

CHAPTER V

ECONOMICS OF PRODUCTION OF DIARIES

5.1 INTRODUCTION

Diary printing follows job shop production system. Job shop production industries are characterized by manufacturing of few quantities of products designed and produced as per the specification of customers within prefixed time and costs. The distinguishing feature of job shop is low volume and high variety of products.⁵¹ Job order type production applies to industries where products are to be manufactured against specific requirements of the customers.

5.2 FACTORS INFLUENCING DIARY PRODUCTION

Diary production system comprise of general purpose machines and facilities. Each diary variety or job demands a unique technological requirements, demands processing on machines in a certain sequence because of high varieties of diaries, scheduling becomes complicated. Planning for job order of a diary involves deciding the order or priority for jobs or the jobs waiting to be processed in order to achieve the desired objectives. The factors influencing the diary production are as follows:

- ♣ Utilization of available capacity
- ♣ Experience in printing
- ♣ More returns
- ♣ Family business
- ♣ Availability of trained labourers
- ♣ Ready finance
- ♣ Popular image of printing units
- ♣ Automation in diary production

⁵¹ T. Telsang, “*Production Management*”, New Delhi : S. Chand & Co., 2005, II Edition, p.12

5.2.1 Utilization of available capacity

Production capacity of a firm is the total level of output or production that it could produce in a given time period. Capacity utilization is the percentage of the firm's total possible production capacity that is actually being used. Diary business is seasonal in nature. Its production procedures would be started by the manufacturing unit after the demand for note books are completed. To utilize the available capacity, dairy printers are manufacturing more number of diaries as well as more number of diary varieties.

5.2.2 Experience in printing

Printers/diary printing units have more than 20 years of experience in their businesses. They can develop better production processes, secure the right raw material at the least cost, reduce production time, eliminate waste and ensure the best quality in their final products. Hence, they can go for new variety of diary production and they can deliver the diaries at the right time.

5.2.3 More returns

Diary price differs from one variety to another. Investment in diary printing unit has a promisable high returns that has caught the attention of promoters and businessmen across the town, Sivakasi. Moreover, diary price is determined as per consumer's needs and wants. Diary printing units are trying to reduce their fixed costs per unit by utilizing the available capacity; thereby diary manufacturers are enjoying the high returns.

5.2.4 Family business

Most of the printing units in Sivakasi are family run business. This is not an exception to diary units also. By succession, the ownership control of the printing unit passes from one generation of a family to another. Running a successful family business is all about right tactics and right implementation of the planning and strong relationships between the family members. A good strategic plan could take the family business much

ahead of the other competitors. One needs dedication, hard works, and innovative skills, to make a family business successful.

5.2.5 Availability of skilled workers in Sivakasi

Skilled worker is any worker who has some special skill, knowledge or ability in the work. In the dairy production process, the work of skilled labourers is essential. Most of the jobs in dairy production require some level of skill and speed. Skilled labourers bring some degree of expertise to the performance of a given job. They have lots of experience and are therefore more productive in their work. They are familiar with the environment. They can handle any kind of situation better than unskilled workforce. Dairy manufacturers retain them by providing some sort of incentives and bonus and engage them in dairy production.

5.2.6 Ready finance

Money is the lifeblood of a business and finance is the nerve center. Finance is required to promote or create a business, gain assets, develop products, run market surveys and advertise the products. Printing units require huge investment in machineries. Automation paves way for producing innovative dairy products.

5.2.7 Popular image of printing industry

Printing industry generates objects like Newspapers, Magazines, Books, Business Order forms, Post cards and Memo pads that come in use in our day to day life. Printing units in Sivakasi have their own image. Printers are engaged in various printing services like printing of calendars, labels, books, journals, magazines *etc.* Dairy manufacturing is one among the printing services. Manufacturers of printing units extend all the printing services throughout India. Thereby, Printers got high returns and popular image. Like other printing services, dairy printing provides huge returns and popular image.

5.2.8 Automation in diary production

Automation in production gives so many advantages to their producers. In olden days, diary production has so many manual processes. Every diary printing units try to adopt some mechanized process in the production. By adopting automation, innovative diaries are produced as per consumer's requisition. Semi automated diary units want to adopt fullest automation process in order to reach international market.

5.3 PROFITABILITY ANALYSIS OF A DIARY PRINTING UNIT

Profit is an excess of revenues over associated expenses for an activity over a period of time. Terms with similar meanings include 'earnings', 'income' and 'margin'. Lord Keyrees remarked that "Profit" is the engine that drives the business enterprise. Every business should earn sufficient profits to survive and grow over a long period of time. It is the index to the economic progress, improved national income and rising standard of living. No doubt, profit is the legitimate object, but it should not be over emphasized. Management should try to maximize its profit keeping in mind the welfare of the society. Thus, profit is not just the reward to owners but it is also related with the interest of other segments of the society. Profit is the yardstick for judging not just the economic, but the management efficiency and social objectives also.⁵²

5.3.1. Concept of Profitability

Profitability means ability to make profit from all business activities of an organisation. It shows how efficiently the management can make profit by using all the resources available in the market.⁵³ According to Harward and Upton, "Profitability is the ability of a given investment to earn a return from its use".

