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## Supply chain management of Gharkul Masale Industry Pvt. Ltd., Amravati

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### Abstract

The present study examined the supply chain management practices of Gharkul Masale Pvt. Ltd., Amravati, with a focus on specialty spice products. It aimed to identify the supply chain structure, evaluate cost components and margins across different stakeholders, and assess the efficiency of two marketing channels. Primary data were collected through interviews and cost sheets, and analyzed using descriptive and comparative methods. Findings revealed that raw materials accounted for the highest share in production costs, while Channel II offered greater supply chain efficiency and higher profit margins compared to Channel I. Retailers incurred higher marketing costs than wholesalers, primarily due to rent, packaging, and transport expenses. The study also identified key constraints such as raw material unavailability and rising labor costs. Overall, the results emphasized the importance of optimizing marketing strategies and cost control to enhance supply chain performance and competitiveness in the spice industry.

**Keywords:** Supply chain management, Gharkul Masale Pvt. Ltd., present study

### Introduction

Spices have always held a significant place in Indian culture and economy, being an integral part of culinary traditions, home remedies, and regional cuisines. India continues to be a major producer and consumer of spices, with a wide variety of spice blends catering to diverse taste preferences across the country. The increasing demand for hygienically processed, conveniently packaged, and standardized spice products has led to the growth of organized spice processing units. As a result, spice-based agri-businesses are emerging as promising ventures for rural and semi-urban entrepreneurs. In this evolving landscape, Gharkul Masale Pvt. Ltd., located in Amravati district of Maharashtra, is a rising enterprise engaged in the production and distribution of blended spice powders. The unit specializes in products such as Mix Garam Masala, Mutton Masala, Pavbhaji Masala, Biryani Masala, and Chana Masala. These products are prepared using traditional formulations with an emphasis on quality, hygiene, and affordability. By sourcing raw materials locally and distributing products through wholesale and retail networks, the company contributes to local employment and supports the regional spice value chain. The present study focuses on analyzing the supply chain operations of Gharkul Masale Pvt. Ltd., including procurement, production, distribution, and marketing. It aims to assess the cost and margin structure across different supply chain channels, identify bottlenecks, and evaluate the overall efficiency of the system. By exploring these aspects, the study seeks to offer actionable insights for improving supply chain performance and promoting sustainable business practices in the spice processing sector.

### Objectives

1. To identify various supply chain of specialty spices products
2. To work out cost of supply chain wise cost and margin of specialty spices products.
3. To assess the supply chain efficiency of selected products

### Methodology

#### Area of study

The present study was conducted at C-43/1, MIDC Area, Amravati, and Maharashtra which are producing spices products.

**Source of data**

The primary data was collected by pretested schedule from concern officials, supervisors, skilled labours, etc. of selected firm by personal interview method regarding the production cost, returns, marketing, etc.

**Analytical tools fixed cost**

The fixed cost comprises expenses related to machinery, building, land, furniture, staff salaries, wages, electricity charges, taxes and other associated costs as gathered from the selected firm.

**Variable cost**

The variable cost includes expenditures incurred on the procurement of raw materials, wages of labours, electricity charges, machinery repairs and maintenance among other recurring expenses

**Total cost**

The total cost of processing was calculated by adding the fixed cost and the variable cost.

Total cost = Fixed cost + Variable cost

**Marketing cost**

The total cost includes expenses incurred by the producer and various intermediaries involved in the supply chain of spices products until the product reaches the consumer.

**Market margin**

Market margin refers to the difference between the price paid by the consumer and the price received by the producer, representing the earnings of intermediaries involved in the marketing process.

Market Margin = Selling price - (Purchase Price + Marketing Cost)

**Supply chain efficiency**

Supply chain efficiency is the ability of a supply chain to deliver products and services to customers in the most cost-effective, timely and resource-conscious way possible.

$$\text{Supply chain efficiency} = \frac{\text{Selling price}}{\text{Total supply chain cost}}$$

**Results and Discussion****Various supply chain of specialty spices products**

The analysis shows that Gharkul Masale Pvt. Ltd. distributes its products through both long and short supply chains. Channel I, involving commission agents and multiple intermediaries, supports distribution in rural and semi-urban regions where broader market reach is needed. Channel II, being more direct, reduces costs and improves efficiency especially in urban areas.

