum in TCSM (12.15). There is a variation in the Training among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Training is maximum at Simplex department (14.20) and it is minimum in Spinning department (12.81). There is a variation in the Training among the various departments of spinning mills of Kerala.

7.7.2.11 Wage payment

Perception of workers about the Wage payment is maximum at KKMCM (14.80) and it is minimum in ACSM (12.333). The perception of the workers with regard to the Wage payment among spinning mills is statistically not significant so there is no variation in the Wage payment among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Wage payment is maximum at KKMCM (12.33) and it is minimum in TCSM (11.55). There is a variation in the Wage payment among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the Wage payment is maximum at Simplex department (14.40) and it is minimum in Carding department (12.10). There is a variation in the Wage payment among the various departments of spinning mills of Kerala.

7.7.2.12 Facilities to employees

Mill-wise analysis shows that perception of workers about the Facilities to employees is maximum at CCSM (13.8205) and it is minimum in TCSM (11.2182). There exist significant variation in the Facilities to employees among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Facilities to employees is maximum at CCSM (14.71) and it is minimum in TCSM (9.75). There is a significant variation in the Facilities to employees among the eight spinning mills of Kerala.

There is no variation in the Facilities to employees among the various departments of spinning mills of Kerala.

7.7.2.13 Motivation

Perception of workers about the Motivation is maximum at CCSM (12.9744) and it is minimum in MCSM (9.4630). The perception of the workers with regard to the Motivation among spinning mills is statistically significant so there is a variation in the Motivation among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the Motivation is maximum at CCSM (14.857) and it is minimum in MCSM (7.55). The perception of the supervisors and jobbers with regard to the Motivation among spinning mills is statistically significant, so there is a variation in the Motivation among the eight spinning mills of Kerala.

There is no variation in the Motivation among the various departments of spinning mills of Kerala.

7.7.2.14 Labour productivity – Individual factors

Mill-wise analysis shows that perception of workers about the individual factors of labour productivity is maximum at KKMCM (111.80) and it is minimum in TCSM (94.6545). There is no significant variation in the individual factors of labour productivity.

Perception of supervisors and jobbers about the individual factors of labour productivity is maximum at CCSM (102.28) and it is minimum in TCSM (82.40). There is a significant variation in the individual factors of labour productivity among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the labour productivity – individual factors - is maximum at Comber Department (111.25) and it is minimum in Mixing Department (93.50). The difference in perception of the workers with regard to the labour productivity – individual factors - among departments is statistically significant.

7.7.2.15 Labour Productivity – Institutional factors

Mill-wise analysis shows that perception of workers with regard to the institutional factor of labour productivity is maximum at KKMCM (68.10) and it is minimum in ACSM (57.6944). The perception of the workers with regard to the institutional factors among spinning mills is statistically not significant hence there is no significant variation in the Perception about institutional factors of labour productivity.

Perception of supervisors and jobbers with regard to the institutional factor of labour productivity is maximum at CCSM (64.7143) and it is minimum in TCSM (52.750). The perception of the supervisors and jobbers with regard to the institutional factors among spinning mills is statistically significant, so there is a variation in the Perception about institutional factors of labour productivity among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the institutional factors is maximum at Simplex department (68.20) and it is minimum in Mixing Department (56.80). There is a variation in the institutional factors among the various departments of spinning mills of Kerala.

7.7.2.16 Labour Productivity – Total

Perception of workers about the total labour productivity is maximum at KKMCM (179.90) and it is minimum in TCSM (153.4727). The perception of the workers with regard to the total labour productivity among spinning mills is statistically not significant, hence there is no significant variation in the total labour productivity among the eight spinning mills of Kerala.

Perception of supervisors and jobbers about the total labour productivity is maximum at CCSM (167.0) and it is minimum in TCSM (135.15). The perception of the supervisors and jobbers with regard to the total labour productivity among spinning mills is statistically significant hence there is a variation in the total labour productivity among the eight spinning mills of Kerala.

Department-wise analysis shows that perception of workers about the total labour productivity total is maximum at Simplex department (178.60) and it is minimum in Carding department (149.00). The perception of the workers with regard to the factors among departments is statistically significant.

7.8 Results of Hypotheses Testing

As per the consolidated result of analysis of variance of Sales and Value of production, the first hypothesis, there exist significant difference in the Sales and Value of production of various spinning mills in Kerala, is accepted.