⁵² . www.entrepreneur.com/encyclopedia/term/8257.html

⁵³ . Prasanna Chandra, "*Financial Management – Theory and Practice*", Seventh Edition, New Delhi: Tata McGraw Hill Publishing Company Limited, 2008, p. 212

Profitability is an index of efficiency and is regarded as a measure of efficiency and management guide to greater efficiency. Measuring profitability is the most important aspect of the business. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on investment. Profitability analysis attempt to measure a company's ability to earn an adequate return relative to sales or resources devoted to operations.

5.3.2. Profitability Analysis

To evaluate the profitability of a diary printing unit, two fold analyses is undertaken as shown under:

- Profitability Analysis
- Break-Even Point Analysis

Generally, Profitability Analysis comprises the following measures.

- (i) Profit Margin on Sales
- (ii) Return on Investment

5.3.2a Profit Margin on Sales

This ratio measures an important dimension of a company's profitability. It indicates the portion of each rupee of revenue that is available to cover expenses. It offers a measure of the company's ability to withstand either higher expenses or lower expenses. This ratio helps to find out the profit arising out of the main business.⁵⁴

The Profit Margin on Sales is simply net income divided by net sales.

$$\text{Profit Margin on Sales} = \frac{\text{Net Income}}{\text{Net Sales}}$$

⁵⁴ M. Y. Khan & P K Jain, "*Financial Management – Text and Problems*", Fifth edition, New Delhi : Tata McGraw – Hill Publishing Company Limited, 2008, pp.6.18-6.19

5.3.2b Return on Investment (ROI)

ROI is a performance measure used to evaluate the efficiency of an investment. The purpose of “ROI” is to measure rates of return on money invested in an economic entity in order to decide whether or not to undertake an investment. For a single-period review, divide the return (Net Profit) by the resources that were committed (Investment)

$$\text{Return on Investment} = \text{Net Profit} / \text{Investment} \times 100$$

ROI is a profitability measure that evaluates the performance of a business by dividing net profit by net worth.

Return on Investment is a financial ratio intended to measure the benefit obtained from an investment. The most common use of ROI is to assess the profitability of a company based on investment. ROI can help to guide the entrepreneurs to where to put their money. Return on Investment (ROI) is a monetary measurement that is used to evaluate the efficiency and effectiveness of an investment made by an organization.⁵⁵

Return on Investment is a financial ratio that compares the amount of income derived from an investment with the cost of the investment. ROI is known as a profitability ratio, because it provides information about management’s performance in using the resources of the business to generate income. The general formula for computing ROI is Income/Invested Capital. In order to judge the efficiency with which the proprietor’s funds are employed in business, this ratio is ascertained.⁵⁶

5.3.3 BREAK-EVEN POINT ANALYSIS

Cost-Volume-Profit Analysis helps the management in profit planning. In order to increase the profit, a concern must increase the output. When the output is at maximum within the installed capacity, it adds to the contribution. In the words of Heiser, “The

⁵⁵ Ibid, pp. 6.21

⁵⁶ Dr. S. N. Maheshwari, “*Principles of Management Accounting*”, New Delhi: Sultan Chand & Sons, 2001, pp.6.21-6.22

most significant single factor in profit planning of the average business is the relationship between the volume of business, costs and profit". Thereby, Cost-Volume-Profit Analysis is the relationship among cost, volume and profit. When volume of output increases, unit cost of production decreases, and vice versa, because the fixed cost remains unaffected. If the output increases, the fixed cost per unit decreases. Therefore, profit will be more, when sales price remains constant. Generally, costs may not change in direct proportion to the volume. Thus, a small change in the volume will affect the profit. To know the cost volume profit relationship, a study of Break-Even analysis is essential.⁵⁷

Break-Even Analysis is a simple, but effective tool to evaluate the relationship between Sales Volume, Product Costs and revenue. It is certainly useful to calculate a current break-even point. Break-Even is the point at which revenues equal expenses. Until a firm reaches break-even, cost of materials, labor, rent and other expenses are greater than gross revenues. Once a firm passes the break-even point, revenues exceed expenses. After break-even, a portion of each rupee of sales contributes to profits. It is only when a diary printing unit passes break-even that profits begin to be generated. Break Even point for sales can be calculated by using the following formula.

$$\text{Break-Even Point} = \text{Fixed expenses} \times \text{Sales} / \text{Contribution.}$$

The researcher has made an attempt of profitability analysis of a semi-automated diary printing unit with the following assumptions and workings.

5.3.4. Assumptions for the profitability Analysis

The above two analysis are made with the following assumptions.

⁵⁷ James C. Van Horne & John M. Wachowicz Jr., "*Fundamentals of Financial Management*", New Delhi: Pearson Education (P.) Ltd., Indian Branch, 2005, p.360

1. Since the respondent (Diary printing unit) is engaged in more than 30 varieties, particularly three sizes of diaries are considered as Net Sales for profitability and Break-Even Analysis.
2. There is no unsold stock. All the produced diaries are sold.
3. Depreciation is considered as per normal rate.
4. Interest on Loan is considered as per normal rate (prevailing rate in Sivakasi)
5. Some of the monthly variable expenses are converted to one year for analysis purposes.
6. The respondent is having the owned Factory Building. Hence, rent for the factory building is not considered for the fixed cost calculations.