Channel I Manufacturer → Commission agent → Wholesaler → Retailer → Consumer

Channel II Manufacturer → Wholesaler → Consumer

**Supply chain wise cost and margin**

The evaluation of supply chain wise cost and margin of selected spice products offers a clear understanding of the expenses incurred across the supply chain and the profit margins retained by each market participant. This analysis is crucial for identifying cost-effective marketing channels and enhancing overall profitability.

**Table 1:** Capital investment of selected unit

Sr. No.	Particulars	Amount (Rs)	Percentage
1	Land	9000000	47.99
2	Building	6500000	34.66
3	Machinery	2933000	15.64
4	Furniture and Fixture	272000	1.45
5	Installation charges	50,000	0.27
	Total	18755000	100

Table 1 revealed that the total capital investment in the selected spice processing unit was Rs. 187.55 lakhs. Land and building accounted for the largest share with Rs. 90 lakhs spent on land and Rs. 65.00 lakhs on building. Machinery accounted for Rs. 29.33 lakhs while smaller amounts were spent on furniture at Rs. 2.72 lakhs and installation charges at Rs. 0.50 lakh

**Table 2:** Fixed cost of processing unit

Sr. No.	Particulars	Amount (Rs)	Percentage
1	Depreciation on building	325000	11.10
2	Depreciation on machinery	805724	27.51
3	Depreciation on furniture and fixtures	142721.42	4.87
4	Taxes, Insurance premium	80000	2.73
5	License fees	20000	0.68
6	Permanent staff (annual salary)	1428000	48.76
7	Interest on fixed capital	127344.54	4.35
8	Total fixed cost	2928789.96	100
9	Fixed cost per kg	2.31	
10	Total processed quantity(kg)	1270000	

Table 2 indicated that the total fixed cost of the spice processing unit was Rs. 29.29 lakhs. Permanent staff salaries formed the largest component at Rs. 14.28 lakhs, followed by depreciation on machinery at Rs. 8.06 lakhs and building at Rs. 3.25 lakhs. Other costs included depreciation on furniture, interest on fixed capital, taxes, insurance, and license fees. The fixed cost per kilogram was Rs. 2.31, based on a total processed quantity of 12.7 lakh kilograms.

**Table 3:** Production cost of mix garam masala (Rs/kg)

Sr. No.	Particulars	Cost (Rs)	Percent
1	Raw material	210.65	79.30
2	Packaging cost	5.99	2.25
3	Total L/U cost	13.46	5.07
4	Taxes	0.90	0.34
5	Subtotal	231.00	86.96
6	Interest on Variable cost (14%)	32.34	12.17
A	Total variable cost	263.34	99.13
B	Total fixed cost	2.31	0.87
C	Total cost/kg	265.65	100

Table 3 showed that the total production cost of one kilogram of Mix Garam Masala was Rs. 265.65. Raw materials formed the major component at Rs. 210.65 contributed 79.30 percent. Other expenses included packaging cost of Rs. 5.99, labour and utilities at Rs. 13.46, taxes of Rs. 0.90, interest on working capital of Rs. 32.34, and a fixed cost of Rs. 2.31.

**Table 4:** Production cost of mutton masala (Rs/kg)

Sr. No.	Particulars	Cost (Rs)	Percent
1	Raw material	222.3	79.70
2	Packaging cost	5.99	2.15
3	Total L/U cost	13.46	4.83
4	Taxes	0.90	0.32
5	Subtotal	242.65	86.99
6	Interest on Variable cost (14%)	33.46	12.18
A	Total variable cost	276.63	99.17
B	Total fixed cost	2.31	0.83
C	Total cost/kg	278.93	100

Table 4 showed that the total production cost of one kilogram of Mutton Masala was Rs. 278.93. Raw materials contributed the largest share at Rs. 222.30 accounted for 79.70 percent. Other costs included packaging at Rs. 5.99, labour and utilities at Rs. 13.46, taxes of Rs. 0.90, and interest on variable cost amounting to Rs. 33.46. The fixed cost per kilogram was Rs. 2.31.