As per the consolidated result of analysis of variance of Cost of production and Net profit or loss, the second and third hypothesis, there exist significant difference in the Cost of production of various spinning mills in Kerala, there exist significant difference in the Net profit of various spinning mills in Kerala, are accepted.

As per the department wise difference in the perception of supervisors and jobbers with regard to various components of labour productivity, the fourth hypothesis, there exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity on various departments, is rejected.

As per the mill wise difference in the perception of supervisors and jobbers with regard to various components of labour productivity, the fifth hypothesis, there exist significant difference in the perception of supervisors and jobbers with regard to the labour productivity based on various spinning mills, is accepted.

As per the department wise difference in the perception of workers with regard to various components of labour productivity, the sixth hypothesis, there exist significant difference in the perception of workers with regard to the labour productivity on various departments, is accepted.

As per the mill wise difference in the perception of workers with regard to various components of labour productivity, the seventh hypothesis, there exist significant difference in the perception of workers with regard to the labour productivity based on various spinning mills, is rejected.

7.9 Conclusions

7.9.1 Growth pattern of cooperative spinning mills in kerala

The researcher examined the growth pattern of the selected variables. Considering the growth pattern of the whole cooperative spinning mills in Kerala together Power and fuel expense, Other variable cost, Employee cost, Total fixed expenses, Cost of production, Profit before depreciation, interest and taxes, Long term loans, Working capital loans, Total financial charges, Other incomes, Cash loss, Depreciation and Net loss are increasing. But Sales, Increase in stock, Value of production, Raw material cost, total variable expenses, other fixed expenses, and profit before depreciation and taxes are decreasing even though there is a fluctuation in some years.

There exist significant difference among various spinning mills in Kerala in the variables Sales, Value of production, Raw material cost, Power and fuel expense, Variable cost, Total variable expenses, Employee cost, Other fixed expenses, Total fixed expenses, Cost of production, Profit before depreciation interest and taxes, Long term loans, Working capital loans, Total financial charges, Profit before depreciation and taxes, other incomes, Cash profit or loss, depreciation and Net profit or loss. But there is no significant difference among various spinning mills in Kerala in the variable Increase or decrease in stock.

7.9.2 Perception of Supervisors and jobbers on labour productivity

As per the perception of supervisors and jobbers, the labour productivity of the components Quality of work, Attitude towards Supervisors/Jobbers, Attitude towards discipline and Training are significantly high. While considering the employees labour productivity components viz. Ability to undertake responsibility, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Facilities to employees and Motivation are significantly low. But in the case of the components Quantity of work and Wage payment the productivity is average.

There exist significant difference in the perception of supervisors and jobbers among various spinning mills of Kerala with regard to the institutional factors, individual factors and aggregate of labour productivity. Similarly there exist significant difference in the components of labour productivity viz., Quantity of work, Attitude towards Supervisors/Jobbers, Ability to undertake responsibility, Attitude towards discipline, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment, Facilities to employees and Motivation. But there is no significant difference in the perception of supervisors and jobbers with regard to the Quality of work.

Department wise comparison reveals that there is no significant difference in the institutional factors, individual factors and aggregate of the labour productivity. Similarly, there is no significant difference based on departments in the component of labour productivity viz., Quality of work, Quantity of work, Attitude towards

Supervisors/Jobbers, Ability to undertake responsibility, Absenteeism, Ability to grasp new ideas, Training, Wage payment, Facilities to employees and Motivation. But there exist significant difference in the perception of supervisors and jobbers with regard to the Attitude towards discipline, Skill, Safety measures and working conditions.

7.9.3 perception of workers on labour productivity

Perception of workers with regard to the labour productivity reveals that the components of labour productivity Quality of work, Attitude towards Supervisors/Jobbers, Attitude towards discipline, Quantity of work, Wage payment and Training are significantly high. Ability to undertake responsibility, Absenteeism, Ability to grasp new ideas, Skill, Safety measures and working conditions and Motivation are significantly low.