Workings

1. Production Capacity per annum:

Particulars	8¼" x 5¼" Size Economic	7" x 4¾" Size Mini	7¼" x 9" size Corporate
Capacity	10000	20000	10000
Rate (Wholesale price)	₹. 94	₹. 68	₹. 138
Total	9,40,000	13,60,000	13,80,000

2. Project Cost / Capital Investment

S.No.	Description	Amount (₹.)
1.	Fixed Capital	15,72,000
2.	Working Capital (one month)	2,48,000
3.	Preliminary Expenses	40,000
	Total	18,60,000

3. Means of Finance:

S.No.	Description	Amount(₹)
1.	Promoters' contribution	12,40,000
2.	Loan (from Bank)	6,20,000
	Total	18,60,000

4. Cost of Production (P.A.)

S.No.	Description	Amount(₹)
1.	Total Working Capital	29,76,000
2.	Depreciation @15%	2,35,800
3.	Interest @ 12%	74,400
	Total	32,86,200

5. Turnover (per year)

S.No.	Description	Amount (₹)
1.	Economic size diaries	9,40,000
2.	Mini size diaries	13,60,000
3.	Corporate diaries	13,80,000
	Total	36,80,000

6. Fixed Capital

S.No.	Description	Amount(₹)
1.	Land and Buildings	8,00,000
2.	Machinery and Equipment	5,00,000
3.	Furniture and Fittings	26,500

4.	Mobile phone	5,800
5.	Tools and Accessories	3,000
6.	Motor Van	2,10,000
	Total Assets	15,72,000

7. Working Capital

S.No.	Description	Amount(`.)
1.	Salaries and Wages (per year)	3,58,000
2.	Raw Material (per year)	24,03,100
3.	Utilities (per year)	43,940
4.	Other expenses (per year)	
	Repairs & Maintenance (per year)	69,500
	Travelling Expenses (per year)	95,500
	Postage, Telephone (per year)	5,960
	Total	29,76,000

8. Fixed Cost (per year)

S.No.	Description	Amount(`.)
1.	Depreciation	2,35,800
2.	Interest	74,400
3.	Salaries and wages @60%	2,14,800
4.	Other expenses including utilities @ 60%	1,28,940

	Total	6,53,940
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Profitability Analysis of a Diary Printing Unit

- 1) Net profit - ₹ 3,93,800
- 2) Percentage of profit on Sales - 10.7%
- 3) Percentage of Return on Investment – 21.17%
- 4) Break Even Point – 66.12%

5.4 COST OF PRODUCTION OF DIARIES

The cost of production of one diary differs from one another on the basis of its features, inner requirements, binding methods used in the diary. In this study, the cost of production of economic size diary, mini size diary, and large size diary with special features like PVC cover diary, mat cover diary, commercial diary, executive diary and corporate diary has been taken into account.

5.4.1 Cost of Production of Economic Size Diary

(Economic size/Single date/PVC cover)

The features of Economic Size diary are as below:

Diary size	: 8 ¼” X 5 ¼” (Economic size/Single date/PVC cover)
No. of colours applied	: 1+1
Paper size used	: 56 X 86 cm
Weight of papers used	: 14.4 Kg
Grammage used	: 60 GSM
Type of paper used	: Maplitho

Price of the paper : ₹. 58 per kg
No. of forms used : 10 ½
Cover of the diary : Rexin
Binding method : PVC cover binding
Total no. of reams used : 21

TABLE 5.1
COST SHEET OF ECONOMIC SIZE DIARY (SINGLE DATE/PVC COVER)

Elements of cost	Cost for 1000 diaries (in `.)	Per diary (in `.)
Paper cost	17,625	17.625
Prepress expenses	5,000	5.000
Printing charges	5,500	5.500
Waste (3%)	525	0.525
Folding charges (four fold)	420	0.42
Gathering Charges	55	0.055
Stitching Charges	880	0.88
End paper cost	833	0.833
Binding cost	350	0.35
Grey Board	571	0.571
PVC material cost	2,461	2.461
Welding charges	120	0.120
Cutting charges	500	0.500
Cost of production	34,840	34.840
Cost (in % to sales)	55.30 %	
Sales	63000	63.00

Source: Primary data

It is understood from Table 5.1 that the cost of production of Economic size/Single date/PVC cover is ` . 34.84 per diary and it is sold at a price of ` . 63.00. Hence, its percentage to sales is 55.30%.

