CHAPTER – 1
INTRODUCTION AND RESEARCH DESIGN OF THE STUDY

The Leather making is an art that is timeless and is woven into the fabric of our great country. Nearly five thousand years after the first leather article was made in this country, Saddles India wishes to continue to carry on the legacy, imparting the passion and craft that has been handed down from generations for many more years to come. Tanning in the rural areas is done by indigenous techniques, making the use of this material easier.

The most popular Indian leather products include footwear and hand bags. The footwear comes in various designs of traditional embroidery, brocade or textile. Bright colors and unique designs are used. The all time favorite, kholapuri chappals of Maharashtra, are soft and very comfortable to wear. Special types of thickest shoes, called mojadis are designed in Rajasthan. They are decorated with silk, beads and metal embroidery.

Jaipur is famous for its fancy and sophisticated footwear. Bengal is famous for its handbags in batik style with cracks, bold curves, and traditional motifs. Being very ornamental, Kashmiri leather items are very popular among buyers the world across. The red leather embroidered with gold and silk is done in Madhya Pradesh. In Hoshiarpur (Punjab), appliqué work is made in colored leather pieces. Leather with silvery finish or metallic gold is done in Karnataka.

The post liberalization era has opened up floodgates of opportunities for the Indian leather industry. With global players looking for new sourcing options (in addition to China), the country is uniquely positioned to gain a bigger share of the global market. Renowned brands from the US and Europe are planning to import leather and leather products from India.
India’s leather industry is set to grow exponentially over the next five years with a growth target of 50% in exports from 2016-20. Per capita consumption of footwear in India is projected to increase and total domestic consumption is expected to reach up to 5 billion pairs by 2020.

The industry is highly labour intensive and employs around 3 million people out of which 30% are women. The sector has a potential to generate 250 jobs for every INR 1 crore investment. Indian leather industry was USD 17.85 billion in size during FY2015-16 where exports accounted for USD 5.85 billion and the domestic consumption was USD12 billion.

Tamil Nadu has around 70% of the Leather Tanning Capacity in India. Which has around 400 tanneries with nearly 50% located in Chennai. Processing leather from raw hides to finishing is concentrated in the Vellore belt (comprising Ranipet, Ambur and Vaniyambadi). Feeder units in Trichy, Dindigul and Erode supply tanned leather to tanneries in Vellore and Chennai. A majority of the 200 small tanneries are located in Chromepet and Pallavaram in Chennai. Though footwear components industry is fairly well developed, a substantial amount of footwear components currently imported.

There is considerable scope for indigenous manufacturing of such footwear components. An integrated footwear components project to supply a variety of components is an attractive investment avenue in Tamil Nadu.

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1Leather industry in India retrieved from www.cle.org accessed on Jan 2018.

Manufacture of full shoes is another attractive area for investment. Footwear industry in Tamil Nadu is currently poised to achieve forward integration and manufacture of complete shoes for exports. An integrated tannery to manufacture a variety of finished leather and leather goods is another promising opportunity.

Hence, this chapter presents History of leather industry, Global performance of leather industry, Evolution and growth of Indian leather industry, Scope of leather industry in Tamil Nadu. This chapter also describes Statement of the problem, Significance of the study, Objectives of the study, Research methodology, Research design, Collection of data, Frame work of analysis, Limitations, and Chapter Scheme.

1.1 History of leather

Leather is one of man’s earliest and most useful discoveries. Our ancestors used leather to protect themselves from the elements. Primitive man hunted wild animals for food then made clothing, footwear and crude tents from the hides. Like then, hides used today are a by-product. Animals are raised for the meat, dairy and wool industries, not for their hides. Roughly half of all leather produced today is used to make shoes, and about 25% for clothing. Upholstery demands only around 15% of the total product. Wall paintings and artifacts in Egyptian tombs dating back to 5000 B.C. indicate that leather was used for sandals, clothes, gloves, buckets, bottles, shrouds for burying the dead and for military equipment. The ancient Greeks are credited with developing tanning formulas using certain tree barks and leaves soaked in water to preserve the leather. This was the first record of vegetable tanned leather, which became a well-established trade in Greece around 500 B.C. Vegetable tanned leathers are still produced today and remain an active ingredient in modern tanagers. The Romans made extensive use of leather for footwear, clothes, and military equipment including shields, saddles and harnesses.
Due to its durability and comfort, leather has been used for seating throughout the history of transportation and furniture. It has always been the ideal material for making saddles and tack, as well as footwear. During the Middle Ages, leather became the cover of choice for dining chairs, because it was easy to maintain and did not absorb the odor of food. The invention of the automobile, the demand for softer, lightweight footwear with a fashionable appearance, and a general rise in the standard of living created a demand for soft, supple, colorful leather. The traditional vegetable tanned leather was too hard and thick for these requirements and thus, the use of chromium salt was adopted and chrome tanning became the standard for modern footwear, fashion and upholstery leathers.