There is no significant difference in the perception workers among various spinning mills of Kerala with regard to the institutional factors, individual factors and aggregate of labour productivity. Similarly there is no significant difference in the perception of workers with regard to the Quality of work, Ability to undertake responsibility, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training and Wage payment. But there exist significant difference in the components of labour productivity viz., Quantity of work, Attitude towards Supervisors/Jobbers, Attitude towards discipline, Absenteeism, Facilities to employees and Motivation.

Department wise comparison reveals that there exist significant difference in the institutional factors, individual factors and aggregate of the labour productivity. Similarly, there exist significant difference based on departments in the component of labour productivity viz., Quality of work, Quantity of work, Ability to undertake responsibility, Ability to grasp new ideas, Skill, Safety measures and working conditions, Training, Wage payment and Motivation. But there is no significant difference in the perception of workers with regard to the Attitude towards Supervisors/Jobbers, Attitude towards discipline, Absenteeism and Facilities to employees.

7.10 Suggestions for implementation

Based on the findings and conclusions of the study, the researcher put forward the following suggestions to improve the functioning of cooperative spinning mills in Kerala.

The study has identified that the cost of Power and fuel, Long term loan interest, Employee cost, Total cost of production and Net loss of all cooperative spinning mills increasing year by year. It also revealed that Sales is decreasing year by year. So all the cooperative spinning mills may take necessary steps to reduce the total cost of production by reducing the power and fuel cost and employee cost. Alternative arrangements like solar panel can be considered for power. Long term loan interest is another burden for all cooperative spinning mills. It can be reduced by finding new source of loans at cheaper interest rates. Most of the spinning mills didn't get fair prices for their products because of the intervention of agents for sale, So direct sale to the needed companies may be introduced by avoiding intermediaries.

The perception of both supervisors and workers to labour productivity components, Absenteeism, Safety measures and working conditions, facilities to employees and Motivation shows significantly low in all cooperative spinning mills. Necessary steps may be taken to rectify this. Punching system for marking employee attendance may be introduced in all spinning mills. Safety measures and working conditions have to be improved. Gloves, masks and proper working uniform may be implemented in all spinning mills. Proper cooling system, fire extinguishers, drinking water facility etc. may be implemented inside the factory. To create motivation among the workers monetary and non monetary incentives may be provided to workers.

LTA (Long Term Agreement), which reveals the new wage structure, terms and conditions of work etc. may be renewed periodically. As far as considered to other industries the wage payment system is comparatively low in spinning mill industry. It may be enhanced.

Necessary steps may be taken to stock raw materials at the time of low prices, for modernization of machines periodically, to find new markets for company's products at higher cost.

For appointing employees in cooperative spinning mills, generally the candidates are directly interviewed by the committee appointed for this purpose . Therefore bribery, Govt. interference . Political interference. Local politics, personal bias of the interview committee members etc. may question the quality of the interview. Hence it is recommended that a preliminary skill/practical test can be given to all candidates. Then the candidates can be interviewed . Marks should be awarded to the candidates according to the performance in the interview. Then by tabulating both the marks the final select list can be prepared. It may definitely help to select efficient and skilled persons from the candidates.

There may be a permanent and continuous arrangement for training to workers, supervisors and management personnel also.

Canteen services are to be much more beneficial to the employees. The companies may take necessary steps to avoid major complaints from the workers that the canteen facilities are not satisfactorily extended to them after office hours, especially to the night shift workers and lower subsidy for the food.

The workers may be encouraged to take care of their health and safety by taking maximum utility of health and safety measures provided by the companies. Health and safety education may be so provided as to arouse workers interest in the same.

The employees may be properly motivated by giving higher grade promotion and increments to qualified employees, offer cash awards to them for acquiring professional or additional qualifications.

Cost of production, Employee cost and Net loss are in the highest rate in MCSM among the cooperative spinning mills. The MCSM Management may take all the possible steps to improve the performance. Motivation is least in MCSM

among the spinning mills. The company may adopt new motivational techniques to overcome this.

In PRICO Power and fuel cost and Long term loan interest are in the highest rate among spinning mills. Alternative methods for power supply and low rate interest loans may be utilized to overcome this problem. Also it shows, quantity of production is least in PRICO among the spinning mills . This calls for the attention of PRICO Management to increase the production .

In TCSM total labour productivity shows minimum among the spinning mills. Also Discipline and Facilities to employees are least. Hence the TCSM Management may take immediate steps to address these problems.

