



A STUDY ON DETERMINANTS OF PROBLEMS OF COIR INDUSTRY IN INDIA WITH SPECIAL REFERENCE TO COIMBATORE DISTRICT

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Abstract

The coir industry is one of the agro-based and traditional industries. It is a labour intensive rural industry and it plays a vital role in the rural economy of India. Coir and coir products is base for living of the people in both rural and urban areas. However, there are number of problems arise practically at every stage from collection of raw materials to marketing of coir products like coir fibre, coir yarn, coir rope and coir matting's. Therefore, it is need to review what is feasible and what is not feasible among the various activities listed in the present context and future of coir products sector in the country. The study is mainly based on the primary data which are collected through a structured questionnaire. Two hundred and forty units were selected through random sampling method. Determinants of problems of coir industry has been analysed by using statistical tools like Percentage and Chi-square Test. Capital is the financial asset of the any business and is used to generate wealth through investment. Hence in this analysis, the variable – capital is compared with the other variables, such as supply of power, supply of labour, labour co-ordination, labour performance, availability of raw material, etc.

The study found that the variables, such as labour cost, concessions offered by the Government, problem of exports, concession on marketing facilities, technical training, import of machinery and import of materials are significantly associated with the variable – capital whereas the variables, such as supply of power, supply of labour, labour co-ordination, labour working performance, availability of raw material, raw material cost, transport cost, cost of power, overhead cost, less product innovation and the concession for new product innovation, tax concession, subsidy and excise duty are not associated with the capital. From the view point of the objectives and findings of this study it suggested various measures to improve coir industry in future.

Key words: Capital, Coir Products, Marketing, Government Assistance, Product Innovation, Overhead Cost, etc.

INTRODUCTION

The coir industry in India is an important cottage industry, especially in the rural sector providing with employment. It is highly labour-intensive industry covering a wide range of activities including collection of husk, retting, fibre extraction, spinning and manufacture of coir and coir products. Coir industry mainly supports the economically weaker section of the rural population. About 80 per cent of the workers in the coir industry are women. Development of the industry depends on the availability of the basic raw material which is obtained from coconut. Therefore, coconut is of great relevance in the coir sector. India stands as the third largest coconut producing country with 23 per cent of the world coconut production. India accounts for more than two-thirds of the world production of coir and coir products. Coconut husk is the basic raw material for coir products and around 50 per cent of the available coir husk is used to produce coir products. Hence, there is scope for growth of coir industry in India. Production of coir products is based on the actual exports and estimated consumption in producing centres (Das B. R., and Hati S., 2010).

Because of its versatility, there is a great demand for coir products all over the world. Coir Board, through its research and development wing, keeps on finding new products for newer usage. "Coir products are known for its resistance to microbiological attack. There are different types of coir and coir products. They are Coir fiber, coir yarn, floor mats, handloom mats, handloom mattings, power loom mat, power loom mattings, geo-textiles, rubberized coir, tufted mat, coir rugs, coir carpets, curled coir, mattresses, coir ropes, anti-weed blankets, erosion control blankets, fishing nets, coir polymer composites, coir pith - a by-product, coir poles and coir needled felt. With this background, the present paper analysed the determinants of problems of coir industry in Coimbatore District.

STATEMENT OF THE PROBLEM

The coir industry is one of the agro-based and traditional industries. It is a labour intensive rural industry and it plays a vital role in the rural economy of India. Coir and coir products is base for living of the people in both rural and urban areas. However, there are number of problems arise practically at every stage from collection of raw materials to marketing of coir products like coir fibre, coir yarn, coir rope and coir matting's. The studies earlier by experts and researchers like Mukharjee P.S (2001), Leela Menon (2007), Kumaresan A. (2009), Rajendran S. (20011), Menon N. Madhava (2013), etc., concentrated mainly on utilization of coir pith, women in coir, coir exports, coir co-operatives, technological changes in coir industry, etc. .There has been no serious attempt in the literature reviewed to analyze the determinants of problems of coir industry.