Modern technology has allowed for innovation in the leather industry, as the development of chemicals and sophisticated processing methods have greatly expanded the aesthetics and feel of leather as well as the possible applications. Leather continues to be the material of choice, not just for commercial and residential furniture but for automotive, aviation and marine applications as well.

1.2 Global performance of leather Industry:

The leather industry in developed countries accounts for half a percent or less of the total manufacturing industries, while the same is one percent in the developing countries. Among the developed countries France, United Kingdom and Germany are the principal suppliers of leather.

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From the half of the eighties and nineties, this industry witnessed a decline in many advanced countries due to

- Wage rise
- Reluctance of new entrants
- High cost operation of leather units in following effluent control laws
- Availability of equivalent leather products at cheaper rate and failure of automation to replace the labour intensive operations.

The decline of leather industry in developed countries like U.S.A and the U.K would continue to afford an excellent opportunity for the developing countries like India to get a better share of the world market. Besides, the growth of this industry was supported by factors like dependence of developed countries on import for a variety of leather goods on India, liberalization of import-export policy, new incentive policy in the promotion of industry and India’s own natural strength in raw material resources and skilled but cheap labour force.

1. In U.S.A, a corporate approach is mainly followed. There are just 5% to 10% of proprietary concerns in both tanneries and footwear units.

2. In India, family concerns are operating at the cottage and small-scale levels. Big industrial houses with partnership have also entered into this industry. Recently Public Limited concerns have also been operating. Investments in India’s leather Industry are flowing from countries like Italy, Spain, and Portugal through Joint ventures. India’s export of Leather and Leather Products increased from Euro 1618.01 Million.
3. Around 70% of the global trade in leather products in the Western Europe and North America, USA is the largest importer accounting for about 25% of the global trade. Germany is the 2nd largest importer of leather products in the world. Developing countries have become major suppliers of various leather products to the industrialized world. But the problem is with regard to the quality. The competition is now among developing countries themselves.

4. China is the largest exporter of leather with a global market share of 18% followed by Italy and Germany. The Chinese leather Industry has been able to meet demand in expensive alternative in major way. Hence, some of leading leather goods manufactures in India have opted for importing cheaper skin from china, and do processing and finishing work at facilities in India, before exporting to western markets.

5. Compared to India’s share of less than 3% in the international leather export trade china’s share is a massive 55%. India still has a long way to export with china (exports $18 billion) or even smaller countries Italy whose exports amounted to $12 billion.

6. Although the US was the world’s largest importer of leather goods, only 11.7% of Indian leather exports could penetrate that market. Of course, India has nearly 60% share in the high – end leather garments export business4.

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4Dr.A.Vinayakamoorthy, Marketing of leather product in Tamil Nadu, Kisan world, Jul 2005 Pg No.17-19.
7. In Italy the tanning units are small units or proprietary concerns with limited facilities. They mainly adopt job work system and each owner specializes in one machine operation. The individual tanner goes to the different machinery job units to get their jobs done. The advantage of this system is that the tanners need not invest in costly machinery and commercial spaces, as these are costly inputs. Hence, considerable economy in the footwear sector also.

8. At present, 15 industrialised countries account for about 85% of the global import of leather and leather products from primarily 15 developing countries, many of which are in Asia. Nearly 50% of various leather products and more than 70 % of the footwear produced in the world comes from eight Asian countries, with China alone contributing 54%. Other characteristic features of the global industry are:

9. In many industrialised countries, 80% of domestic leather goods consumption is fed by imports.

10. Industrialised countries also produce large quantities of hides and skins, as a byproduct of the meat industry. With the decline of their leather – based industries (except Italy, Portugal), much of their hides and skins are exported as raw, semi-processed or finished leather.

11. To meet their growing demand for leather, many developing countries depend on the import of raw materials from industrialised nations.