In all spinning mills total labour productivity is minimum in Carding and Draw frame departments. All spinning mills may take necessary steps to improve the functioning of these departments.

The perception of both supervisors and workers to labour productivity components, Ability to undertake responsibility, Ability to grasp new ideas, Skill and Absenteeism shows significantly low in all cooperative spinning mills. Workers are advised to take leave only on exceptional cases. All training programmes may be attended by all the workers. The workers may watch new trends in the industry and try to practice it. All the workers may be always ready to undertake responsibility. Proper skill may be developed in the work undertaken by the workers.

7.11 Scope for further Research

Based on the present investigation, the following topics are found relevant for further research.

1. Study on the labour productivity of textile mills in Kerala
2. A comparative study on social responsibility and labour productivity of cooperative spinning mills in Kerala
3. An evaluative study on the strength and weakness of textile industry in India

4. Role of government in the functioning of cooperative spinning mills in Kerala
5. Role of labour unions in the functioning of spinning mills in Kerala
6. Marketing strategy of textile industry in Kerala
7. A comparative study on the functioning of private and public sector spinning mills in Kerala

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APPENDIX

APPENDIX -I

Serial No:

RESEARCH TOPIC - A study on labour productivity with special reference to co-operative spinning mills in Kerala.

QUESTIONNAIRE

This data are collected for the purpose of doing research, a part of Ph.D programme, and hence the data shall be confidentially maintained and will not disclose for any other purpose.

I. Personal details of worker/ supervisor/ Jobber.

1. Name :
2. Name of Institution :
3. Worker/ Supervisor/ Jobber : Worker Supervisor
Jobber
4. Sex : Male Female
5. Age :
6. Educational Qualification :
(a) SSLC (b) Plus Two
(c) Technical Education (d) Graduation
(e) Post Graduation
7. Marital Status : Married Unmarried
8. Department :
(a) Mixing (b) Blow room
(c) Carding (d) Draw frame
(e) Simplex (f) combber
(g) Spinning (h) Cone winding
(i) Cone Packing
9. Function of Department :
(a) Fully automated (b) Semi automated
(c) manual

10. Experience in this institution (in years):
11. If you are a Supervisor / Jobber, number of employees working under you:
- II.** Instruction – if you are a worker give details about you and if you are a supervisor / jobber give details about the workers working under you. After reading each item carefully and put a tick (√) mark against the response which you feel most appropriate.

Response Scale

VH- Very High	H- High	N- Neutral	L – low	VL- very low
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Sl. No.	Statements	Answer category				
		VH	H	N	L	VL
1	Interest for perfection in duty					
2	Tendency for maintaining good quality in the product of the company					
3	The attitude that my work is over loaded					
4	The mentality to improve job as per the directions of supervisors					
5	The tendency to do job more than a normal worker					
6	The tendency to be proud for the extra job done					
7	Interest to get additional wage for the extra job					
8	Mentality to work always in new machines					
9	Tendency to obey the directions of the supervisors					
10	Respect towards supervisors					
11	Tendency for asking doubts to supervisors					
12	Interest for discussing new ideas with supervisors and co- workers					
13	Interest to undertake new jobs					

14	Interest to undertake new jobs other than normally assigned					
15	Tendency to perform jobs after normal working time					
16	Mentality to help other employees					
17	Attitude to obey the rules of the company					
18	Tendency to work against the management decisions					
19	Gentle behavior towards co-workers					
20	Participation in labour union activities					
21	Tendency to avail eligible leaves					
22	Tendency to take leave without prior permission					
23	Tendency to demand a particular shift					
24	Tendency to attend work punctually after leisure time					
25	Mentality to grasps new changes					
26	Interest to study the working of new machines					
27	Interest to know the news trends in cotton industry					
28	Tendency to cope up with the new technologies adopted by the management					
29	Ability to deal with new machines					
30	Ability to work with machines by reducing waste					
31	Interest to work more than specified by LTA (Long Term Agreement)					
32	Ability to help SQC (Spinning Quality Check)					
33	Tendency to use mask and gloves					
34	Ability to use fire safety instruments efficiently					
35	Tendency to keep department clean					
36	Tendency to complaint about the infrastructural facilities of company					