**Table 5:** Production cost of pavbhaji masala (Rs/kg)

Sr. No.	Particulars	Cost (Rs)	Percent
1	Raw material	213	79.37
2	Packaging cost	6.01	2.24
3	Total L/U cost	13.46	5.02
4	Taxes	0.90	0.34
5	Subtotal	233.38	86.97
6	Interest on Variable cost (14%)	32.67	12.18
A	Total variable cost	266.05	99.14
B	Total fixed cost	2.31	0.86
C	Total cost/kg	268.36	100

Table 5 presented that the total production cost of one kilogram of Pavbhaji Masala was Rs. 268.36. Raw materials formed the largest component at Rs. 213 and accounted for 79.37 percent of the total cost. Packaging cost was Rs. 6.01, labour and utility charges were Rs. 13.46, and taxes

amounted to Rs. 0.90. Interest on variable cost was Rs. 32.67, while the fixed cost per kilogram stood at Rs. 2.31.

**Table 6:** Production cost of biryani masala (Rs/kg)

Sr. No.	Particulars	Cost (Rs)	Percent
1	Raw material	178.8	77.96
2	Packaging cost	5.99	2.61
3	Total L/U cost	13.46	5.87
4	Taxes	0.90	0.39
5	Subtotal	199.15	86.84
6	Interest on Variable cost (14%)	27.88	12.16
A	Total variable cost	227.04	98.99
B	Total fixed cost	2.31	1.01
C	Total cost/kg	229.34	100

Table 6 showed that the total production cost of one kilogram of Biryani Masala was Rs. 229.34. Raw materials contributed Rs. 178.80 and accounted for 77.96 percent of the total cost. Packaging cost was Rs. 5.99, labour and utilities were Rs. 13.46 and taxes amounted to Rs. 0.90. Interest on the variable cost was Rs. 27.88 while the fixed cost per kilogram was Rs. 2.31. Fixed costs were minimal at Rs. 2.31 while variable costs dominate, accounting for nearly 99 percent of the total cost.

**Table 7:** Production cost of chana masala (Rs/kg)

Sr. No.	Particulars	Cost (Rs)	Percent
1	Raw material	178.8	78.63
2	Packaging cost	5.99	2.43
3	Total L/U cost	13.46	5.47
4	Taxes	0.90	0.37
5	Subtotal	199.15	86.90
6	Interest on Variable cost (14%)	27.88	12.17
A	Total variable cost	227.04	99.06
B	Total fixed cost	2.31	0.94
C	Total cost/kg	229.34	100

Table 7 showed that the total production cost of one kilogram of Chana Masala was Rs. 229.34. Raw materials were the major component at Rs. 178.80 accounted for 78.63 percent of the total cost. Packaging cost was Rs. 5.99, labour and utility charges amounted to Rs. 13.46 and taxes were Rs. 0.90. Interest on the variable cost was Rs. 27.88, while the fixed cost per kilogram stood at Rs. 2.31.

**Table 8:** Supply chain wise cost and margin of speciality spices products for channel I (Rs/kg)

Sr. No.	Particulars	Mix garam masala	Mutton masala	Pavbhaji masala	Biryani masala	Chana masala
1	Manufacturer price	265.65	278.93	268.36	229.34	246.27
	i)Packaging charges	5.00	5.00	5.00	5.00	5.00
	ii)Advertisement charges	0.60	0.60	0.60	0.60	0.60
	iii)Trade discounts to agents	0.50	0.50	0.50	0.50	0.50
	iv)Sampling and exhibitions	0.30	0.30	0.30	0.30	0.30
	v)Commission agent charges	32.00	33.00	33.00	33.00	34.00
	Total marketing cost incurred by manufacturer	38.40	39.40	39.40	39.40	40.40
	Market margin	15.95	11.67	22.24	61.26	53.33
	Manufacturer Selling price	320.00	330.00	330.00	330.00	340.00
2	Wholesaler					
	Storage cost	1.12	1.12	1.12	1.12	1.12
	Handling cost	0.60	0.60	0.60	0.60	0.60
	Total marketing cost incurred by wholesaler	1.12	1.12	1.12	1.12	1.12
	Market margin	3.88	8.88	8.88	8.88	3.88
	Wholesaler Selling price	325.00	340.00	340.00	340.00	345.00
3	Retailer					
	Transportation cost	1.58	1.58	1.58	1.58	1.58