5.4.2 Cost of production of Mini Size Diary (single date/PVC cover)

The features of Mini size diary (single date/PVC cover) are as follows:

Diary size	: 7" X 4 ¾" - Mini size/single date/PVC cover
No. of colours	: 1+1
No. of forms	: 10 ½
Paper size used	: 49.5 X 72.5 cm
Weight of papers used	: 10.75 Kg
Type of the paper used	: Maplitho
Grammage used	: 60 GSM
Price of the paper	: ` . 52 per kg
Cover of the diary	: Rexin
Binding method	: PVC binding
Total no. of reams used	: 21

TABLE 5.2
COST SHEET OF MINI SIZE DIARY
(SINGLE DATE/PVC COVER)

Elements of cost	Cost for 1000 diaries (in `.)	Per diary (in `.)
Paper cost	11,739	11.739
Printing cost	10,500	10.5
Waste (3%)	495	0.495
Folding charges	295	0.295
Gathering charges	61	0.061
Stitching charges	880	0.88
Welding charges	120	0.12
Binding charges	350	0.35
Grey board	448	0.448
End paper	546	0.546
PVC material cost	1,456	1.456
PVC stitching	250	0.250
Cutting charges	250	0.250
Cost of production	27,390	27.390
Cost(in % to sales)	54.78	
Sales	50,000	50.00

Source: Primary data

Table 5.2 exhibits that the cost of production of Mini size/single date/PVC cover is ` 27.39 per diary and it is sold at a price of `50.00 per diary. Hence, its percentage to sales is 54.78.

5.4.3 Cost of production of Economic Size Diary (Single Date/Mat Cover Binding)

The features of economic size diary (Single date/Mat cover binding) are as follows:

Diary features	: SD/Economic size/Mat cover
Diary size	: 8 ¼” X 5 ¼”
No. of colours	: 1+1
No. of forms	: 10 ½
Paper size used	: 56 X 86 cm
Weight of papers used	: 14.4 Kg per ream
Type of the paper used	: Maplitho
Grammage used	: 60 GSM
Price of the paper	: ` . 52 per kg
Cover of the diary	: Mat cover
Binding method	: Mat finishing
Total no. of reams used	: 21

TABLE 5.3
COST SHEET OF ECONOMIC SIZE DIARY
(Single Date/Mat Cover Binding)

Elements of cost	Cost for 1000 diaries (in `.)	Per diary (in `.)
Paper cost	17,625	17.625
Print expenses	10,500	10.500
Folding charges	380	0.380
Gathering charges	90	0.090
Sewing charges	1,760	1.760
End paper cost	910	0.910
Mat cover paper cost	820	0.820
Mat cover printing charges	1,000	1.000
Mat cover plate making	800	0.800
Mat lamination	700	0.700
Poly board cost	2,175	2.175
Binding charges	2,000	2.000
Adhesive cost	1,000	1.000
Tag mark cost	400	0.400
Cutting charges	500	0.500
Cost of production	40,660	40.660
Cost(in % to sales)	49%	
Sales	83,000	83.00

Source: Primary data

Table 5.3 states that the cost of production of Mini size diary is ` . 40.660 per diary and it is sold at a price of ` . 83.00. Hence, its percentage to sales is 49%.

5.4.4 Cost of production of Economic Size Diary (Single Date/4 pages colourful Advertisement/Mat Cover Finishing)

The features of economic size diary (Single date/4 pages colourful advertisement/Mat cover finishing) are as follows:

Diary features	: Economic size/Colourful advertisement pages (4) are inserted
Diary size	: 8¼” X 5¼”
Number of colours	: 1+1
Number of forms	: 10 ½
Paper size used	: 56 X 86 cm
Weight of papers used	: 14.4 Kg per ream
Type of the paper used	: Maplitho
Grammage used	: 60 GSM
Price of the paper	: ` . 58 per kg
Cover of the diary	: Mat cover
Binding method	: Mat finishing
Total no. of reams used	: 21

TABLE 5.4
COST SHEET OF ECONOMIC SIZE DIARY
(Single Date/4 pages colourful Advertisement/Mat Cover Finishing)

Elements of cost	Cost for 1000 diaries (in `.)	Per diary (in `.)
Paper cost	17,625	17.625
Printing cost (1+1)	10,500	10.500
Folding charges	428	0.428
Gathering charges	110	0.110
Sewing charges	1,100	1.100
End paper cost	1,100	1.100
Colour insert charges for 4 pages	2,334	2.334
Mat cover paper cost	983	0.983
Mat cover printing charges	900	0.900
Mat cover prepress charges	560	0.560
Mat cover lamination cost	580	0.580
Poly board cost	2,175	2.175
Binding labour charges	2,000	2.000
Adhesive cost	500	0.500
Tag mark cost	500	0.500
Cutting charges	500	0.500
Cost of production	41,895	41.895
Cost(in % to sales)	49.3%	
Sales	85,000	85.00

Source: Primary data

Table 5.4 points out that the cost of production of economic size diary is ` . 41.895 per diary and it is sold at a price of ` . 85 Hence, its percentage to sales is 49.3%

5.4.5 Cost of production of mini size diary (Single Date/4 pages colourful Advertisement/Mat Cover Finishing)

The features of the above mentioned diary are as follows:

Diary features	: SD/Commercial diaries/Mini size
Diary size	: 7" X 4 ³ / ₄ "
No. of colours	: 1+1
No. of forms	: 10 ½
Paper size used	: 56 X 86 cm
Weight of papers used	: 10.75 Kg per ream
Type of the paper used	: Maplitho
Grammage used	: 60 GSM
Price of the paper	: ` .58 per kg
Cover of the diary	: Mat cover
Binding method	: Mat finishing
Advertisement pages	: 4 sheet colour inserted
Total number of reams	: 107