12. Over the last ten years, the global leather trade has grown by about 17.6% at a simple average annual growth rate of 1.76%\(^5\).

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\(^5\) Dr.I Satya sundaram, Leather investments pouring, Facts for You, Feb 2007, Pg45-50
Table – 1.1
Global Trade Volume of Leather Industry during the year 2010 to 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Trade volume in billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>137.11</td>
</tr>
<tr>
<td>2011</td>
<td>145.34</td>
</tr>
<tr>
<td>2012</td>
<td>154.06</td>
</tr>
<tr>
<td>2013</td>
<td>163.30</td>
</tr>
<tr>
<td>2014</td>
<td>173.10</td>
</tr>
<tr>
<td>2015</td>
<td>183.48</td>
</tr>
<tr>
<td>2016</td>
<td>183.48</td>
</tr>
<tr>
<td>2017</td>
<td>206.16</td>
</tr>
<tr>
<td>*2018</td>
<td>218.53</td>
</tr>
<tr>
<td>*2019</td>
<td>231.64</td>
</tr>
<tr>
<td>*2020</td>
<td>245.54</td>
</tr>
</tbody>
</table>

Source: CLRI *Projection

The above table shows global trade volume of leather industry. It has increased from 137.11 billion in 2010 to 206.16 billion in 2017. It will be estimated to be 218.53 billion in the year 2018 and 245.54 billion in the year 2020. It has reflected positive growth during the year 2010 -2020.
Figure – 1.1
Global Trade volume of Leather Industry during the year 2010-2020

- Trade volume is expected to touch US$ 246 billion by 2020.
- Growth is projected @6% per annum.
- Global trade increase @ 79% by as compared to 2010 levels.

1.3 Evolution and Growth of Leather Industry in India:

The manufacture of leather is one of the oldest technological professions. Even before the beginning of recorded time, man has worked with hides and skins to make the earliest form of clothing. The leather making of primitive man was a race between his efforts and the destructive forces of nature. The tanner quickly became a specialist and tanning skills were passed from father to son and on these basis family fortunes and eventually, industrial empires were built⁶.

The concept of tanning and use of leather was prevalent from time immemorial between 5000 and 3000 B.C.

During the middle ages, leather tanners gathered together and formed guilds, because the tanning process is so odoriferous that no one wanted them around. The ‘Cordovan’ leather, which is primarily used in shoe making, comes from horse hide, was first produced by the Moors when they ruled in Spain during the 8th century A.D.

The history of leather manufacture in India can be traced back to ancient times as is evident from references to it in Vedic literature and reports from Marco Polo. The leather making activities were mainly in the hands of the village chamars and were sufficient to meet the local needs. International export started only during the 1880s.

The history gives an account of the origin of tanning process. The tanning is a chemical that occurs in a wide variety of plants and trees, most notably, the oak. It is widely believed that man happened upon the sealing qualities of tanning by the most precise of scientific methods.

The twentieth century marked a new period in the trade history of the Indian leather industry. During 1900-1914, the export scene was dominated by Calcutta and Madras with the former exporting raw goods and the latter tanned ones. In 1912-13, the total export of hides/skins amounted to Rs. 8 crores as against Rs. 4 crores from Madras. This was because 17 of the 22 organised tanneries were in Madras and the rest remained scattered in Bengal, Bihar, Orissa and Bombay.

The outbreak of World War II gave an impetus to the development of leather and leather goods industry in India. While in 1913-14 only 25 large units, employing 2,753 workers, were established, by 1941, the number of units had increased to 114 and the workers to 26,056. Before 1947, though the British had shown considerable interest in
leather manufacturing in India and had even established some chrome tanning units in
Bengal, India mainly exported raw hides and skins.

After independence, planned efforts were made by the government of India to
promote and develop export trade by the adoption of the Export Policy Resolution in
1970\(^7\).

In the context of recent developments in the leather industry, both at the national
and international levels, and recognizing the need to provide impetus to this sector for
export promotion and growth, the government of India constituted the Murthy Committee,
which went into the growth prospects of the Indian leather industry and submitted a
number of recommendations aimed at capturing at least 10 per cent of the global market
share by India. Salient recommendations of the committee include measures to encourage
greater consumption of non leather material in the domestic market, in order to conserve
and divert leather for export production, promotion of strategic alliances with developed
and developing countries through joint ventures with the Indian industry for material
management, product selling, chemicals, machinery etc.

