CHAPTER I

INTRODUCTION

Industrial development is the result of entrepreneurial activity. In a developing economy, the role of the entrepreneur in this respect is more critical than in a developed economy because industrial growth has to be faster in the former if it has to improve its relative position. The entrepreneur here should not merely be one who starts new firms or manages existing firms in a routine way making the same products, using the same processes and selling in the same markets as before; but he should be one who is constantly innovating, making new goods and new qualities, adopting new techniques of production, exploring new markets and new sources of supply of raw materials and components, and carrying out new methods of industrial organization.

Accordingly, in the leather industry, a tanner who makes semi-finished leather should make finished leather and then move on to the manufacture of leather goods all the while adopting new techniques of production. It is this aspect of industrial development, namely, the upward diversification of industry and improved technology that is referred to as
modernization of the leather industry. As this would imply the introduction of new processes involving the use of chemicals, machinery, qualified technicians and new skills it would amount to carrying out new combinations and "production of new goods and new qualities and new methods of production" which in the Schumpeterian sense would come under the term 'innovation'.

But entrepreneurs have differed in the extent to which they apply themselves to the task of developing and modernizing their firms, and a deficiency in this regard has been a hurdle to speedy industrial development of the underdeveloped economy. This differential entrepreneurial performance with respect to industrial modernization is the matter under study here. As the setting for the study is provided by the leather industry in North Arcot district of the State of Tamilnadu, the stages of modernization of the leather industry and the extent to which the industry had modernized in the district are now briefly described before presenting a model for industrial modernization by entrepreneurs.

Modernization of the Leather Industry

The products of the leather industry in India now include the following: semi-finished leather (vegetable tanned or chrome tanned); finished leather; footwear, garments and other leather goods.

**Semi-finished Leather**

Tanneries process the raw hides of cattle and buffaloes, and raw skins of their calves, and of goats and sheep first into semi-finished leather. There are two processes for semi-tanning leather. One of them uses vegetable materials like avaram, konnam or wattle bark or wattle extract, and myrobalam, when the process is called E.I. (East India) tanning and the leather is called E.I. or vegetable tanned. The other process uses chromium salts for tanning leather which is then called chrome-tanned. Till the seventies the output of the industry mostly consisted of semi-finished leather which was exported to Europe, the U.S.A. and other countries where it was converted into finished leather and was sold to the manufacturers of shoes, garments, gloves, upholstery, travel goods and industrial goods in those countries.

**Mechanization**

The E.I. tanning process is more than 200 years old
in South India. Here the leather is tanned by soaking skins in lime pits to dehair them, and then in bark and myrobalam pits for tanning them, and then by hanging them in shade to dry. All the work was thus manual and based on traditional knowledge and skills till some tanneries introduced machines in the later nineteen fifties. The machines included motorized drums, and paddles for turning the skins in the pits. This was the first change in the production process in the industry, and this innovation reduced the time for tanning from about forty days to less than ten. The use of wattle extract in drums as tanning agent instead of bark in pits was a simultaneous innovation.

Chrome Tanning

Tanning by using chromium salts in the place of vegetable tanning materials was the second important change in the tanning process, and here machines are used. Chrome-tanned leather can be exported either in wet condition as 'wet blue chrome' or in dry condition as 'chrome crust'.

Finishing of Leather

The next development was the conversion of semi-finished leather into finished leather suitable for making leather products. The finishing of leather involves a number of processes like retanning (E.I. tanning of chrome-
tanned leather) or rechroming (chrome tanning of E.I.leather), shaving, trimming, splitting, buffing, fatliquoring, dyeing with chemicals, applying resins, glazing, setting out and ironing, as necessary.

Making of semi-finished leather requires minimal machinery in the form of drums and paddles or no machines at all, and it needed very little technical skill in the use of chemicals. But finishing of leather involves the use of extensive machinery some of which are automatic, electronically controlled and highly sophisticated and the use of chemicals of varying types and qualities. It requires considerable technical skill in the use of both machines and chemicals, particularly for controlling the quality of finished leather.

Manufacture of Leather Goods and Footwear

The next stage in modernization would be for the leather finisher to make the finished goods themselves like garments or shoes.