TABLE 5.5
COST SHEET OF MINI SIZE DIARY
(Single Date/4 pages colourful Advertisement/Mat Cover Finishing)

Elements of cost	Cost for 1000 diaries (in `.)	Per diary (in `.)
Paper cost	13,095	13.052
Printing cost & prepress expenses	10,500	1.284
Folding charges – 4 fold	428	0.428
Gathering charges	110	0.11
Sewing charges	1,100	1.1
End paper cost	680	0.68
Colour insert charges for 4 pages	1,679	1.679
Mat cover paper cost	1,810	1.810
Mat cover printing charges	1,473	1.473
Poly board cost	2175	2.175
Binding labour charges	1,500	1.5
Adhesive cost	500	0.5
Tag mark cost	500	0.5
Cutting charges	500	0.5
Cost of production	37550	37.550
Cost(in % to sales)	53.6%	
Sales	70,000	70.00

Source: Primary data

Table 5.5 depicts that the cost of production of mini size commercial diary is ` 37.550 per diary and it is sold at a price of ` 70. Hence, its percentage to sales is 53.6%

5.4.6 Cost of production of Large Size Diaries (Single Date/4 pages colourful Advertisement/Mat Cover Finishing)

The features of large size diaries (Single Date/4 pages colourful Advertisement/Mat Cover Finishing) are as follows:

Diary features	: SD/Corporate diaries/Executive diaries/Advertisement pages inserted.
Diary size	: 7¼” X 9”
Number of colours	: 1+1
Number of forms	: 10 ½
Paper size used	: 56 X 86 cm
Weight of papers	: 12.5 Kg per ream
Type of the papers	: Maplitho
Grammage used	: 70 GSM
Price of the paper	: ` . 60 per kg
Cover of the diary	: Mat cover
Binding method	: Mat finishing
Advertisement pages	: 4 sheets with multi colours
Total no. of reams	: 129

TABLE 5.6
COST SHEET OF LARGE SIGE DIARY
(Single Date/4 pages colourful
Advertisement/Mat Cover Finishing)

Elements of cost	Cost for 1000 diaries (in `.)	Per diary (in `.)
Paper cost	31,640	31.640
Printing cost (1+1)	21,000	21.000
Folding charges – 3 fold	650	0.650
Gathering charges	210	0.210
Sewing charges	2,100	2.100
End paper cost	1,322	1.322
Colour insert charges - 4 pages	3,034	3.034
Mat cover paper cost + printing cost	3,117	3.117
Poly board cost	3,597	3.597
Binding labour charges	2,000	1.500
Adhesive cost	500	0.500
Tag mark cost	500	0.500
Cutting charges	500	0.500
Cost of production	70,170	70.170
Cost(in % to sales)	50.12%	
Sales	140,000	140.00

Source: Primary data

From Table 5.6, it is clear that the cost of production of corporate diary is ` . 70.170 per diary and it is sold at a price of ` . 140.00. Hence, its percentage to sales is 50.12%

5.5 PRODUCTION OF DIARIES IN SIVAKASI

Sivakasi is famous for printing works. Diary production is an art. Diary printing industries are producing diaries seasonally. The popular diary printing units in Sivakasi are Srinivas Fine Arts (P) limited, Lovely Offset Printers (P) Ltd., Sudharsan Offset Printers, Orient Color Art printers (P) Ltd., The Orient Universal Print, Cornation Arts Crafts, Diamond Hill Printograph, Skylark Printograph, and The Orient Colour Crafts.

5.5.1 FRAMEWORK OF ANALYSIS

The trend and compound growth are computed for the production of diaries of diary Printing Units in Sivakasi by adopting the linear and semi-log trend models and they are as given below:

Linear Trend Model

$$Y=a+bt$$

Semi-log Trend

$$\text{Log } Y= a+bt$$

Where,

Y = Variable

T= time variable and

a and b are parameters

Method of Least Squares has been followed. The compound growth rate was calculated by using the following formula:

$$\text{Compound Growth Rate (\%)} = (\text{antilog } b-1) \times 100$$

Correlation is computed to find out the relationship between production and trend values.

5.5.2 PRODUCTIONS AND TREND VALUES OF NIGHTINGALE DIARIES OF SRINIVAS FINE ARTS (P) LIMITED

Table 5.7 explains the productions and trend values of Nightingale diaries of Srinivas Fine Arts (P) limited in Sivakasi from 2002-03 to 2011-12.

