CHAPTER 1
DESIGN OF THE STUDY

1.1 INTRODUCTION

Binding is an art and a technique of securing printed or un-printed sheets of paper in a loose or folded form in a proper sequence with a view to protect them from dust, dirt and the damages in handling. It enables readers to refer to the written or printed matter without damaging the binding. This being the last item in the production channel, is of utmost importance. If the binding is not carried out thoughtfully and carefully, the entire labour of designing, composing, processing and printing may go waste. Binding gives the final shape to the written material. The large size sheets are reduced to a smaller size by cutting into pieces or folding into sub-divisions for ease in handling. Even if a book has been produced vicely, but if it is not bound well, it will not attract people and serve its purpose properly.

1.2 DEVELOPMENT OF BINDING BEFORE 10TH CENTURY

The history of book-binding is linked with writing. The methods of preserving earlier writings were engraving and drawing on rocks and stones. Since they were fragile and easily breakable, they were covered with a layer of clay to protect the writings1. The main disadvantage of this type of protective covering was that, the coating had to be destroyed for references. With the development and passing of time, papyrous and parchment came out

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1 Harrgiwehla (1956), Practical Printing ad Binding, Oxford publishers, New Delhi, p.1
as writing materials. In those days, the books and messages were written by hand. Some of the writings were rolled and kept in the roll form for further references. Scrolls written in gold, silver and attractive colour inks were common styles of roll binding.

In the fourth century A.D. the use of parchment reduced and new shapes were given to the books. Written materials changed their shape from roll to the folded flat sheet. The first binding was simple folded sheets sewn together and wrapped in a leather piece. Later the written materials used to be kept between the wooden plates to prevent them from dust, dirt and damage. The wooden covers were painted with flowers and decorated with ivory. Even costly stones and diamonds were fixed in the wooden covers of the books belonging to kings and rich people. The earliest known English decorated leather binding is the seventh century Gospel of St. John Mat which had wooden boards covered with crimson leather.

1.3 DEVELOPMENT BETWEEN 10TH AND 20TH CENTURY

In the 10th and 12th centuries, the books bound with wooden boards and covered with parchment were decorated with impressions from metallic stamps. By the end of 13th century2, pieces of metals were used at the corners of the covers to make them more durable but the binding was not treated as a separate profession. Till the invention of letter press printing in 1454 by Johannes Guttenberg, no major change was made in the art of binding. The Guttenberg's invention of movable types brought a revolution in the printing industry. In the 15th century, in England, velvet was used for decorating the

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covers of the books. Altus Manatus, a printer from Venetia was the first who started popularizing binding in Europe and bound large number of books for Jean Grolier, a famous publisher of that time.

In the beginning of 16th Century Kings and rich people of France and Italy paid more attention to book-binding. Thomas Berthlet was a favourite binder to King Henry VIII and bound large number of books for him. By the end of 16th Century, 'fanfare' type of binding was introduced. Lee Gastone and Samuel Miew contributed new styles to the craft of book-binding. In the beginning Guttenberg printed only 200 copies of the Bible, but in the 16th Century more than one lakh copies of Luthers' Bible were printed in Wittenberg. With the increasing demand of books, the wooden covers were replaced by the boards and book-binding started developing very fast. There was no time to decorate the covers of each book. The art of binding became more simple. The practice of using metallic pieces to strengthen the corners of the covers was stopped in the 17th Century instead the decoration of covers by printing with stamps started vigorously. The quality of decoration was reduced to a great extent. Around 1750, changes were made in the preparation of books. Many books were sewn on cords put into the backs of sections to produce a smooth back instead of raised cords.

1.4 REVOLUTION IN BOOK-BINDING

In the 18th century a famous British binder Roger Payne3 made fundamental contribution to book-binding. His bindings were forwarded with raised bands or sewn on sunk cords with a hollow back. He himself

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3 Ibid., p.3.
manufactured binder’s finishing tools and synchronized the decoration with the contents of the book. The other famous binders who developed the art of binding were William Morris, Amery Walker, Cobdon Sanderson and Doglus Cockril. Most of the bindings till 18th century were done by hand. The industrial revolution stimulated demand for books and their binding. Many families were proud of possessing well-bound books. In binding workshops were started in every major city, but the labour was mostly unskilled and the quality of binding materials was poor.