Modernization of an industry thus implies the raising of the level of technology by the firms therein. As applied to the leather industry the stages in its modernization were described above, namely, chemical tanning, mechanization, leather finishing and manufacture of leather products. After
1967, a handful of tanners began making finished leather, particularly, shoe and garment leathers. In 1973, the Government of India adopted a policy of intervention aimed at forcing the industry to modernize itself so as to transform 75 per cent of its semi-finished leather exports into finished leather and leather products over the next five years. Details of this policy are given in Chapter III.

Modernization of the Tanneries in North Arcot

The tanning industry is concentrated to a considerable extent in Tamilnadu which accounted for more than half of the nearly 800 tanneries in India in 1973. The share of Tamilnadu in the country's export of semi-finished leather in 1973 was 90% in the case of B.I. and 50% in the case of wet blue.¹

And within Tamilnadu there is a considerable concentration of both semi-finished and finished leather sectors in the North Arcot district particularly in and around Vaniyambadi, Ambur, Pernambut and Ranipet. It is learnt that a similar concentration of tanneries exists in one other place in the world, the Graunlet/Hazamet conglomeration in Southern France.²

In 1972-73 North Arcot district had over 60% of the registered

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tanneries in Tamilnadu which was a little more than 30% of the registered tanneries in the whole country.

Among the above centres in North Arcot Ranipet and Pernambut are predominantly hide tanning centres. Ambur tans mostly goat and Vaniyambadi mostly sheep skins. These four centres accounted for a third of India’s leather exports in 1974-75.¹ It is because of this considerable degree of concentration of the industry in these four centres that entrepreneurs were sampled from these centres for the study. The next page has a map of Tamilnadu showing North Arcot and its principal tanning centres.

The Impact of the Policy Measures till 1978

Consequent on the measures adopted by the Government of India since 1973, the leather industry was able to diversify its production upwards to such an extent that finished leather accounted for 38.1% of the value of leather exports of India in 1977-78. As against the original aim of reducing the export of semi-finished leather over five years to a level of 25% of the 1971-72 level, this export fell to 45.7% of the 1971-72 level.²

¹Source: Small Industries Service Institute, Madras.
Figure 1.1 Important Tanning Centres in Tamil Nadu

(North Arcot District is shaded)
Considering the four centres taken for the study, by 1978, the following large firms, that is, units registered with the Directorate General of Technical Development, Government of India had set up all the necessary plant and equipment in their own respective tanneries and were making sophisticated finished leathers:

Ambur: T.A. Wahid & Co.,
South East Tanning Company
A. Rafeeq Ahmed & Co.
Farida Princ Tennery

Hanipet: M.A. Khizar Hussain & Sons

Vaniyambadi: S.K. Senjan Chettiar & Sons
A. Abdul Shukoor & Sons

Five of the above firms had also started units making footwear or shoe uppers.

By 1978 Vaniyambadi's tanners had built a cooperative common facility centre that contained the needed machinery for dry work in finishing leather to provide finishing services to small tanners in the locality.

Regarding the firms registered as small industries with the State Government, some of these had also acquired by 1978 the necessary plant and machinery to make sophisticated finished leathers which are exported by them. And some other tanners in the small industry group just make and export lower quality finished leathers including semi-
chrome natural suedes with the bare minimum of machinery and equipment. And there are still some tanners who continue to make semi-finished leather only including a few that have no machines whatever.

Considering the different types of hides and skins, and the different localities, modernization has not taken place to the same extent in cow and buff hides as in the case of goat and sheep skins, the tanners of the latter having modernized to a greater extent. Taking, say, the hide tanners only, those in Ranipet had modernized faster and by a greater number than those at Pernambut. The following table illustrates the differential pace of modernization in the four centres between 1973 and 1978.

**Table 1.1**

Number of registered tanneries in Ambur, Pernambut, Ranipet, and Vaniyambadi as in 1973 and 1978 classified by their output

<table>
<thead>
<tr>
<th></th>
<th>1973</th>
<th>1978</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ambur</td>
<td>Pernambut</td>
<td>Ranipet</td>
<td>Vaniyambadi</td>
</tr>
<tr>
<td>E.I. tanning only</td>
<td>34</td>
<td>20</td>
<td>27</td>
<td>39</td>
</tr>
<tr>
<td>Leather finishing</td>
<td>6</td>
<td>-</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>20</td>
<td>28</td>
<td>41</td>
</tr>
<tr>
<td>As on 31-12-1978</td>
<td>19</td>
<td>18</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>Leather finishing</td>
<td>28</td>
<td>2</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>47</td>
<td>20</td>
<td>31</td>
<td>44</td>
</tr>
</tbody>
</table>

(Source: Tanners' Associations of the four centres)
Modernization of the industry has been fastest at Ambur where finishing units exceeded prime tanning units by end of 1978. Vaniyambadi closely followed Ambur with an equal number of prime tanneries and finishing units by 1978 end. Ranipet had eight finishing units among its 31 tanneries while Pernambut was least modernized with just 2 units making finished leather out of 20.