	Loading and unloading charges	1.48	1.48	1.48	1.48	1.48
	Rent of shop	4.93	4.93	4.93	4.93	4.93
	Packaging charges	1.33	1.33	1.33	1.33	1.33
	Total marketing cost incurred by retailer	9.31	9.31	9.31	9.31	9.31
	Market margin	15.69	10.69	10.69	10.69	5.69
4	Retailers selling rate/ Consumer purchase price	350.00	360.00	360.00	360.00	360.00

Table 8 showed that the manufacturer's selling price ranged from Rs. 320.00 to Rs. 340.00 per kilogram, with marketing costs between Rs. 38.40 and Rs. 40.40. Biryani Masala had the highest manufacturer margin at Rs. 61.26, while Mutton Masala had the lowest at Rs. 11.67. Wholesalers and

retailers incurred marketing costs of Rs. 1.12 and Rs. 9.31 respectively earned margins up to Rs. 8.88 and Rs. 15.69. The consumer price was Rs. 360.00 for all products except Mix Garam Masala priced at Rs. 350.00.

**Table 9:** Supply chain wise cost and margin of speciality spices products for channel II (Rs/kg)

Sr. No.	Particulars	Mix garam masala	Mutton masala	Pavbhaji masala	Biryani masala	Chana masala
1	Manufacturer price	265.65	278.93	278.93	268.36	229.34
	Packaging charges	5.00	5.00	5.00	5.00	5.00
	Advertisement charges	0.60	0.6	0.60	0.60	0.60
	Trade discounts to agents	0.50	0.5	0.50	0.50	0.50
	Sampling and exhibitions	0.30	0.3	0.30	0.30	0.30
	Platform fees	5.00	5.00	5.00	5.00	5.00
	Total marketing cost incurred by manufacturer	11.40	11.40	11.40	11.40	11.40
	Market margin	32.95	29.67	29.67	40.24	79.26
	Manufacturer Selling price	310.00	320	320.00	320.00	320.00
2	Wholesaler					
	Storage cost	1.12	1.12	1.12	1.12	1.12
	Handling cost	0.60	0.60	0.60	0.60	0.60
	Total marketing cost incurred by wholesaler	1.12	1.12	1.12	1.12	1.12
	Market margin	13.88	18.88	18.88	18.88	18.88
	Wholesaler Selling price	325.00	340	340.00	340.00	340.00
3	Retailer					
	Transportation cost	1.58	1.58	1.58	1.58	1.58
	Loading and unloading charges	1.48	1.48	1.48	1.48	1.48
	Rent of shop	4.93	4.93	4.93	4.93	4.93
	Packaging charges	1.33	1.33	1.33	1.33	1.33
	Total marketing cost incurred by retailer	9.31	9.31	9.31	9.31	9.31
	Market margin	15.69	10.69	10.69	10.69	10.69
4	Retailers selling rate/ Consumer purchase price	350.00	360	360.00	360.00	360.00

Table 9 showed that under Channel II, the manufacturer's selling price ranged from Rs. 310.00 to Rs. 320.00 per kilogram, with marketing costs of Rs. 11.40. Chana Masala yielded the highest manufacturer margin at Rs. 79.26. Wholesalers incurred Rs. 1.12 in marketing costs and earned margins up to Rs. 18.88. Retailers spent Rs. 9.31 and earned margins between Rs. 10.69 and Rs. 15.69. The consumer price was Rs. 360.00 for all products except Mix Garam Masala, which was priced at Rs. 350.00.

#### Assessment supply chain efficiency of selected products

The assessment of supply chain efficiency for the selected specialty spices Mix Garam Masala, Mutton Masala, Pavbhaji Masala, Biryani Masala, and Chana Masala revealed notable differences between the two distribution channels.