19th century brought a revolution in the book-binding industry. Large number of machines were developed to machanise binding operations for mass production of books. The use of flourish binding reduced and people developed taste for ordinary and simple binding. In the beginning of 19th century, a German binder invented a Ruling machine which replaced the traditional method of ruling by pressing the linked wires against the paper surface. Wilson invented the first paper cutting Machine (Guillotine) in 1851. It enabled printers and binders to cut a pile of paper in one stroke. In 1879 Sheradan Case Making Machine was invented in 1898. These machines were further connected with the automatic feeders. In 1900 Cranley invented Rounding and Backing machine.

1.5 BINDING IN THE 20TH CENTURY

In the beginning of the 20th Century, the quantity of books reached to crores. It was not possible for every printer to have his own binding department. With the increasing demand for books, the demand for automatic

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4 Kini, K.P., (1986), Book Binding for Students, Regional School of Printing, Madras, p.10.
binding machines also increased. A.B. Ducks of Sweden brought out various models of Buckle and knife folding Machines. The Brehmer & Co. also produced a number of binding machines, tools and allied equipments. In 1963 an exhibition was arranged in Leizpzig where Universal Webmaster Printing Machine was connected with Brehmer Folder, Wire Sticher and a Three - Knife Trimmer. Today Kolbus, Smith, Sheradan, Polygraph and many other line production units of book-binding are available in the market\(^5\). The individual binding machines have been connected with one another for high speed continuous production. The modern book-binding is no more a cottage industry craft. It is almost machanised making use of sophisticated machinery. Paper backs and adhesive binding (threadless binding) have superseded the traditional old fashioned bindings. Today full leather binding having gilded edges with tooling on the front cover and spine of the books is considered to be the costly and superior class of binding. Spiral, Spico, Wiro, Strips etc. are being extensively used for the binding of loose leaves. The loose leaf securing materials can be had in metal or plastic in any attractive colour to match the covering. Ring binders, post binders and thong binders are the most popular binders being used in banks, libraries and offices.

1.6 DEVELOPMENT OF BINDING MATERIALS

Considerable developments have been made to provide variety of covering and reinforcing materials, securing materials and adhesives in the field of book binding. Leathers, rexines, binding clothes and synthetic covering materials in different colours, sizes and qualities are available to

\(^5\) Mendiratta, B.D. (1990), Binding and Finishing (Part I), Printek Publications, New Delhi, p.6.
meet the requirements of the various styles of binding. Hot melts and cold adhesives are boon to the modern high speed giving and pasting machines used in binding and packaging industry. The ready to use adhesive like fevicol and stick fast have solved the problem of preparing the adhesive before use and speedily replacing paste, glue and other traditional adhesives in the modern book binding houses.

1.7 BOOK BINDING INDUSTRY IN KERALA

The book binding industry in Kerala is six decades old and the founder is one Mathew, popularly known as ‘Ana Mathai’ hailing from Puthenpeta Angadi near Kunnambalam. It was K.P. Iyyakku, the then Municipal Chairman who with his political and economic clout popularized the industry in and around Kunnambalam. Though there was no such patriarch, along with the advancement of printing presses this industry slowly spread into other centers in the state.

There are nearly 200 registered small scale industrial units and equal number of unregistered units. All Kerala Exercise Book Manufacturer’s Association based at Kunnambalam had a strength of 144. These figures exclude skilled labourers running the business from their houses and their presence in this field is significant. They operate on piece-work basis and since the remuneration depends on the output, large quantities are coming out from this segment.