Further, even in the same centre and among tanners of the same type of skin the degree of modernization differed between one entrepreneur and another.

Thus, under circumstances when rapid modernization was called for, the response of the industry to the policy of the government was not uniform between different sections of tanners and different tanning centres. A few tanners had begun the manufacture and export of finished leather and leather products even before 1973. Many tanners modernized their tanneries and started making finished leather for export after 1973. But a few continued to make semi-finished leather only and they would not modernize their units in spite of government intervention; this attitude was almost total in some tanning centres like Pernambut. Why this difference between the different tanners? And how to make them modernize their tanneries and do it quickly? The broad aim of the present study is to find the answers to these questions.
A Model of Industrial Modernization

A useful starting point for such a study would be to prepare a model for industrial modernization, a model that can provide the guidelines for determining what are the relevant questions to be asked and to indicate the hypotheses for investigation. The model is presented schematically in Figure 1.2. It is based on published literature on entrepreneurship and economic development and the case material collected from a sample of fourteen tanners in North Arcot district of Tamilnadu State by the researcher for his earlier study on the export of leather for his M.Phil. degree during 1978-79, and takes into account the present structure of the leather industry in the district.

The key figure in the model is the entrepreneur, who in a private firm is an individual tanner or the principal decision maker in a partnership of tanners. So far as the pace of modernization of the leather industry is concerned, this would depend very much on the entrepreneur's propensity to innovate, that is, his willingness to take risks and adopt innovations. Another factor would be the firm structure including its size and location and the nature of demand for the product. Larger and better managed firms, for example, can command resources and sell their output better than
Figure 1.2. Model of Industrial Modernization

Social Values
- Educational level of partners
- Occupational background
- Cosmopolitanism
- Achievement motivation

Entrepreneur's propensity to innovate

Demand for the product
- Size of Firm
- Location

Features of the Firm and its product

Industrial Modernization

Government policy
- Transfer of technology
- Finance
- Marketing
- Other infrastructural facilities

External economic factors
smaller firms with a weaker structure. A third variable would be the economic factors external to the firm particularly government policy and institutional assistance with respect to transfer of technology, finance, marketing and production.

A review of literature containing the empirical findings and theoretical foundations relating to entrepreneur-ship and modernization is presented in Chapter II. These materials would suggest that the entrepreneur's propensity to innovate is an important social psychological variable determining economic development, and this propensity may itself depend on a number of antecedent variables like the social values and the educational level of the entrepreneur and his partners, their occupational background, cosmopoliteness and individual attitudes relating to the business.

These antecedent variables can be further broken down. The entrepreneur's social values would probably depend on his religion and the level of his orthodoxy and the values of his family and his peers. By his occupational background would be meant his experience in the industry, his ancestral property holding, his father's occupation, and the earlier occupation of the tanner himself. His cosmopoliteness would include his membership of his trade associations and the part
he played in their activities, his contact with other progressive tanners in his place and elsewhere, his contact with change agents like the Central Leather Research Institute, his foreign buyers and firms supplying chemicals and machinery, and their technicians, his travel abroad for such contacts, his tapping the trade journals and other sources for technical and marketing information, and his participation in trade fairs that are regularly conducted in many cities all over the world. The attitudes of the entrepreneur relevant to modernization of industry would be his attitude towards risk-taking, his achievement motivation, his secular outlook and plan orientation and his credit orientation.

Among the three factors in the industrial modernization model, the features of the firm would themselves depend on the entrepreneur's abilities and the external economic factors.

The above model of industrial modernization can serve as a basis for a study involving a close look at the entrepreneurs in the leather industry whose firms were at different stages of development so as to provide an explanation for the differential pace of modernization of the industry in different centres and to identify the factors that have

1The role of the Central Leather Research Institute in the development of the industry is discussed in Chapter III.
made some of the tanners adopt an upward diversification in their production earlier than the others in the same centre. And this would also provide the answer to the question how the entrepreneurs can be made to modernize their tanneries faster.