TABLE 5.7
PRODUCTIONS AND TREND VALUES OF
SRINIVAS FINE ARTS PRIVATE LIMITED

Year	Productions (in units)	Trend values	Linear Trend coefficient	
2002-03	7,54,000	7,48,590.9	a	15,01,000*
			b	1,50,481.8*
2003-04	8,96,000	8,99,072.8	correlation r	0.999971*
			Adjusted R square	0.987*
2004-05	10,47,000	10,49,555	Compound Growth Rate	11.29*
2005-06	12,03,000	12,00,036		
2006-07	13,50,000	13,50,518		
2007-08	15,02,000	15,01,000		
2008-09	16,48,000	16,51,482		
2009-10	17,99,000	18,01,964		
2010-11	19,51,000	19,52,445		
2011-	21,00,000	21,02,927		

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Source: Primary data, * Computed Data

It is clear from the table that there is a remarkable increase in the production of Nightingale diaries during the period under study. Nightingale diaries in Sivakasi achieved a threefold increase in its production from 2002-03 to 2011-12. The production shows an increasing trend. There is a high degree of positive correlation between actual production and expected production as it reveals a value of 0.99 and its compound growth rate is 11.29.

5.5.3 PRODUCTIONS AND TREND VALUES OF LOVELY OFFSET PRINTERS PRIVATE LIMITED

Table 5.8 points out the productions and trend values of Lovely Offset Printers Private Limited in Sivakasi from 2002-03 to 2011-12.

TABLE 5.8
PRODUCTIONS AND TREND VALUES OF
LOVELY OFFSET PRINTERS PRIVATE LIMITED

Year	Productions (in units)	Trend values	Linear Trend coefficient	
2002-03	81,000	-88,136.4	a	4,60,454.5
			b	1,09,718.2
2003-04	96,000	21,581.7	Correlation(r)	0.976665
			Adjusted R Square	0.949
2004-05	1,00,000	1,31,299.9	Compound growth rate	34.40
2005-06	1,52,000	2,41,018.1		
2006-07	2,01,000	3,50,736.3		
2007-08	3,50,000	4,60,454.5		
2008-09	4,78,000	5,70,172.7		
2009-10	6,95,000	6,79,890.9		
2010-11	8,82,000	7,89,609.1		
2011-12	10,01,000	8,99,327.3		

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Source: Primary data

Lovely Offset Printers Private Limited, Sivakasi has a slow and steady growth in its production. The production has increased from 81,000 diaries in 2002-03 to 10,01,000 diaries in 2011-12. In the year, 2002-03, it has a negative trend. After that, this position is changed into positive trend. The correlation value is 0.976 and the compound growth rate is 34.40.

5.5.4 PRODUCTIONS AND TREND VALUES OF ORSONS DIARIES OF THE SUTHARSAN OFFSET PRINTERS

Table 5.9 shows the productions and trend values of Sutharsan Offset Printers in Sivakasi from 2002-03 to 2011-12.

TABLE 5.9
PRODUCTIONS AND TREND VALUES OF
SUTHARSAN OFFSET PRINTERS

Year	Productions (in units)	Trend Values	Linear Trend coefficient	
2002-03	2,50,000	2,96,545.5	a	5,38,363.6
2003-04	3,00,000	3,44,909.1	b	48,363.64
2004-05	4,60,000	3,93,272.7	Correlation(r)	0.978666
2005-06	4,70,000	4,41,636.3	Adjusted R Square	0.953
2006-07	5,00,000	4,90,000	Compound growth rate	10.54
2007-08	5,35,000	5,38,363.6		
2008-09	6,00,000	5,86,727.2		
2009-10	6,50,000	6,35,090.9		
2010-11	6,95,000	6,83,454.5		
2011-12	7,05,000	7,31,818.1		

Source: Primary data

It is clear from the table that the production of Orsons diaries in Sivakasi has a steady growth and increasing trend. There is a high degree of positive correlation (0.978) and its compound growth rate is 10.54. The trend values shows increased trend. The trend co-efficient of production of Orsons diaries is statistically significant at 5 per cent level. There is a high degree of positive correlation between actual production and estimated trend values. It reveals that the average productions of diaries are 48,363.64 units. The compound growth rate is 10.54 and the value of adjusted 'R' square is 0.953.

5.5.5 Productions and trend values of Orient Color Art Printers Private Limited

Table 5.10 shows the production and trend values of Unicornn diaries of Orient Color art Printers Private Limited in Sivakasi from 2002-03 to 2011-12.

TABLE 5.10
PRODUCTIONS AND TREND VALUES OF ORIENT COLOR ART PRINTERS
PRIVATE LIMITED

Year	Productions (in units)	Trend	Linear Trend coefficient	
2002-03	1,25,000	1,38,111.1	a	4,39,444.4
2003-04	2,00,000	2,13,444.4	b	75,333.33
2004-05	2,75,000	2,88,777.7	Correlation(r)	0.989499
2005-06	3,50,000	3,64,111.1	Adjusted R Square	0.976
2006-07	5,00,000	4,39,444.4	Compound growth rate	23.09
2007-08	5,50,000	5,14,777.7		
2008-09	6,00,000	5,90,111.1		
2009-10	6,50,000	6,65,444.4		
2010-11	7,05,000	7,40,777.7		
2011-12	8,10,000	8,16,111		

Source: Primary data

There is a remarkable increase in the production of Unicornn diaries during the period under study. The production was 1,25,000 in the year 2002-03 and it was increased 8,10,000 in the year 2011-12. The level of production shows an increasing trend because of dealer network. The co-efficient of production of Unicornn diaries is statistically significant at 5 per cent level. There is a high degree of positive correlation between actual production and estimated production. The compound growth rate is 23.09.