**Table 10:** Supply chain efficiency of selected products for channel I (Rs/kg)

Sr. No.	Particulars	Mix garam masala	Mutton masala	Pavbhaji masala	Biryani masala	Chana masala
1	<b>Manufacturer price</b>	265.65	278.93	268.36	229.34	246.27
	Marketing cost	38.40	39.40	39.40	40.40	40.40
	Market margin	15.95	11.67	22.24	70.26	53.33
	Manufacturer Selling price	320.00	330.00	330.00	340.00	340.00
	Landed cost	304.05	318.33	307.76	269.74	286.67
	Depot rate	320.00	330.00	330.00	340.00	340.00
	Vat (5%)	16.00	16.50	16.50	17.00	17.00
2	<b>Wholesaler</b>					
	Marketing cost	1.12	1.12	1.12	1.12	1.12
	Market margin	8.88	8.88	8.88	3.88	3.88
	Wholesaler Selling price	330.00	340.00	340.00	345.00	345.00
3	<b>Retailer</b>					
	Marketing cost	9.31	9.31	9.31	9.31	9.31
	Market margin	10.69	10.69	10.69	5.69	5.69
4	Consumer price/Retailers selling rate	350.00	360.00	360.00	360.00	360.00
5	Supply chain efficiency	1.06	1.04	1.08	1.21	1.15



Table 10 presented the supply chain efficiency of selected spices under Channel I. The efficiency ranged from 1.04 for Mutton Masala to 1.21 for Biryani Masala, indicated that Biryani Masala was the most efficient supply chain. Manufacturer prices varied between Rs. 229.34 and Rs.

278.93 with marketing costs highest for Chana and Biryani Masala at Rs. 40.40. Market margins and selling prices increased across the supply chain with the final consumer price fixed at Rs. 360.00 for most products and Rs. 350.00 for Mix Garam Masala.

**Table 11:** Supply chain efficiency of selected products for channel II (Rs/kg)

Sr. No.	Particulars	Mix garam masala	Mutton masala	Pavbhaji masala	Biryani masala	Chana masala
1	<b>Manufacturer price</b>	265.65	278.93	268.36	229.34	246.27
	Marketing cost	11.40	11.40	11.40	11.40	11.40
	Market margin	32.95	29.67	40.24	79.26	62.33
	Manufacturer Selling price	310.00	320.00	320.00	320.00	320.00
	Landed cost	277.05	290.33	279.76	240.74	257.67
	Depot rate	310.00	320.00	320.00	320.00	320.00
	Vat (5%)	15.50	16.00	16.00	16.00	16.00
2	<b>Wholesaler</b>					
	Marketing cost	1.12	1.12	1.12	1.12	1.12
	Market margin	13.88	18.88	8.88	23.88	23.88
	Wholesaler Selling price	325.00	340.00	340.00	345.00	345.00
3	<b>Retailer</b>					
	Marketing cost	9.31	9.31	9.31	9.31	9.31
	Market margin	15.69	10.69	10.69	5.69	5.69
4	Consumer price/Retailers selling rate	350.00	360.00	360.00	360.00	360.00
5	Supply chain efficiency	1.16	1.14	1.18	1.35	1.27

Table 11 showed that supply chain efficiency under Channel II ranged from 1.14 for Mutton Masala to 1.35 for Biryani Masala indicated higher efficiency compared to Channel I. Manufacturer prices remained consistent across both channels, while marketing costs were lower at Rs. 11.40. Biryani and Chana Masala recorded the highest manufacturer margins at Rs. 79.26 and Rs. 62.33 respectively. The consumer price was uniform at Rs. 360.00 for all products except Mix Garam Masala, which was sold at Rs. 350.00.

### Conclusion

The present study was undertaken to evaluate the economics and marketing of five speciality spice products Mix garam masala, Mutton masala, Pavbhaji masala, Chana masala produced by Gharkul masala industry at amravti. The analysis of supply chain-wise costs, margins, and efficiency across two distribution channels for Gharkul Masale's specialty spices reveals clear differences in performance. Channel II, characterized by fewer intermediaries and lower marketing expenses, consistently delivers higher supply chain efficiency across all five products. Notably, Biryani Masala achieves the highest efficiency in both channels, but especially excels in Channel II with a score of 1.35. In contrast, Channel I incurs higher costs mainly due to commission agent charges reducing margins at each level. Retailers face uniform marketing costs across products and channels, but margins are more favorable in Channel II. Overall, the findings suggest that a streamlined distribution model like Channel II not only enhances profitability for all stakeholders but also promotes better pricing efficiency throughout the supply chain.

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