In 2017, Indian Leather accessories are exported the world over, According to a
recent survey, there are 2091 manufacturing units currently in the country out of which
1803 units are in the small-scale sector and 288 are large-scale units to cater to the needs of
an ever-growing and demanding population\(^8\).

\(^7\)Dr.Sathya Sundaram, Leather time to step up exports, facts for you, Nov 2011 Pg17-19.
\(^8\)Dr.Thamarikannan,C. Sengottuvel, India’s growing leather industry a steady source of
foreign exchange; Facts for You Jul 2011.
Table-1.2

Region wise Export of Leather and Leather Products in India during 2012-13 to 2016-17

(Export value Rs in Crores)

<table>
<thead>
<tr>
<th>Region</th>
<th>2012-13 Value</th>
<th>2013-14 Value</th>
<th>2014-15 Value</th>
<th>2015-16 Value</th>
<th>2016-17 value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central</td>
<td>4341.19</td>
<td>6376.29</td>
<td>7152.27</td>
<td>6427.60</td>
<td>7451.63</td>
</tr>
<tr>
<td>East</td>
<td>3873.73</td>
<td>4956.14</td>
<td>5287.31</td>
<td>5031.71</td>
<td>5461.57</td>
</tr>
<tr>
<td>North</td>
<td>6287.59</td>
<td>7695.81</td>
<td>8199.14</td>
<td>8054.93</td>
<td>10391.09</td>
</tr>
<tr>
<td>South</td>
<td>9564.45</td>
<td>11777.62</td>
<td>12508.57</td>
<td>12209.13</td>
<td>11429.74</td>
</tr>
<tr>
<td>West</td>
<td>1300.99</td>
<td>1521.20</td>
<td>1703.19</td>
<td>1659.39</td>
<td>3971.21</td>
</tr>
</tbody>
</table>

Source: Council for Leather Export

It is observed from the table (1.2) that the region wise export of leather and leather products in India. The regions are Central, East, North, South and West. The Central region wise export of leather and leather products in India has increased from 4341.19 crores in 2012-13 to 7451.63 crores in 2016-17. The East region wise export of leather and leather products in India has increased from 3873.73 crores in 2012-12 to 5461.57 crores in 2016-17. The North region wise export of leather and leather products in India has increased from 6287.59 crores in 2012-13 to 10391.09 crores in 2016-17. The South region wise export of leather and leather products in India has increased from 9564.45 crores in 2012-13 to 11429.74 crores in 2016-17. It focused that the west region wise export of leather...
and leather products in India has increased from 1300.99 crores in 2012-13 to 3971.21 crores in 2016-17.

The South region wise export of leather and leather products in India has highest export earnings among other regions in India.

1.4 Government Supportive Measures:

Some of the government initiatives to promote the Leather Industry include,

- Leather sector is one of the “Focus Sectors” under Foreign Trade Policy of the Government of India.
- Entire leather sector is de-licensed facilitating for expansion on modern lines with state of the art machinery and equipments. 100% foreign direct investment permitted through automatic route.
- Import of specified machinery for use in leather and footwear industry allowed at a 5% concessional import duty.
- Duty free import of raw hides and skins, wet blue chrome tanned leather, crust leather and finished leather of all kinds including splits and sides thereof.
- Duty free import of specified critical inputs for manufactures of leather garments and other leather products including footwear under Duty Free Import Scheme(DFIS)
- Basic customs duty exempted on machinery or equipment for Effluent treatment plants in leather industry.
- Gradual lowering of import tariff- current peak customs duty is 10%
- Simplified import/export procedures – quick customs clearances.
1.5 Research Institution and Associations

- **Central Leather Research Institute (CLRI)**

  The World's largest Leather Research Institute was founded on 24 April, 1948. CLRI made an initiative with foresight to link technology system with both academy and industry. CLRI, today, is a central hub in Indian leather sector with direct roles in education, research, training, testing, designing, forecasting, planning, social empowerment and leading in science and technology relating to leather. State-of-art facilities in CLRI support innovation in leather processing, creative designing of leather products viz. leather garment, leather goods, footwear and development of novel environmental technologies for leather sector\(^9\).

- **Council for Leather Exports (CLE)**

  The Council for Leather Exports was set up in July 1984. A non-profit company registered under the Indian Companies Act, 1956, the Council functions under the Ministry of Commerce, Government of India. The Council is entrusted with export promotion activities and overall development of the Indian leather industry. The Council's activities also include promoting Foreign Direct Investments and Joint Ventures in the Indian leather industry. The CLE serves as a bridge between Indian leather exporters and buyers all over the world\(^{10}\).