Therefore, it is need to review what is feasible and what is not feasible among the various activities listed in the present context and future of coir products sector in the country. These problems have encouraged the researcher to analyse the determinants of problems of coir industry in Tamil Nadu with special reference to Coimbatore District. The Coimbatore District surrounding area possessing the bulk resources of coconut husks definitely have wider opportunities to support Indian coir industry.

OBJECTIVES

The objectives of the study are as follows,

1. To analyse the determinants of coir industry problems in Coimbatore District.
2. To suggest suitable policies for further improvement of coir industry.

RESEARCH METHODOLOGY

The research design adopted for the study is both descriptive and analytical in nature. The study was conducted from April 2011 to March 2013. The study is mainly based on the primary data and was collected from the sample of coir units in Coimbatore District. Secondary information was also collected from Annual Reports of Coir Board, Kochi, Kerala, Central Coir Research Institute, Alappuzha, Kerala, various books, journals and websites relevant to the coir industry. Primary data was collected through a structured questionnaire. Two hundred and forty units were selected through random sampling method. Determinants of problems of coir industry has been analysed by using statistical tools like Percentage and Chi-square Test. The study is restricted to the Coimbatore District as it is evident that the more number of coir units are functioning in this area which has suffered from various problems related to production, labour, marketing, etc.,

DETERMINANTS OF COIR INDUSTRY PROBLEMS

One of the objectives of the study is to analyse the problems faced by the respondent coir units in Coimbatore District. There are number of factors determining problems in coir industry. Chi-square analysis was used to find out the determinants of coir industry problems. Capital is the money or wealth needed to produce goods and services. All businesses must have capital in order to purchase assets and maintain their operations. Capital is more durable and is used to generate wealth through investment. To create wealth, capital must be combined with labour, the work of individuals who exchange their time and skills for money. Hence the variable i.e., capital is compared with the other variables, such as supply of power, supply of labour, labour co-ordination, etc, and the results are presented and interpreted in the following tables.

Table – 1, Capital and Supply of Power, Supply of Labour, Availability of Raw Material

Category/ Capital (Value in Rs.)	Supply of Power			Supply of Labour			Availability of Raw Material		
	Sufficient	Scarcity	Total	Sufficient	Scarcity	Total	Sufficient	Scarcity	Total
Category A Below 10 lakh	6	0	6	4	2	6	4	2	6
	(100.00)	(00.00)	(100.00)	(66.70)	(33.30)	(100.00)	(66.70)	(33.30)	(100.00)
Category B 10 to 15 lakh	6	2	8	8	0	8	4	4	8
	(75.00)	(25.00)	(100.00)	(100.00)	(00.00)	(100.00)	(50.00)	(50.00)	(100.00)
Category C 15 to 20 lakh	6	2	8	6	2	8	4	4	8
	(75.00)	(25.00)	(100.00)	(75.00)	(25.00)	(100.00)	(50.00)	(50.00)	(100.00)
Category D Above 20 lakh	146	72	218	148	70	218	96	122	218
	(67.00)	(33.00)	(100.00)	(67.90)	(32.10)	(100.00)	(44.00)	(56.00)	(100.00)
Total	164	76	240	166	74	240	108	132	240

Source: Primary Data

H₀: Capital is not associated with supply of power

The percentage of manufacturers whose opinion on supply of power is sufficient is found high among manufacturers, who promoted their unit by investing an amount less than Rs. 10 lakh. The percentage of manufacturers whose opinion on supply of power is insufficient is found high among manufacturers, who have promoted their unit by investing an amount more than Rs. 20 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there does not exist any significant association between capital and supply of power. Hence, the null hypothesis is accepted.

H₀: capital is not associated with supply of labour.

The percentage of respondent opinion on supply of labour is sufficient is found high among manufacturers, who have promoted their unit by investing an amount ranges Rs. 10 lakh to Rs. 15 lakh and the percentage of respondent opinion on supply of labour scarce is found high among the respondent units who have promoted their business by investing an amount less than Rs. 10 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and supply of labour. Hence, the null hypothesis is accepted.