Importance of the Study

When an export industry modernizes and exports value-added products the country gains in many ways. It earns additional foreign exchange. The level of technology rises not only of the concerned industry but also of ancillary industries like those supplying chemicals and machines. A study of entrepreneurship with respect to modernization of such an industry would give a general idea about the main barriers to technological progress in a developing country and the extent to which Government policy can combat technical and economic backwardness. And the knowledge acquired from the study about the conditions for success in technology transfer can be applied to other industries and suitable policy options can be determined for those cases.

Objectives of the Study

As already stated, the broad aim of the study is to find out why some entrepreneurs have modernized their units
while others have not and how they could be assisted to modernize quickly. With this broad aim, the following are the specific objectives of the study:

(i) To test the relationship between the antecedent background characteristics of the entrepreneurs and their propensity to innovate and modernize;

(ii) To study the relationship between the characteristics of the entrepreneur's firm and factors external to it, and modernization;

(iii) To identify the distinguishing characteristics of entrepreneurs who were early to modernize;

(iv) To explain the differential pace of modernization between hide and skin tanners and between firms in different centres;

(v) To examine the Government of India's policy and measures of intervention since 1973 in respect of the modernization of the leather industry;

(vi) To examine the role of institutions which provide assistance to the entrepreneurs in the industry for modernization; and

(vii) To suggest measures to quicken the pace of modernization of the leather industry.
Scope and Limitations of the Study

This study examines the relationship between certain independent variables like (a) the social psychological traits of the entrepreneurs, (b) the location, size and product demand of their firms; and (c) economic factors external to the entrepreneur and his firm, and the dependent variable, namely, the pace of modernization of the leather industry. It is based on a sample of tanners from four tanning centres in North Arcot district of Tamilnadu where the industry is fairly heavily concentrated. Apart from aggregate data based on official publications, the study is almost entirely based on the case histories of the tanners in the sample.

The entrepreneurs chosen for the study were already tanner exporters in 1972 and those who entered the industry thereafter have not been included for study. A number of small unregistered firms exist in the industry with no exports and they too have have been left out of the study.

The term 'modernization' is applied in a limited sense here to mean a vertical diversification of production in the industry, that is, the making of finished leather and leather goods instead of merely semi-tanning of leather. The study covered the modernization of the industry upto December 1980.
Sample Design

For the purpose of this study a sample of thirty entrepreneurs who were tanner exporters in 1972 and who had tanning units in Ambur, Pernambut, Ranipet and Vaniyambadi towns of North Arcot district were chosen. These four towns had a fairly heavy concentration of the industry and accounted for 30 per cent of the registered tanneries in the country and for over a third of its leather exports. The population frame from which the sample was selected was the list of members of the Leather Export Promotion Council, Madras in 1972. The sample included all the five entrepreneurs in the area who had been making and exporting finished leather even before 1973 when the government policy of intervention came into effect. All of them had large firms registered with the Directorate General of Technical Development, Government of India. The remaining 25 entrepreneurs were chosen by stratified random sampling, the stratification being on the basis of location, in proportion to the number of entrepreneurs in each of the above towns. This mixed sampling procedure was adopted so as not to miss any one of the pioneering entrepreneurs and so as to get a sample representing each of the four localities as nearly proportionately as possible, because the objectives of the study included the identification of the characteristics of the early modernizers and
to explain the differential modernization between the different centres.

The distribution of the sample among the four centres is as follows:

<table>
<thead>
<tr>
<th>Location</th>
<th>Total number of entrepreneurs</th>
<th>Number in the sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambur</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td>Pernambut</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Ranipet</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>Vaniyambadi</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
<td>30</td>
</tr>
</tbody>
</table>

Though the total number in the sample is only 30, the sample amounts to 38.5% of the population of entrepreneurs in the category studied, and so it can be considered a reasonably large sample for this type of research. These thirty firms are found to export nearly 30% of the country's export of leather and leather products in 1979-80.

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1 It is the general feeling of researchers that, given the under-researched character of the small-firm business sector, a small sample studied in depth would be the best approach. For example, M.J.K. Stanworth and J. Curran, 1973. Management Motivation in the Smaller Business. Epping, Essex: Gower Press, p.47.
Research Methodology

Collection of data for the study was made principally by interviewing the selected tanners, their partners and managers of the firms controlled by the tanners and their constituent tanning, finishing and leather goods units, using as interview guide a three-level questionnaire dealing with the entrepreneur himself, his firm and the units that form part of it. The questionnaire contained mostly open-ended questions which were backed up by considerable probing.