• **International Council of tanners (ICT) (UK)**

The worldwide organisation for producers of leather the purpose of International Council of Tanners is to promote the interests of the leather industry internationally and in particular to provide for an interchange of views amongst members (ie. National associations of leather producers in membership with the ICT) on matters affecting the leather industry\(^\text{11}\).

• **International Council for Hides Skins & Leather Traders Associations (ICHSLTA)**

The International Council of Hides, Skins and Leather Traders Associations, ICHSLTA, represents the interests of the hide, skin and leather trades of more than thirty countries. It is the only international recognized body of its kind. Founded in 1929 as a non-political organisation, its principal object is the promotion, development and protection of the international trade in raw hides, skins and leathers. It's success is reflected in the growing number of member countries. Central to the work of the council is the drafting, publishing and constant revision of the international series of contracts which ensure the integrity of the trade, affording both maximum protection to both buyers and sellers. In this work ICHSLTA negotiates regularly with the International Council of Tanners to ensure accord on an unbiased set of rules for the civilized and fair conduct of the trade internationally\(^\text{12}\).

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\(^1\text{11}\)Retrieved from (http://www.tannerscouncilict.org) accessed on Jun 2017.

\(^1\text{12}\)ICHSLTA retrieved from (http://www.ichslta.org) accessed on Jun 2017.
• **International Union of Leather Technicians and Chemists (IULTCS)**

The International Union of Leather Technologists and Chemists Societies is founded for the purpose of encouraging the technology, chemistry and science of leather on a worldwide basis and arranging meetings for the national leather technologists and chemists associations of the world\(^\text{13}\).

• **National Leather Development Programme (NLDPE)**

A UNDP-assisted National Leather Development Programme (NLDPE Phase-I) has been executed by the Department from 1992 to 1998. The UNDP had contributed about US $ 17 million for the Programme. The Government of India provided counterpart funding of about US $ 11.065 million. The Programme was aimed at integrated development of leather industry through selected institutions/agencies in the country. The Programme was successful in upgrading training systems for design and manufacture of footwear, garments and leather goods. Research and Development work has got a fillip under the programme. The response from the artisan community and small enterprises clusters has been very encouraging towards the programme\(^\text{14}\).

• **The All India Skin and Hide Tanners and Merchants Association**:

This apex body of the tanning industry in India based in Chennai has three categories of members, namely, Associations of Tanners, Common Effluent Treatment Plants and individual tanners and merchants. At present, there are about 700 members from all over the country and membership keeps changing every now and then as members who fail to renew the membership are removed from the membership.

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\(^\text{13}\) IULTC retrieved from (http://www.iultcs.org) accessed on jun 2017.

As the custodian of leather industry AISHTMA is “charged with the responsibility of promoting the interest of tanning industry, leather trade and other allied trades and industries”, this is the main organization providing the link between the industry and trade on the one side and central and state governments on the other side. This 82 year old Association has been headed by stalwarts of leather industry from time to time\textsuperscript{15}.

- **Indian Leather Industry Foundation (ILIFO)**

Yet another Association promoted by the industry with the basic objective of providing pollution related services to the industry. It trains people in skills of running effluent treatment plants put up by tanneries. It has conducted an awareness programme in Ambur on workers’ safety and occupational health hazards.

**1.6 Emerging strengths of Indian Leather Industry:**

- Design development initiatives by institutions and individuals
- Continuous modernization and technology up gradation
- Economic size of manufacturing units
- Constant human resource development programme to enhance productivity
- Increasing use of quality components
- Shorter prototype development time
- Delivery compliance
- Growing domestic market for footwear and leather articles.

\textsuperscript{15}AISHTMA retrieved from (http://www.aisthma.org) accessed on jun 2017.
1.7 Scope of leather industry in Tamil Nadu:

The leather industry in Tamil Nadu has a long history. The unique feature of the industry is its strong tanning base. The traditional knowledge of tanning passed on from generation to generation coupled with the application of modern tanning technologies have made the State one of the leading producers of the finest quality leathers in the world. Also, Tamil Nadu is a leading manufacturer and exporter of value added leather products and footwear.