Almost all the raw materials (Hardboard, binding cloth, crime etc) required for this industry are procured from outside the State. M/s. West Coast Paper Mill, Andra Pradesh, M/s. South Indian Paper Mill and M/s.
West Pondicheri Mill from Karnataka, M/s. West Tirupur Paper Mill, Calcutta, Victory Paper Board Pvt. Ltd., etc are the main suppliers.

Of the labourers engaged in this industry, printing is done mainly by men from Tamil Nadu. However the binding work is considered to be the privilege of the locals. Again, this work strength maintains equality as the man/woman ratio is 50:50. Though this industry is a growing contribution to the economy of a consumer and literate state like Kerala, new entrants to this field are negligible.

1.8 CURRENT STATUS OF BOOK-BINDING INDUSTRY IN KERALA

The monopoly of bound note-books in Kerala is still remaining at Kunnamkulam and nearby villages. Kunnamkulam is a small town in Trichur District, a city popularly known as the cultural capital of Kerala. Of the books which are marketed in Kerala state, 90 percent belongs to the binding units in Kunnamkulam. The popular binding units are victory, Konark, Copab, modern books, etc. Note books are made using on an average nearly 5000 tonnes of paper per month. During seasons, the consumption of paper will increase. 234 book-binding units are located at Kunnamkulam town and its nearby villages such as Anjoor, Chittaiyoor, Thekkepuram, Kanippayyur, Chowannur, Choondal, etc. Depending upon the size of the units 12 to 64 workers are employed in these units.

The binding of note-books will normally start in January. In March, April and May, these binding units will work for all the 24 hours of a day. For the binding of note-books, the paper is purchased from Maharashtra, Andra Pradesh and Karnataka. The papermills in these states such as Sheshai paper,
Tamil Nadu Newsprint Ltd., West Coast Paper Mill, Sunplex Amaravathi, etc., are the suppliers of paper for Kerala binding units. Along with this Victory Paper and Boards Ltd., is also supplying paper for Kunnakulam and nearby areas. With one tonne of paper 5000 notebooks can be made. According to the quality of paper, the price will also change. The price of one kilogram of paper varies from Rs. 32 to Rs. 44. Considering the quality, the paper is divided into crumVERE, superfine, book printing, etc. Even though quality of paper is considered important by the students, they are attracted more by colourful cover pages. The market survey conducted by dealers revealed that the boys are attracted by pictures of film actors, while the girls are attracted by flowers and sceneries. If some themes are given both girls and boys are equally attracted. Nowadays, the coverpage is set by using computer designs. A portion of coverpages required are coming from Sivakasi also. The rate of these cover pages varies from Rs. 1 to Rs. 5.

For the binding of books, binding machinery, real roder, stiching machine, etc. are used. The dealers are supplying paper and coverpages to small units running in households and the books are stiched there. 70 percent of note books are made by hand. The stiching charges for 192 pages book is 52 paise. (per book). According to efficiency, there are labourers who prepare books numbering 150 to 300 everyday. Most of the units are household units where the family members will work and during vacation the children will also contribute towards it.

The books with thick cover pages are not preferred by the students and other customers. Their preference goes to flexible note books which can be
folded and kept in pockets. Some schools and colleges are printing their names on cover pages of notebooks and are supplied in schools and colleges itself. Depending on the taste of students, the shape and pattern of books are also changing. In colleges lengthy notebooks are preferred. 51x76 size note books are marketed for college students. The price of college books will start from Rs. 12/- per book. The common note book size will be 40x65, 43x64. The cost of 96 pages will vary from Rs. 7 to Rs. 10 and that of 160 pages 10 to 12 rupees and of 192 pages 12 to 14 rupees.

Unruled notebooks are having more demand than ruled books. 80 percent sales are of unruled books. Double line and four line books are more purchased by primary level students. Civil supply corporation is also supplying their note books which are of laminated covers in Supplyco, Margin free supermarkets, selected Maveli Stores, etc. at reduced prices. 30 lakhs of note books are sold by Supplyco. They are also preparing books, account books, diaries, telephone index, directories, etc. which are forming only 25 per cent of their total work.