5.5.6 Productions and trend values of Orient Diaries of The Orient Color Crafts

Table 5.11 shows the production and trend values of Orient diaries of The Orient Color Crafts in Sivakasi from 2002-03 to 2011-12.

TABLE 5.11
PRODUCTIONS AND TREND VALUES OF
THE ORIENT COLOR CRAFTS

Year	Productions (in units)	Trend	Linear Trend coefficient	
2002-03	3,00,000	2,81,163.6	a	3,97,090.9
2003-04	3,01,000	3,10,145.4	b	28,981.82
2004-05	3,12,000	3,39,127.3	Correlation(r)	0.980137
2005-06	3,60,000	3,68,109.1	Adjusted R Square	0.956
2006-07	3,80,000	3,97,090.9	Compound growth rate	7.56
2007-08	4,00,000	4,26,072.7		
2008-09	4,70,000	4,55,054.5		
2009-10	4,90,000	4,84,036.4		
2010-11	5,10,000	5,13,018.2		
2011-12	5,65,000	5,42,000		

Source: Primary data

There is a steady increase in the production of Orient diaries during the period under study. The production was 3, 00,000 units in the year 2002-03 and it was 5,65,000 units in the year 2011-12. The level of production shows only moderate increase because of their qualitative features of diaries. The trend values shows increased trend. The trend co-efficient of production of Orient diaries is statistically significant at 5 per cent level. There is a high degree of positive correlation between actual production and estimated trend values. It reveals that the average production of 28,981.82 units. The compound growth rate is 7.56.

5.5.7 Productions and trend values of Flora diaries of The Orient Universal Print

Table 5.12 shows the productions and trend values of Flora diaries of The Orient Universal Print in Sivakasi from 2002-03 to 2011-12.

TABLE 5.12
PRODUCTIONS AND TREND VALUES OF FLORA DIARIES

Year	Productions (in units)	Trend	Linear Trend coefficient	
2002-03	2,55,000	2,56,727.3	a	3,76,181.8
2003-04	2,70,000	2,86,590.9	b	29,863.64
2004-05	2,90,000	3,16,454.5	Correlation(r)	0.96319
2005-06	3,00,000	3,46,318.2	Adjusted R Square	0.920
2006-07	4,00,000	3,76,181.8	Compound growth rate	8.61
2007-08	4,50,000	4,06,045.4		
2008-09	4,65,000	4,35,909.1		
2009-10	4,70,000	4,65,772.7		
2010-11	4,85,000	4,95,636.3		
2011-12	5,03,000	5,25,500		

Source: Primary data

There is a steady increase in the production of Flora diaries during the period under study. The production was 2,55,000 units in the year 2002-03 and it was 5,03,000 units in the year 2011-12. The level of production shows only moderate increase because of their better practices of distribution methods. The trend values shows increased trend. The trend co-efficient of production of Flora diaries is statistically significant at 5 per cent level. There is a high degree of positive correlation between actual production and estimated trend values. It reveals that the average production of diaries is 29,863.64 units. The compound growth rate is 8.61.

5.5.8 Productions and trend values of Corono diaries of The Coronation Arts Crafts

Table 5.13 shows the productions and trend values of Corono diaries of The Coronation Arts Crafts in Sivakasi from 2002-03 to 2011-12.

TABLE 5.13
PRODUCTIONS AND TREND VALUES OF THE CORONATION ARTS CRAFTS

Year	Productions (in units)	Trend	Linear Trend coefficient	
2002-03	3,32,000	3,23,745.5	a	412000
2003-04	3,50,000	3,45,809.1	b	22063.64
2004-05	3,68,000	3,67,872.7	Correlation(r)	0.996586
2005-06	3,87,000	3,89,936.4	Adjusted R Square	0.992
2006-07	4,07,000	4,12,000	Compound growth rate	5.56
2007-08	4,28,000	4,34,063.6		
2008-09	4,50,000	4,56,127.3		
2009-10	4,75,000	4,78,190.9		
2010-11	5,00,000	5,00,254.5		
2011-12	5,35,000	5,22,318.2		

Source: Primary data

It is clear from the Table 5.13 that The Coronation Arts crafts in Sivakasi achieved nearly a twofold increase in its production from 2002-03 to 2011-12. The production shows an increasing trend. There is a high degree of positive correlation between actual production and expected production as it reveals a value of 0.99 and its compound growth rate is 5.56. The trend co-efficient of production of diaries of The Coronation Arts Crafts is statistically significant at 5 per cent level.

5.5.9 Productions and trend values of Alfa diaries of Diamond Hill Printograph

Table 5.14 shows the productions and trend values of Alfa diaries of Diamond Hill Printograph in Sivakasi from 2002-03 to 2011-12.