Annual turnover of Leather Industry sector in the State is Rs.45 billion. Of this, Tamil Nadu exported US $ 1000 million worth of leather products during 1999-00. Considering the rich resource endowment position and availability of skilled manpower, leather industry in Tamil Nadu is poised to scale new heights. Export of leather products from Tamil Nadu is projected to reach US $ 3.5 billion by 2004-2005.

Considering the potential of this sector, Govt. of Tamil Nadu in its industrial policy has identified Leather industry as a thrust sector and accords an attractive package of assistance including incentives, etc. Traditionally, Tamil Nadu is known for manufacture of finished leather and footwear components. In the recent years, Leather garments industry is also fairly well developed and has emerged as major foreign exchange earner. The leather industry aims to achieve an ambitious export target of $18.50 billion by 2020 from the present level of $6 billion. Assuming the State would account for 35 per cent share, then the exports from Tamil Nadu should also reach a level of $6.50 billion (Rs.39,000 crore) by 2020 from the present level of Rs.11,122 crore.

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1.8 Statement of the problem:

Leather industry in Tamil Nadu is considered to be very ancient and some say it is of more than two centuries old. The art of tanning of hides and skins is prevalent here since time immemorial. Once it was done in primitive tanning methods and passed on some improvements from generation to generation.

After independence, the leather industry has made a rapid technical and technological advancement, thanks to the efforts of tanners, technical know-how of the Central Leather Research Institute (CLRI) and well chalked out policies of governments in the state and at the centre based on the recommendations of the Seetharamiah committee report. Many people established modern tanneries and started doing high quality finished leather meant for shoes, garments, goods, upholstery etc. many modern units also came up for shoes, garments and goods. All these show that a tremendous industrial development has taken place within a period of about 30 years.

Tamil Nadu is in the forefront in leather with an annual production of more than 1.2 billion sq.ft. of finished leather. It is about 60% share in total finished leather production of our country and 45% share in total export from India. There are about 750 tanneries in Tamil Nadu and raw material processed per day is 500-1000 tons and annual turnover more than Rs. 10000 crores. There are 497 leather products units in Tamil Nadu producing about 59 million pairs of full shoes, 27 million pairs of shoe uppers. 7.1 million pieces of leather garments and 29.5 million pieces of leather goods\(^{17}\).

\(^{17}\)Leather hub of Tamil Nadu, retrieved from www.cle.org accessed on Jan 2018.
Consequently the state of Tamil Nadu once popular for E.I tanned hides and skins throughout the world particularly in countries like the U.S.A, U.K, Italy, West Germany, France, Japan etc; is now popular for leather and leather products in these and many other countries. India has earned laurels as a good and reliable supplier of leather and leather products in the world market. Hence with a view to make an in-depth study of the export potentials of leather industry in Tamil Nadu, the present study has been undertaken.

1.9 Significance of the study:

Continuous export growth in the various segments of leather industries shows that the leather industries play a vital role in the development of our economy. India can generate additional economic development growth by fostering leather industries activities within its borders, particularly within its burgeoning middle class.

With the availability of sufficient skilled labour and widening demand for leather products across various segments, the industry would scale newer heights in terms of turnover and exports. At present, the industry is said to tap the untapped markets to boost the trade volume. Moreover, The Government of India has approved Rs 2,600 crores special package for employment generation in the leather and footwear sector, which has the potential to generate 3.24 lakh jobs in three years and assist in the formalization of 2 lakh jobs as cumulative impact in footwear, leather and accessories sector.

India is poised to generate new business startups in the high technology area that can help it become a major competitor in the world economy. This is a unique development in India, a tanner becoming product maker and the product sector setting up tanneries or leasing out tanneries; At the same, as incentive to the exporters, the import duties on capital goods have been reduced; Today the industry rank 8th in the export trade
in terms of foreign exchange earnings of the country\textsuperscript{18}; Tamil Nadu occupies a principal position in the leather manufacture and export. The leather sector in Tamil Nadu is engaged in tanning and finishing of leather. Hence, it becomes imperative to study the export potentials of the Leather industry in Tamil Nadu; in this backdrop the present has been undertaken.

1.10 Objectives of the study:

The following are the major objectives of the present study.

1. To study the performance of leather industry in India and Tamil Nadu.
2. To know the leather production processing techniques of leather industry.
3. To examine the export potentials of leather and leather products in India and Tamil Nadu.
4. To analyse the export of segment wise leather products in Tamil Nadu.
5. To evaluate and compare the export performance of minor and major clusters of Tamil Nadu.