H₀: Capital is not associated with availability of raw material.

The percentage of manufacturers who are of opinion that the availability of raw material is found high among the coir manufacturers, who have established their units with the investment of below Rs. 10 lakh (category A) and the percentage of manufacturers whose opinion on non-availability of raw material is found to be high among manufacturers, who have promoted their unit by investing an amount more than Rs. 20 lakh (category D). As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and availability of raw material. Hence, the null hypothesis is accepted.

TABLE – 2, Capital and Labour Co-ordination, Labour Working Performance

Category/ Capital (Value in Rs.)	Labour Co-ordination				Labour Working Performance			
	Very Good	Good	Poor	Total	Very Good	Good	Poor	Total
Category A Below 10 lakh	0	4	2	6	0	4	2	6
	(00.00)	(66.70)	(33.30)	(100.00)	(00.00)	(66.70)	(33.30)	(100.00)
Category B 10 to 15 lakh	2	6	0	8	2	6	0	8
	(25.00)	(75.00)	(00.00)	(100.00)	(25.00)	(75.00)	(00.00)	(100.00)
Category C 15 to 20 lakh	0	8	0	8	0	8	0	8
	(00.00)	(100.00)	(00.00)	(100.00)	(00.00)	(100.00)	(00.00)	(100.00)
Category D Above 20 lakh	26	160	32	218	24	176	18	218
	(11.90)	(73.40)	(14.70)	(100.00)	(11.00)	(80.70)	(8.30)	(100.00)
Total	28	178	34	240	26	194	20	240

Source: Primary Data

H₀: Capital is not associated with labour co-ordination

The percentage of manufacturers whose opinion on labour co-ordination is found very good among the manufacturers, who have established their units by investing an amount ranging between Rs.10 lakh to Rs. 15 lakh. The percentage of manufactures, whose opinion on labour co-ordination is satisfactory, is found high among the manufacturers who have established their units with the investment of below Rs. 10 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and labour co-ordination. Hence, the null hypothesis is accepted.

H₀: Capital is not associated with Labour Working Performance

The percentage of manufacturers whose opinion on labour working performance is very good is found high among manufacturers, who have promoted their unit by investing an amount ranges between Rs. 10 lakh to Rs.15 lakh (category B). The percentage of manufacturers whose opinion on labour working performance is good is found high among manufacturers, who have promoted their unit by investing an amount ranges between Rs.15 lakh to Rs. 20 lakh. The percentage of manufacturers who think that labour working performance is poor is found high among manufacturers, who have promoted their unit by investing an amount less than 10 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there does not exist any significant association between capital and labour working performance. Hence, the null hypothesis is accepted.

TABLE – 3Capital and Raw Material Cost, Transport Cost, Labour Cost

Category/ Capital (Value in Rs.)	Raw Material Cost			Transport Cost				Labour Cost			
	High	Very High	Total	Low	High	Very High	Total	Low	High	Very High	Total
Category A Below 10 lakh	2	4	6	0	5	1	6	0	4	2	6
	(33.30)	(66.70)	(100.00)	(00.00)	(83.30)	(16.70)	(100.00)	(00.00)	(66.70)	(33.30)	(100.00)
Category B 10 to 15 lakh	3	5	8	1	5	2	8	0	2	6	8
	(37.50)	(62.50)	(100.00)	(12.50)	(62.50)	(25.00)	(100.00)	(00.00)	(25.00)	(75.00)	(100.00)
Category C 15 to 20 lakh	1	7	8	0	6	2	8	1	2	5	8
	(12.50)	(87.50)	(100.00)	(00.00)	(75.00)	(25.00)	(100.00)	(12.50)	(25.00)	(62.50)	(100.00)
Category D Above 20 lakh	102	116	218	25	137	56	218	1	99	118	218
	(46.80)	(53.20)	(100.00)	(11.50)	(62.80)	(25.70)	(100.00)	(00.50)	(45.40)	(54.10)	(100.00)
Total	108	132	240	26	153	61	240	2	107	131	240

Source: Primary Data

H₀: Capital is not associated with raw material cost

The percentage of manufacturers who are of opinion that cost of raw material is very high is found high among the coir manufacturers, who have established their units with the investment of between Rs. 15 lakh to Rs. 20 lakh (category C) and the percentage of manufacturers who feel that the cost of raw material is high, is found to be high among manufacturers, who have promoted their unit by investing an amount of more than Rs. 20 lakh (category D). As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and raw material cost. Hence, the null hypothesis is accepted.