1.9 STATEMENT OF THE PROBLEM

From the above discussions it is evident that the Book-binding industry is one of the old industries of Kerala state, hardly can be called as a traditional industry because majority of the units are too small in size. Further, a review into the history of the industry indicates that through out its existence, the industry is mainly concentrated in Kunnamkulam town and its satellite villages. Definitely there must be certain factors which restricted the expansion of the industry. The traditional and experienced book-binders of
this locality firmly believe that the prospects of this industry is very narrow due to multiple reasons. They even wish to call this industry as a sunset industry. To add fuel to the problems, notebooks are arriving to the Kerala market from neighbouring states particularly Sivakasi, Tamil Nadu. It is an interesting paradox that while the demand for note books and other related books are on an increase, binders of Kunnamkulam find it difficult to survive. The recent policy of globalisation and economic reforms are having its own impact on all the sectors including the small scale sector. Considering all these trends and apprehensions, the book-binding industry in Kunnamkulam will definitely receive the attention of the scholars. Hence the present study was conducted with the following objectives:-

1.10 OBJECTIVES OF THE STUDY

1. To examine the trends in the growth of Book Binding Industry in Kerala.

2. To examine the economics of selected book binding units in Kerala.

3. To examine the financial performance of selected book-binding units

4. To identify the managerial and operational problems of book binding industry.

1.11 HYPOTHESES

1. The industry remains stagnant due to the absence of entrepreneurial factors.

2. There is technological stagnation in the book-binding industry

3. Cost of production is high in book-binding industry
4. Profitability is directly related to the size economies.

5. Lack of product planning and working capital management lead to low profitability.

6. Scope for expansion and diversification is limited.

1.12 SCOPE OF STUDY

The broad scope of the study is limited to the book binding units in and around Kunnamkulam town. Book-binding units produce different books like note-books, registers, ledgers, calendars, diaries, telephone index books, directories, etc. In the present study we are mainly concentrating on the production of note-books only, because the major product of binders of Kunnamkulam are only note books.

1.13 METHODOLOGY

The methodology of any research study can be finalized only after a detailed look into the available literature. As part of identifying the available literature the scholar scanned the entire materials, starting from internationally renounced encyclopaedia to locally available popular articles. It is unfortunate to state that not a single literature on book-binding is available at the international or national or state level. During the course of the research a few studies directly related to printing was traced. For instance:- A recent study made by KITCO had the following findings of printing industry.

1. Majority of the printing units had less than Rs. 5 lakh investment.

2. Capacity utilization is 50 to 75 percent.

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Potential survey conducted by KITCO (1994)
3. 89 percent of the units reported to have good demand for their products.

4. Most of the units marketed their products within the district and their major problem was competition from similar units.

5. Prices of Raw-materials are sometimes volatile leading to problem of costing.

6. Sizeable units are planning diversification and expansion, expressed their confidence in the industrial potential of the district.

With the introduction of computers in many of the business establishments, the requirement of computer forms, pre-printed forms, bills, receipts, etc. have gone up. This market sector can be tapped by promoting some units for the manufacturing of computer literature. The printing and publishing industry in the state especially in the district is still using primitive and low quality technology. However newspapers in organized sector have started using computerized processing system. The potential market in the industry can be effectively tapped either by modernizing existing units with modern technology or by promoting new high-tech industries.

But the studies related to printing are not appropriate for deciding the study of Economics of a book-binding industry. To counter check this unfortunate situation detailed discussions were held with very experienced persons in this segment like The President, All Kerala Book-binders Association, The Manager, Victory Press, etc.
They also admitted that book-binding industry is an untouched area by the research scholars. Hence, the scholar feels that this is a humble but novice attempt on book-binding industry. Methodologically it is apt to call this as an exploratory study.