1.11 Hypothesis:

The following hypotheses are framed for this study and tested by using suitable statistical tools.

- There is no significant difference in quantity of export among different leather products from India.
- There is no significant difference in quantity of export among different leather products in Tamil Nadu.

\textsuperscript{18}Dr.Thamarikannan, C. Sengottuvel, India’s growing leather industry a steady source of foreign exchange; facts for you Jul 2011.
There is no significant difference in quantity of export of finished leather among different minor clusters in Tamil Nadu.

There is no significant difference in quantity of export of leather footwear components among different minor clusters in Tamil Nadu.

There is no significant difference in quantity of export of leather footwear among different minor clusters in Tamil Nadu.

There is no significant difference in quantity of export of finished leather among different major clusters in Tamil Nadu.

There is no significant difference in quantity of export of leather footwear among different major clusters in Tamil Nadu.

There is no significant difference in quantity of export of leather footwear components among different major clusters in Tamil Nadu.

There is no significant difference in quantity of export of leather garments among different major clusters in Tamil Nadu.

There is no significant difference in quantity of export of leather gloves among different major clusters in Tamil Nadu.

There is no significant difference in quantity of export of leather goods among different major clusters in Tamil Nadu.

1.12 Methodology

Research methodology is a scientific and systematic way to solve the formulated research problem. It includes the plan of research activities starting from collection of reviews to report preparation. The research methodology deals with research methods and takes into consideration the logic behind the methods.

The methodology adopted in the present study includes the selection of the study area, research design, the collection of data, tools applied and framework of analysis.
1.13 Selection of the study area:

Leather industry has a pride place in industrial map of Tamil Nadu. Leather industry is well-versed in export of product segments; more production clusters, high quantity of export also. It helps to earn more Foreign Direct Investment & Gross Domestic Product. The State of Tamil Nadu has huge demand of leather tender from leather industry. It has more leather clusters which are classified as major and minor clusters.

Minor Clusters concentrate their production towards finished leather, footwear components and footwear items only and hence their production as well as export is on small scale. So they are categorized as minor clusters.

Major Clusters focus their products towards several items such as finished leather, footwear components, footwear, leather garments, leather gloves and leather goods. Hence, their production and export are on large scale. So they are categorized as major clusters.

<table>
<thead>
<tr>
<th>Major Clusters</th>
<th>Minor Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chennai</td>
<td>1. Gudiyattam</td>
</tr>
<tr>
<td>2. Ambur</td>
<td>2. Vellore town</td>
</tr>
<tr>
<td>3. Ranipet</td>
<td>3. Pernambut</td>
</tr>
<tr>
<td>4. Vaniyambadi</td>
<td>4. Erode</td>
</tr>
<tr>
<td>5. Trichy</td>
<td>6. Dindugal</td>
</tr>
</tbody>
</table>

Due to these factors, the researcher has taken the present study on Leather Industry in Tamil Nadu.
1.13 Research Design

Research design is defined as the clearly defined structures within which the study is implemented. The research design in the present study is both descriptive and analytical in nature.

1.14 Collection of Data

The present study is based on secondary data. The secondary data pertaining to the study were gathered from the records published by Council for Leather Export (CLE) Chennai. Latest information were gathered from well equipped libraries in Centre for leather Research Institute, Chennai, and Bharathiyar University, Coimbatore and Madurai Kamaraj University, Madurai. Further, the secondary data were also collected from various leading journals. Annual reports of Ministry of Commerce and Industry have been used. A number of standard text books were referred to analyse the export potentials of leather industry. Data were mostly collected through research papers, conference documents, and other publication. The researcher also referred web portals for the purpose of present study.

1.15 Tools Applied:

After completion of data collection for this study, the analysis were done by using the following statistical tools:

1.15.1 Compound Growth Rate:

The growth rate in export of Leather and Leather products has been calculated by using semi-log or exponential function.