H₀: Capital is not associated with transport cost

The percentage of manufacturers whose opinion on transport cost is very high, is found high among respondent units, who have promoted their unit by investing an amount more than Rs. 20 lakh (category D). The percentage of manufacturers, who are of opinion that transport cost is high, is found high among manufacturers, who have established their units with the investment of below Rs.10 lakh (category A) and the percentage of manufacturers whose opinion on transport cost is low, is found high among manufacturers, who have promoted their unit by investing an amount which ranges between Rs. 10 to Rs.

15 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and transport cost. Hence, the null hypothesis is accepted.

H₀: Capital is not associated with labour cost

The percentage of respondent units whose opinion on labour cost is very high, is found high among coir units, who have established their business by investing capital which ranges between Rs. 10 lakh to Rs. 15 lakh (category B), the percentage of respondents units whose opinion on labour cost is high, is found high among the manufacturers who have established their units with the investment of below Rs. 10 lakh (category A) and percentage of respondents units on labour cost is low, is found high among the respondent units who have promoted their unit with the investment ranges between Rs. 15 lakh to Rs. 10 lakh. As the calculated Chi-square value is greater than the table value at one per cent level, there exists significant association between capital and labour cost. Hence, the null hypothesis is rejected.

Table – 4, Capital and Problem on Exports, Concessions Expected, Tax Concession, Marketing Facilities

Category/ Capital (Value in Rs.)	Problem on Exports			Concessions Expected			Tax Concession			Marketing Facilities		
	Yes	No	Total	Yes	No	Total	Yes	No	Total	Yes	No	Total
Category A Below 10 lakh	2	4	6	2	4	6	0	6	6	0	6	6
	(33.30)	(66.70)	(100.00)	(33.30)	(66.70)	(100.00)	(00.00)	(100.00)	(100.00)	(00.00)	(100.00)	(100.00)
Category B 10 to 15 lakh	4	4	8	0	8	8	2	6	8	0	8	8
	(50.00)	(50.00)	(100.00)	(00.00)	(100.00)	(100.00)	(25.00)	(75.00)	(100.00)	(00.00)	(100.00)	(100.00)
Category C 15 to 20 lakh	8	0	8	0	8	8	0	8	8	4	4	8
	(100.00)	(00.00)	(100.00)	(00.00)	(100.00)	(100.00)	(00.00)	(100.00)	(100.00)	(50.00)	(50.00)	(100.00)
Category D Above 20 lakh	148	70	218	36	182	218	30	188	218	60	158	218
	(67.90)	(32.10)	(100.00)	(16.50)	(83.50)	(100.00)	(13.80)	(86.20)	(100.00)	(27.50)	(72.50)	(100.00)
Total	162	78	240	38	202	240	32	208	240	64	176	240

Source: Primary Data

H₀: Capital is not associated with problem on export

The percentage of manufacturers whose opinion on problems on exporting goods is found high among manufacturers, who have promoted their unit by investing an amount between Rs. 15 lakh to Rs.20 lakh. The percentage of manufacturers, who are of opinion that they have no problems while exporting the goods, is found high among manufacturers, who have promoted their unit by investing an amount less than Rs. 10 lakh (category A). As the calculated Chi-square value is greater

than the table value at five per cent level, there exists significant association between capital and problems on export. Hence, the null hypothesis is rejected.