Sample

As mentioned just now, inorder to perform this exploratory study, a sample is a pre-requisite. Currently (2003) there are 242 units in Kunnamkulam town and satellite villages. These villages vary in size, majority being very small units. Considering the level of investment, number of workers, other conditions, etc; the total units were near classified into small, medium and large. A unit with an investment of Rs. 50,000/- was treated as small unit, between Rs. 50,000/- as Rs. 1,50,000/- as medium unit and above Rs. 50,000/- as large unit. Accordingly there were 55 small units, 157 medium scale and 30 large-scale units. From this a stratified sample of 11 small units, 28 medium units and 5 large units were selected, the sample constituting approximately 20 percent of the total units. The sample size of large units were made minimum five, otherwise the results may not give statistical significance. From these sample units details for a five-year period from 1998 to 2003 were collected with the help of schedules personal interviews and discussions.

Data

Based on the above mentioned sample primary details were gathered. Primary details include details like average fixed capital and total fixed capital, average and total working capital, average and total physical working
capital, total and average productive capital, total and average invested
capital, etc. of small, medium and large scale units. The study was conducted
for a period of five years from 1998-99 to 2002-03. collected data were
analysed using appropriate techniques.

As mentioned earlier because of the non-existence of scientific
literature, secondary data was a problem. Even if some data are available, they
are not in the chronological order. Despite these limitations, the scholar made
an earnest attempt to gather the available details from Small Scale Industries
Service Institute, Department of Economics and statistics, Trivandrum, etc.
and Government publications and reports.

In order to examine the economics of book binding industry, nationally
accepted methodology framed by the Annual survey of Industries (ASI) was
used. The ASI methodology is based on strict definitions and they are defined
below. Occassionally slight deviations were also made in the lesson sheets to
suit the situations and requirements.

1. Fixed Capital – Fixed capital of a binding unit composes of binding
machinery, cutting machinery, rooling machinery etc.

2. Physical working capital

Physical working capital of a binding unit composes of stock of raw-
material, semi-finished goods and finished goods.

3. Working capital

Working capital may be defined as the sum total of physical working
capital and cash in hand and at bank and receipts and payments net
balance.
4. Productive Capital

Productive capital refers to the sum total of fixed capital and working capital.

5. Invested Capital

Invested capital for a binding unit may be referred to as the sum total of fixed capital and physical working capital.

6. Cost of Production

Cost of production may be defined as the sum total of cost of input, wages and salaries and other establishment charges.

7. Gross Profit

Gross profit is derived at by calculating the difference between value of output and cost of production.

8. Value added

Value added is defined as the difference between the value of input and output. In otherwords, it may be considered as the sum total of factor income such as wages, interest, rent and profit.

One of the objectives of our study was to examine the financial performance of book-binding units. This objective is quite relevant also because as mentioned earlier this is a sunset industry and units find it difficult to survive due to different reasons including low profits. The conventional tool to examine the financial performance and profitability is ratio analysis and the financial ratios used in the present study are the following:
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<tr>
<th>Name</th>
<th>Formula</th>
<th>Purpose</th>
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</thead>
<tbody>
<tr>
<td>1 Current Ratio</td>
<td>$\frac{\text{Current Assets}}{\text{Current Liabilities}}$</td>
<td>To assess the liquidity position of the concern</td>
</tr>
<tr>
<td>2 Liquid ratio or quick ratio</td>
<td>$\frac{\text{Quick / Liquid Assets}}{\text{Current Liabilities}}$</td>
<td>Test of Liquidity</td>
</tr>
<tr>
<td>3 Proprietary Ratio</td>
<td>$\frac{\text{Proprietors fund}}{\text{Total Assets}}$</td>
<td>To determine the large-term solvency position of the concern.</td>
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<tr>
<td>4 Debt-Equity Ratio</td>
<td>$\frac{\text{Outsiders fund}}{\text{Shareholder's fund}}$</td>
<td>To measure the relative claim of outsiders, i.e., shareholders against the firm's assets</td>
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<tr>
<td>5 Solvency Ratio</td>
<td>$\frac{\text{Total outside Liability}}{\text{Total assets}}$</td>
<td>To determine the large-term solvency position of the concern.</td>
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**Activity Ratios**

