CHAPTER I

INTRODUCTION

A modern economy is a set of productive activities which constitute an integrated system through a chain of interdependencies. Each group of these activities is generally referred to as a sector of the economy. A manufacturing sector constitutes the core of a modern economy. Industry refers to the fabrication of raw materials into intermediate components or finished products primarily by mechanical means which depend on inanimate sources of power. Technology is the most important element. In fact, technology generally determines to a great extent the size of the firm, capital and labour requirements, physical and technical attributes of product and the infrastructure. Most of the socio-economic features of any industry are derived from its technology. Technical characteristics of an industry show the social characteristics also. The products and the production technology are seldom homogeneous, variations in technology has crucial social and economic significance. For example, labour-intensive techniques of production are dominated by unskilled and semi-skilled labourers. Under such a system, production also takes place on a relatively small scale which implies greater degree of competition. On the other hand, as the degree of capitalisation of production techniques increases, requirements of skilled and highly educated manpower also increases, scale of operations rises and consequently the degree of competition is reduced, proportion of employees
rises whereas the proportion of self-employed persons declines, office and sales workers proliferate and the opportunities of employment of females rises.

No country can expect to reach higher stages of economic growth if it does not become a part of the industrialised world. Even for the development of agriculture, development of industries is considered to be essential. High yielding varieties of seeds, fertilizers, pesticides, irrigation, mechanical tools of improved farming and other modern inputs come from industries directly or indirectly. As the products of industry reach the developing areas, they become the source of change in socio-economic pattern of life.

The process of modernisation and industrialisation of an economy have their own characteristic features. First, organisational setup of the industries imposes with it distinct socio-economic characteristics. Level and pattern of investment in various industries is another factor that determines the degree and nature of industrialisation which is likely to change from one stage to another stage of development. Though the accumulated technical knowledge permits wide range of choice and substitution of products and processes have reduced the importance of local resources for industrial development, still it remains a fact that unused raw-materials make the developmental process easier. Exportable surplus, particularly of primary products, minerals and fuels per unit the capital import and such activities will attract foreign capital. Where particular resources are locally available, their fabrication will be a leading component of industrial output. This is one of the reasons that make food processing, textile manufacturing and the like figure distinctly in the early stages of industrialisation of developing countries.
Industrial factors also impose their impact on the nature and character of industrialisation. Property relations, labour and characteristics of capital markets are some of the institutional factors that affect industrialisation. The geographical spread of political order is also of some importance, since the "factors of production" often lie in scattered over places that have to be assembled.

The variations in the type of production is generally a reflection of the variations in technology. For example, the processes used for producing consumer goods', intermediate goods' with standardization and quality control, capital goods', chemical and metallurgical goods' etc. depict both inter and intra-industry variations. The impact of technical innovations are such that the same brand products may be produced by the technologies of fifty years' difference.

Since the path of technological development in advanced countries is labour-saving, it follows that the most of the underdeveloped areas generally import machines of old stage from the developed nation's for a variety of reasons. It also reflects their richness of labour and poverty in capital. The types of goods and commodities that the manufacturing sector turns out vary with the type and degree of technological development but it is very closely related to the size also. However, size as measured by capital, by the level of production, or, by labour force employed is not the same thing, since they are independent variables. But the measures have a certain degree of correlation among themselves.

The industrial sector can also be divided into two groups, viz, basically producers' goods' sector and the consumers' goods'
sectors. The producers' goods are used for further manufacturing either as capital or as intermediate goods. But consumers' goods are finally consumed directly by the final demand sector. Drug and Pharmaceutical industry falls in both the groups as it produces both the basic chemicals for meeting inter-industry demand for further production and the drugs for final consumption.

Drugs and Pharmaceutical industry has a great importance as an agent of both furthering and diversifying the process of industrialisation and as an aid to maintain or improve the health standards of a community. The maintenance of public health in country is mainly the responsible duty of the government for the welfare as well as economic reasons. Skills and efficiency of labour depend mainly on the health standards maintenance. In our country, some multinational firms have a predominant position in this sector. Due to their multinational character, they have the advantage of the huge capital-stock and advanced technology. In our country, the indigenous units are not so much technologically developed. It is believed that these multinational units, by exploiting the psycho-economical factors of the drug consumers, reap very high profits. They generally employ the aggressive sales technique and the large proportion of the returns out of it are despatched to the parent firms abroad which causes a regular drastic drainage of capital from the economy. The Hathi Committee has suggested to control the monopoly of the multinational firms. They should be induced to set up their own Research and Development cell for developing the production of basic drugs and chemicals also (illustrated in annexure 3), in which they have showed a clear disinterest. The Committee also suggested to ban the brand names and to introduce generic names so that these
units may not get a fair chance of exploiting the psychology of the drug consumers.

As far as the general industrial structure is concerned, the main strategy should be the use of capital-saving and labour-intensive techniques. This makes possible to utilise the indigenously developed technologies, though they are less sophisticated, and of "lesser quality" than the foreign technologies. Only then we can make use of our resources, physical and human, and push the innovative chain linking scientific research, development, design, tooling, first production and marketing of the new product. But this does not mean that our entrepreneurs will be totally ignoring the world experience. Links with the international developments can be maintained in many ways. As far as the technologies are concerned, after nationalising all the existing ones, if absolutely necessary, new technologies for the new products could be purchased by government and adopted to our needs accordingly. But these new technologies must not be allowed to go to the private hands giving them the chance to exploit the people. As far as the "product mix" is concerned, details are to be evolved on the basis of detailed plans. However, the suggestive idea can be the curtailment of the production of luxury goods to the minimum. In the case of drug and pharmaceutical industries' sector, the common drugs should be produced more and more at a lower cost and the production of unnecessary drugs should be totally curtailed.

The present study attempts to analyse the functional and cross-sectional inter firm relationships between size, technology and profitability. To be specific, its aim is to analyse the inter firm variations of the above three factors
with a view to test the following hypothesis:

(1) the technology of a firm determines the size and vice-versa.

(2) the technology of a firm has a positive effect on its profitability — that is to say, more modern is the technology, greater will be the level of the profitability in a given level of price.

(3) smaller is the size of the firm, less will be its profitability. Conversely, larger is the size of the firm, higher will be its profitability.

The study is confined to seven major firms of different sizes in Calcutta region of West Bengal. A stratified random sampling procedure has been adopted to get a rational and representative sample. The individual firms, thus selected, have been contacted personally. I have used the question which is preferred by A.S.I. The information thus collected has been tabulated and cross-tabulated so as to achieve the analytical insight and relevance needed for the study. Regression and correlation analyses have been used to test the above hypothesis.

The brief outline lines of the thesis are as follows:

Chapter 2 describes the theory of profitability.

Chapter 3 is devoted to the study of the size, technology and profitability of the sample seven firms. The final chapter contains the conclusion and resume.