The growth rate is calculated as below.

\[ Y_1 = Y_0 (Hg)^1 \]

\[ AB_1 \] where

\[ Y_a = A \text{ and } (Hg) = B \]

\[ Y_1 = AB_1 \]
Taking log, both sides

Log Y1 = log A + log B

i.e; Y* = A*+ t B*

When log Y1 = Y*log A=A and log B=B*

This is simple regression line Y*and t B* can be estimated using least squares method. Then the estimate of compound growth rate can be obtained as g (Antilog B)-1). For expressing the compound growth rate in percentage terms, g has to be multiplied by 100. That is

\[100 \times g \times (\text{Antilog } B^{-1})\times 100\]

\[AB^* = \epsilon y^* t - (\epsilon y^*)(\epsilon t)\]

1.15.2Multiple Regression Analysis:

Multiple Regression Analysis helps to locate the undermining relationship among the multiple independent variables with the dependent variable. Further it explains the strength of relationship between the independent variable and dependent variable. Multiple regression analysis is a powerful technique used for predicting the unknown value of a variable from the known value of two or more variables – also called the predictors.

More precisely, multiple regression analysis helps to predict the value of Y for given values of X1, X2, ...... Xk.

The variable whose value is to be predicted is known as the dependent variable and the ones whose known values are used for prediction are known independent (exploratory) variables.

In general, the multiple regression equation of Y on X1, X2,......Xk is given by :

\[Y = b_0 + b_1 X_1 + b_2 X_2 + \cdots + b_k X_k\]
1.15.3 ANOVA

Analysis of variance (ANOVA) is a statistical technique that can be used to evaluate whether there are differences between the average value, or mean, across several population groups. With this model, the response variable is continuous in nature, whereas the predictor variables are categorical. In the simplest case, where two population means are being compared, ANOVA is equivalent to the independent two sample t-test. One-way ANOVA evaluates the effect of a single factor on a single response variable. When interpreting the results from the ANOVA procedures it is helpful to comment on the strength of the observed association, as significant differences may result simply from having a very large number of samples. ANOVA is a statistical model that tests whether or not groups of data have the same or differing means. The ANOVA model operates by comparing the amounts of dispersion experienced by each of the groups to the total amount of dispersion in the data.

1.15.4 Annual Growth Rate (AGR)

Annual growth rate refers to the increase in an individual’s portfolio or investment value over a year’s period. The annual growth rate can be evaluated for any kind of investment, but does not include any measure of the overall risk involved in the investment, as calculated by the volatility of its price.

\[
AGR = \frac{(Growth \ Rate \ in \ Period \ A + Growth \ Rate \ in \ Period \ B + Growth \ Rate \ in \ Period \ C + Growth \ Rate \ in \ Period \ X)}{\text{Number \ of \ Periods}}
\]

1.15.5 Statistical Diagrams: For diagrammatical representation of Data this tool was adopted in this study.
1.16 Framework of Analysis

- Compound Growth Rate, Mean Value, Standard Deviation Co-Variance is applied to analyse the export of leather and leather products from India.

- Consolidated statement of leather and leather products were analysed based on various dependent, independent variables by means of Multiple Regression and ANOVA.

- Total export of leather and leather products from Tamil Nadu were analysed based on various dependent and independent variables with the help of Multiple Regression.

- ANOVA is used to analyse the relationship between quantity of export and leather products in Tamil Nadu.

- Mean value, Standard deviation, Co-Variance, & ANOVA were used to analyse the export of leather and leather products from minor and major clusters of leather industry in Tamil Nadu.

- The domestic sale of leather and leather products in Tamil Nadu were analysed by using Annual growth rate.

1.17 Scope of the Study:

The geographical scope for the study was very wide to cover the minor and major clusters of Tamil Nadu. The topical scope has covered export potentials of leather industry in the study area. The analytical scope has covered the fulfillment of the study objectives; and the functional scope has been confined to offering a set of meaningful suggestions for increasing export of leather and leather products in Tamilnadu.
1.18 Period of the study:

Secondary data relating to export of leather and leather products for a period of 10 years from 2007-08 to 2016-17 were collected.

1.19 Limitation of the study:

The elaborate domestic sale of leather and leather products in Tamil Nadu have not been covered in the present study. The environmental challenges faced by the leather industry have not been covered.

1.20 Chapter scheme

The present study was divided into seven chapters, which are furnished below.

- The first chapter deals with Introduction and Design of the study.
- The second chapter presents the Review of Literature
- The third chapter presents Leather Industry- An Overview.
- The fourth chapter involves Production Pattern of Leather Industry in India
- The fifth chapter gives an analysis of export of leather and leather products from India and Tamil Nadu.
- The sixth chapter presents an analysis of export of Leather and Leather Products from minor and major clusters in Tamil Nadu
- The seventh chapter recapitulates the key findings, suggestions and conclusion of the study.