<p>| 6 Stock or inventory turnover ratio | $\frac{\text{Cost of goods sold}}{\text{Average Inventory}}$ | To measure the efficiency of sales                                      |
| 7 Current Asset Turn over Ratio (Working capital turnover ratio) | $\frac{\text{Cost of goods sold}}{\text{Working capital}}$ | It is used to study the utilization of capital invested                  |
| 8 Receivable Turnover Ratio or Debtors turnover ratio | $\frac{\text{Sales}}{\text{Average Receivables}}$ | To analyse the operational efficiency of the business and to measure the number of times the receivables rotate in a year in terms of sales. |
| 9 Capital employed turnover ratio | $\frac{\text{Sales}}{\text{Capital employed}}$ | It shows the effectiveness of total capital employed                    |</p>
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<td>capital employed and to study the trends of over-investment or under investment of capital</td>
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**Profitability Ratios**

10 Net Profit Ratio \( \frac{\text{Net Profit}}{\text{Sales}} \) It indicates the operational efficiency

11 Operating Ratio \( \frac{\text{Cost of Sales}}{\text{Sales}} \) It measures the quantum of expenditures incurred in producing and selling goods and provides the cost structure of the concern.

12 Return on capital employed \( \frac{\text{Net Profit}}{\text{Capital employed}} \) To measure the overall efficiency of the concern and indicates how will the management housed the investment made by the owned and creditors into the business

13. Fixed Assets to Current Assets \( \frac{\text{Fixed Assets}}{\text{Current Assets}} \) To assess the increase and decrease in the stock or Debtors, and the usage of fixed assets.

14 Ratio of invested capital to fixed assets \( \frac{\text{Invested capital}}{\text{Fixed Assets}} \) It shows the proportion of invested capital in fixed assets
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<tr>
<td>15. Fixed assets turnover ratio</td>
<td>Cost of production [\frac{\text{Cost of production}}{\text{Fixed Assets}}]</td>
<td>It represents the percentage cost of production on fixed assets</td>
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<tr>
<td>16. Current assets to proprietors fund</td>
<td>[\frac{\text{Current Assets}}{\text{Proprietors fund}}]</td>
<td>It shows the financial operational efficiency of the concern.</td>
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**1.14 LIMITATIONS OF THE STUDY**

1. Book-binding industry is a traditional one and the units rarely followed the practice of maintaining proper accounting records. Thus difficulty was experienced in acquiring data for the period under study – ie; 1998 to 2003.

2. The major part of the analysis was done in value terms, as details of quantity of inputs used and quantity produced was not available in detail. While calculating fixed capital depreciation is not accounted.

3. Accurate information of sales are not known, so sales analysis is not done in a detailed manner.

4. No earlier studies were available with regard to the industry. Hence the estimates made by the researcher cannot be considered as final, eventhough every effort was made to give possible accuracy by computing under different alternatives.
5. As mentioned earlier, this is an exploratory study and hence the non-availability of time series and cross section data was very much felt. This restricted the use of rigorous statistical tools and tests of significance.

1.15 SCHEME OF THE STUDY

The entire thesis is presented in seven chapters. The succeeding chapter elaborately discusses the origin, growth, trends, problems and prospects of small scale industries in India and Kerala. The chapter also includes a statistical profile of Third Census on small scale industry. The data profile of the Third Census reveal the latest trends and status of small scale industries. Knowledge about an industry will be complete only if we know the process behind an industry. The binding process is discussed extensively in the third chapter. Fourth and fifth chapters respectively discuss the economics and financial performance, which are complementary in nature also. What is reflected in conventional economics methodology may be revealed in financial performance analysis and vice versa. It is quite natural that the prosperity of small scale and traditional industries are limited by problems and constraints. Book binding units are also not free from problems and these problems and constraints are presented in sixth chapter. Summary, conclusions, suggestions and policy implications are presented in the end chapter.