H₀: Capital is not associated with concessions expected from the Government (New Innovative Products)

The percentage of manufacturers who require concessions for innovative coir products from the Government is found high among manufacturers, who have promoted their unit by investing an amount less than Rs.10 lakh. The percentage of manufacturers, who do not require concessions for new innovative coir products from the Government, is found high among manufacturers, who have promoted their unit by investing an amount ranges between Rs.10 lakh to Rs. 15 lakh and Rs.15 to Rs. 20 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and concessions expected from the Government (Innovative Product). Hence, the null hypothesis is accepted.

H₀: Capital is not associated with concessions expected from the Government (Tax Concession)

The percentage of manufacturers who are expects tax concession from the Government is found high among manufacturers, who have promoted their unit by investing an amount ranges between Rs. 10 lakh to Rs. 15 lakh. The percentage of manufacturers, who do not expect tax concession from the Government, is found high among manufacturers under A and C category. As the calculated Chi-square value is less than the table value at five per cent level, there exist no significant association between capital and concessions expected from the Government (Tax Concession). Hence, the null hypothesis is accepted.

H₀: Capital is not associated with concessions expected from the Government (Marketing Facilities)

The percentage of manufacturers who require marketing facility from the Government is found high among manufacturers, who have promoted their unit by investing an amount ranges between Rs. 15 lakh to Rs. 20 lakh. The percentage of manufacturers, who are not require marketing facility from the Government, is found high among A and B category manufacturers. As the calculated Chi-square value is greater than the table value at five per cent level, there exist significant association between capital and concessions expected from the Government (marketing facilities). Hence, the null hypothesis is rejected.

TABLE – 5.,Capital and Cost of Power, Overhead Cost, Less Production Innovation, Enough Concession is not Offered by Government

Category/ Capital (Value in Rs.)	Cost of Power				Overhead Cost				Less Production Innovation			Enough Concession is not Offered by Government		
	Low	High	Very High	Total	Low	High	Very High	Total	Agree	Disagr ee	Total	Agree	Disagr ee	Total
Category A Below 10 lakh	1	5	0	6	2	3	1	6	6	0	6	2	4	6
	(16.70)	(83.30)	(00.00)	(100.00)	(33.30)	(50.00)	(16.70)	(100.0)	(100.0)	(00.0)	(100.00)	(33.30)	(66.70)	(100.00)
Category B 10 to 15 lakh	1	7	0	8	2	4	2	8	8	0	8	0	8	8
	(12.50)	(87.50)	(00.00)	(100.00)	(25.00)	(50.00)	(25.00)	(100.0)	(100.0)	(00.0)	(100.00)	(00.0)	(100.0)	(100.00)
Category C 15 to 20 lakh	3	5	0	8	0	7	1	8	8	0	8	8	0	8

	(37.50)	(62.50)	(00.00)	(100.00)	(00.00)	(87.50)	(12.50)	(100.00)	(100.0)	(00.0)	(100.0)	(100.0)	(00.0)	(100.0)
Category D Above 20 lakh	32	178	8	218	24	148	46	218	210	8	218	82	136	218
	(14.70)	(81.70)	(3.70)	(100.00)	(11.00)	(67.90)	(21.10)	(100.0)	(96.30)	(3.70)	(100.0)	(37.60)	(62.40)	(100.0)
Total	37	195	8	240	28	162	50	240	232	8	240	92	148	240

Source: Primary Data

H₀: Capital is not associated with cost of power

The percentage of manufacturers who think that cost of power is very high is found high among manufacturers, who have promoted their unit by investing an amount of more than Rs.20 lakh. The percentage of manufacturers who feel that the cost of power is high is found high among manufacturers, who have promoted their unit by investing an amount ranges between Rs. 10 lakh to Rs. 15 lakh. The percentage of manufacturers whose opinion on cost of power is low is found high among manufacturers, who promoted their unit by investing an amount ranges between Rs. 15 lakh to Rs. 20 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and cost of power. Hence, the null hypothesis is accepted.