37	Punctuality for attending training					
38	Interest for implementing new ideas received from training					
39	Tendency to compliant about the standard of training programme					
40	Ability to introduce new ideas, more than received from the training					
41	Mentality about the wage payment, that is enough for day today living					
42	Mentality to increased wage					
43	Mentality about the wage satisfaction by comparing with the other type of industries					
44	Tendency to compare wage payment with work load					
45	Standard of food received from the company canteen at subsidized rate					
46	Standard of ESI Medical benefits					
47	Standard of company quarters, rest room					
48	Mentality towards company policies about die in harness, accident compensation etc					
49	Mentality to get incentives by doing job more than LTA					
50	Interest to take stock, cleaning machines, helping other departments without any special instructions from supervisors					
51	Tendency to inform complaints immediately about machine, raw materials etc to higher authorities					
52	Attitude towards the appreciation received for the job					

...Thank you...

APPENDIX -II

FORMAT OF MONTHLY PERFORMANCE REPORT OF COOPERATIVE SPINNING MILLS

A	SALES		XXXXXXXX
B	INCREASE/DECREASE IN STOCK		XXXXXXXX
C	VALUE OF PRODUCTION (A+B)		XXXXXXXX
D	VARIABLE EXPENSES		
	1-Raw material cost	XXXX	
	2-Power and fuel	XXXXX	
	3-All other variable cost	XXXXX	XXXXXXXX
E	FIXED EXPENSES		
	1-Employee cost	XXXXX	
	2-All other fixed expenses	XXXXX	XXXXXXXXXX
F	COST OF PRODUCTION (D+E)		XXXXXXXX
G	PROFIT BEFORE DEPRECIATION,INTEREST AND TAXES(C-F)		XXXXXXXX
H	FINANCIAL CHARGES		
	1-Long term loans	XXXXXXXX	
	2-working capital loans	XXXXXXXX	XXXXXXXXXX
I	PROFIT BEFORE DEPRECIATION AND TAXES(G-H)		XXXXXXXX
J	OTHER INCOME		XXXXXXXX
K	CASH PROFIT/LOSS (I+J)		XXXXXXXX
L	DEPRECIATION		XXXXXXXX
M	NET PROFIT/LOSS (K-L)		XXXXXXXX

DIRECTORATE OF RESEARCH, UNIVERSITY OF CALICUT

General format for submitting Report on Peer-reviewed Research Publication (latest first)

Sl. No	Authors in order and Title of Publication*	Journal Name, Volume, Number, Year & Digital Object Identifier (DOI) Number	International/National*	Publisher with ISSN	Web Address of the Journal	Indexed by***	Impact factor if any
1	Anil.P.M.& Dr. Philo Francis <i>A STUDY ON THE HUMAN RESOURCE MANAGEMENT AND CORPORATE SOCIAL RESPONSIBILITY OF COOPERATIVE SPINNING MILLS IN KERALA</i>	PARIPEX - INDIAN JOURNAL OF RESEARCH Volume-8 Issue-4 April-2019 Journal DOI : 10.15373/22501991	International (UGC Sr. No.4743 2)	PARIPEX - indian journal of research, ISSN No 2250-1991	www.paripelex.in	Google scholar, IISS, DRJI, ISI, EZ3, Cross Ref.	6.761
2	Anil.P.M.& Dr. Philo Francis. <i>A study on the Labour productivity of co-operative spinning mill employees and social responsibility of the management</i>	MIRROR , June 2018 Vol.8 .No.4-A PAGE-208-214	International	Scholars Association of kerala. ISSN-2249-8117	thomascenhanc hira@gmail.com	UGC Approved journal (No.64 272)	
3	ANIL.P.M <i>A study on the Labour productivity of employees in Malappuram co-operative spinning mills Limited</i>	MANAGEMENT RESEARCHER June 2018. VOL.XXV NO.1 Pages- 102-109	National	Institute of Management Development and Research, Thiruvananthapuram. ISSN.2230-8431	imdrtvm@yahoo.com	UGC Approved journal (No.63 925)	

*The applicant/candidate should be first author or the corresponding author; review papers may not be entertained.

**Preference may be given to International Journals.

***Agency which popularises the publication, e.g., google scholar, scopus, etc.

Specific Remark/recommendation of the Chairperson, PGBS /Head of the Research Centre, based on the above criteria:

Signature with date
Name & Designation
Address