An interpersonal strategy was adopted in the form of initial visits to the tanners of a social nature in many cases and a good rapport was built with the respondents as repeated contact was necessary to collect the required data. Discussions were not necessarily in the order of the questions in the schedules, but, bearing the key points in mind as to what the conversation should not miss, a sympathetic ear was given to the problems and opinions of the entrepreneur as he chose to expose them.

Contacts were also made with non-management personnel in the firms of the entrepreneur and his friends in the industry and information provided by them were used as complementary material and to verify some of the statements of the entrepreneurs and their partners.
Visits to the production units and offices of the firms were used to have a general appreciation of their atmosphere, for an insight into this atmosphere can be useful to understand the characteristics of the entrepreneur.

A number of visits were made to the Central Leather Research Institute, Adyar, Madras to have discussions with its scientists on the problems of modernization. The seminars and the Leather Week Celebrations conducted by the Institute were attended to develop contacts with scientists and tanners and to acquaint oneself with the latest research findings of the Institute.

Visits were made to the Leather Export Promotion Council, Madras to have discussions with the Secretary and its Statistical Assistant and for referring to export statistics compiled by them. These figures indicated the performance of the industry in general and the sampled entrepreneurs in particular in the field of exports, and they also helped in cross-checking some of the information supplied by the entrepreneurs.

Officers of the associations of tanners and leather merchants at Madras and the four tanning centres chosen in North Arcot, the Madras office of the Export Promotion Council for Finished Leather and Leather Manufactures, and of
the small industry promotion bodies of the Central and State Governments were also contacted and discussions were had with them on the problems facing the leather industry.

Useful information about the growth of the firms was also found in leather directories and trade journals particularly *Voice, Tanner* and *Leather* which were profusely consulted. The *Directory of Small Industries in Tamilnad* published by the Industries Department of the Government of Tamilnadu contained data about the firms under study as on 1967.

The statistical techniques employed include the preparation of a modernization index for each tanner in the sample and the use of certain simple tests of the relationship between this index and the variables that were expected to be antecedent to the entrepreneur's propensity to innovate and modernize. Indices were also prepared for the cosmopolitaness of the tanner in every case and for traditionality in the case of Muslim tanners for the above purpose.

**Arrangement of Chapters**

Following this introductory Chapter, the second chapter examines the concepts of entrepreneurship and diffusion of innovation, gives a brief account of the important theories of entrepreneurial supply and of the
studies of Indian industrial entrepreneurs, brings out the relationship between entrepreneurship, innovation and modernization, and describes the theoretical categorization of adopters of innovations.

The third chapter is entitled the Role of Government in Modernization. It outlines the scope of policy measures that could be adopted by a government in order to modernize and develop industries in an underdeveloped country. Following this outline is a brief description of the Government of India's leather export policy since 1973. As the aim of this policy is to force the modernization of the leather industry it is described in this earlier chapter, while the role played by government sponsored institutions in providing assistance to tanners in this regard is described in a later chapter, namely the eighth.

The fourth and fifth chapters give the case histories of entrepreneurial innovation. The fourth chapter starts with an outline of the concepts used by researchers on modernization and the Roger's classification procedure used to categorize adopters of innovation and gives brief descriptions of the occupational background and industrial modernization of those tanners who can be grouped on the above basis as early modernizers. This covers those who made finished
leather in 1975 or earlier. The fifth chapter gives similar case histories of the late modernizers, that is, those who made finished leather during 1975-80, and of the laggards, that is, those who had not made finished leather even by 1980.

The sixth chapter entitled The Social Background of the Entrepreneurs examines the relationship between personality variables intrinsic to the entrepreneurs and the pace of their modernization. The personality variables examined are religion and traditionality, educational level of the entrepreneur and his partners, father’s occupation and the entrepreneur’s own earlier occupation and his cosmopolitaness.

The seventh chapter studies the relationship to modernization of product demand, location and size of the firms of the entrepreneurs.

The role played by institutions engaged in assisting the industry in the fields of technology transfer, finance, marketing and pollution control with respect to its modernization is discussed in the eighth chapter.

The ninth chapter is the concluding one which summarizes the findings of the study and the recommendations relating to the future strategy for quickening the vertical diversification of the leather industry.