H₀: Capital is not associated with overhead cost

The percentage of respondents units whose opinion on overhead cost is very high, is found high among coir units, who have established their business by investing capital which ranges between Rs.10 lakh to Rs.15 lakh (category B), the percentage of respondents units whose opinion on overhead cost is high, is found high among the manufacturers who have established their units with the investment ranges between Rs.15 to Rs. 20 lakh and percentage of respondents units on overhead cost is low, is found high among the respondent units who have promoted their unit with the investment of below Rs. 10 lakh. As the calculated Chi-square value is less than the table value at five per cent level, there exist no significant association between capital and over head cost. Hence, the null hypothesis is accepted.

H₀: Capital is not associated with production innovation

It is inferred from the analyses that the percentage of manufacturers, who are of opinion on less production innovation, is maximum agreed by manufacturers who have promoted their unit by investing an amount ranges between Rs.10 lakh to Rs.20 lakh (category B). Only eight manufacturers, who have promoted their unit by investing an amount more than Rs.20 lakh, disagree with the less production innovation. As the calculated Chi-square value is less than the table value at five per cent level, there exists no significant association between capital and production innovation. Hence, the null hypothesis is accepted.

H₀: Capital is not associated with concession offered by Government

The percentage of manufacturers whose opinion on Government offer enough concession for coir production is found high among manufacturers, who have promoted their unit by investing an amount between Rs. 10 lakh to Rs. 15 lakh (category B). The percentage of manufacturers whose opinion on Government do not offer enough concession for coir production is found high among manufacturers, who have promoted their unit by investing an amount between Rs. 15 lakh to Rs. 20 lakh (category C). As the calculated Chi-square value is greater than the table value at one per cent level, there exists significant association between capital and concession offered by the Government. Hence, the null hypothesis is rejected.

Findings of the study

To find out factors which influence the coir industry problems is analysed by using Chi-square analysis. Capital is the financial asset of the any business and is used to generate wealth through investment. Hence in this analysis, the variable – capital is compared with the other variables, such as supply of power, supply of labour, labour co-ordination, labour performance, availability of raw material, less production innovation, government concession for coir production, problem on exporting goods, raw material cost, transportation cost, labour cost, cost of power and overhead cost.

The variables, such as labour cost, concessions offered by the Government, problem of exports, concession on marketing facilities, technical training, import of machinery and import of materials are significantly associated with the variable - capital. Hence the null hypotheses of these variables are rejected. And the variables, such as supply of power, supply of labour, labour co-ordination, labour working performance, availability of raw material, raw material cost, transport cost, cost

of power, overhead cost, less product innovation and the concession for new product innovation, tax concession, subsidy and excise duty are not associated with the labour. Hence, the null hypotheses of these variables are accepted.

SUGGESTIONS

From the view point of the objectives and findings of this study, the following suggestions which are focused on labour supply, concessions by the Government, problem of export production, quality, etc., can be helpful to improve coir industry in future.

- To reduce wage differentiation among male and female labours.
- To train the workers for quality improvement.
- To educate the workers on the best practices of yoga and meditation for better co-ordination.
- The Government may establish a separate department to safe guard the welfare of the coir industry workers and enforce labour welfare measures such as group insurance, provident fund and medical facilities for coir workers.
- Introduction of improved machines and appropriate technology.
- Automatic baling machine and coir fibre drier are the most important and needed technologies for maximising the fibre production and minimisation of cost of production.
- Training to the labour in operations, maintenance and quality betterment.
- To introduce financial assistance for technology up gradation and modernisation.
- Implementation of quality concepts and ISO certification.
- Publications of periodicals for sharing ideas and experiences.
- To accelerate the research and development progress association with University Research Centres.
- To introduce innovative/quality products.
- To create consumer awareness on coir products.

CONCLUSION

Coir has come a long way from the ancient uses to which it was put to the present. It is still being used for agricultural and domestic purposes. The demand for coir and coir products is on the increase for the last two or three decades both for traditional as well as new uses. New uses have changed not only markets but also the production economies of coir. The most important of which is the market for coir dust and pith which are of great demand in horticulture sector. Emphasis would be laid on mechanization in a phased manner without affecting employment to make Indian coir products competitive in the export market. Bio-degradability is the trait that places the coir on the top of the world with a promise for the future.

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