TABLE 5.14
PRODUCTIONS AND TREND VALUES OF ALFA DIARIES OF DIAMOND HILL PRINTOGRAPH, SIVAKASI

Year	Productions (in units)	Trend	Linear Trend coefficient	
2002-03	2,15,000	2,12,333.3	a	2,81,666.7
2003-04	2,30,000	2,29,666.7	b	17,333.33
2004-05	2,45,000	2,47,000	Correlation(r)	0.997972
2005-06	2,60,000	2,64,333.4	Adjusted R Square	0.995
2006-07	2,85,000	2,81,666.7	Compound growth rate	6.42
2007-08	3,00,000	2,99,000		
2008-09	3,15,000	3,16,333.4		
2009-10	3,30,000	3,33,666.7		
2010-11	3,55,000	3,51,000		
2011-12	4,28,650	3,68,333.3		

Source: Primary data

It is clear from the Table 5.14 that Alfa diaries produced 2,15,000 units in the year 2002-03 and it was increased to 4,28,650 units in the year 2011-12. The production shows an increasing trend. There is a high degree of positive correlation between actual production and expected production as it reveals a value of 0.99 and its compound growth rate is 6.42. The trend co-efficient of production of alfa diaries is statistically significant at 5 per cent level. The value of adjusted 'R' square is 0.995.

5.5.10 Productions and trend values of Skylark diaries of Skylark Printograph

Table 5.15 shows the productions and trend values of Skylark diaries of Skylark Printograph in Sivakasi from 2002-03 to 2011-12.

TABLE 5.15

PRODUCTIONS AND TREND VALUES OF SKYLARK DIARIES

Year	Productions (in units)	Trend	Linear Trend coefficient	
2002-03	43,000	37,772.73	a	75,000
2003-04	49,000	45,618.18	b	7,845.455
2004-05	53,000	53,463.64	Correlation(r)	0.989864
2005-06	59,000	61,309.09	Adjusted R Square	0.978
2006-07	65,000	69,154.55	Compound growth rate	10.98
2007-08	73,000	77,000		
2008-09	82,000	84,845.45		
2009-10	91,000	92,690.91		
2010-11	99,000	1,00,536.4		
2011-12	1,10,000	1,08,381.8		

Source: Primary data

It is clear from the Table 5.15 that Skylark diaries produced 43,000 units in the year 2002-03 and it was increased to 1,10,000 units in the year 2011-12. The production shows an increasing trend. There is a high degree of positive correlation between actual production and expected production as it reveals a value of 0.98 and its compound growth rate is 10.98. The trend co-efficient of production of Skylark diaries is statistically significant at 5 per cent level. The value of adjusted 'R' square is 0.978.

5.5.11 Productions and trend values of Majestic diaries of Majestic Printers

Majestic Printers in Sivakasi commenced their diary production in the year 2007-08. Table 5.16 shows the production and trend values of Majestic diaries in Sivakasi from 2007-08 to 2011-12.

TABLE 5.16
PRODUCTIONS AND TREND VALUES OF MAJESTIC DIARIES

Year	Productions (in units)	Trend	Linear Trend coefficient	
2007-08	1,00,000	1,07,000	a	2,88,000
2008-09	2,00,000	1,97,500	b	90,500
2009-10	3,00,000	2,88,000	Correlation(r)	0.998614
2010-11	3,75,000	3,78,500	Adjusted R Square	0.996
2011-12	4,65,000	4, 69,000	Compound growth rate	44.81

Source: Primary data

It is clear from the Table 5.16 that Majestic diaries in Sivakasi achieved more than fourfold increase in its production from 2007-08 to 2011-12. The production shows an increasing trend. There is a high degree of positive correlation between actual production and expected production as it reveals a value of 0.99 and its compound growth rate is 44.81. The trend co-efficient of production of Majestic diaries is statistically significant at 5 per cent level.

5.6 PROBLEMS FACED BY DIARY PRODUCERS

The following table expresses the problems faced by the producers in the production process:

Table 5.17

PROBLEMS IN THE PRODUCTION OF DIARIES

Problems	No. of respondents	Percentage
Shortage of raw material	3	7.14
Outdated technology	9	21.43
Shortage of man power	8	19.05
Shortage of power	10	23.81
High cost of raw materials	2	4.76
Break down of machinery	4	9.52
Labour strikes and lockouts	6	14.29
Total	42	100

Source: Primary data

Note: As the respondents face more than one problem, the total is 42.

It is clear that 10 (23.81%) are affected by shortage of power, 9 (21.43%) suffered by outdated technology, 8 (19.05%) faced the problem of shortage of man power, 6 (14.29%) are affected by labour strikes and lockouts, 4 (9.52%) suffered by break down of machinery, 3 (7.14%) have the problem of shortage of raw material and 2 (4.76%) are affected by high cost of raw materials.

5.7 SUMMARY

Diary industry is a job shop production industry. Utilization of available capacity, experience in printing, more returns, family business, availability of trained labourers, ready finance, popular image of printing units, automation in diary production are the important factors influencing the diary production. To evaluate the profitability of a diary printing unit, two fold analyses namely Profitability analysis and Break-Even Point Analysis is undertaken. The cost of production of diaries (Factory gate price) comprises of 50 to 55% of the selling prices of the diaries. In all diary printing units, the compound growth rate is high. Most of the respondents are affected by power-cut problems followed by outdated technology and shortage of man-power.