CHAPTER - V
RESEARCH METHODOLOGY

5.1 Introduction-

Research methodology refers to the choice and use of particular strategies and tools for data gathering and analysis. This section describes what methodology was adopted for the research and the rational for the choice. Here we will discuss about research design.

Research design is a purposeful scheme of action proposed to be carried out in a sequence during the process of research focusing on the management problem to be tackled. It is a scheme of problem solving through proper analysis, for which systematic arrangement of managerial efforts to investigate the problem is necessary. It includes presentation of the research problem, the formulation of the hypothesis, data collection, survey of literature and documentation, the testing of hypothesis interpretation etc. There exists different types of research design.

5.2 Exploratory research-

Present research falls under ‘exploratory research’. In this type of research design, a specific problem is formulated for precise investigation or a specific hypothesis is formulated from an operational observation. Such studies are also known as formulative studies. Generally flexible research designs are popular for exploratory studies because discovery of ideas and new insights are emphasised. An exhaustive literature survey concerning the subject matter is undertaken.

This design takes into consideration the views and experiences of some selected respondents.

5.3 Title:

“Influence of Management Functions on Entrepreneurial Development – A study of Small Scale and Tiny Enterprises in and around Pune”
5.4 **Aims and Objectives of the study:**

1. To find out the relation between “Management functions and entrepreneurship growth.”
2. How “Management functions” play a vital role in the success of small and tiny industries.
3. To understand how the management functions regard to Planning, Organizing, Controlling, Coordinating, Directing are observed in small and tiny industries.

5.5 **Hypotheses:**

1. Success of the small and tiny enterprises and the entrepreneurship development in that sector is related to the effective implementation of management functions.
2. There is significant correlation between the turnover of the enterprise and adoption of controlling methods, such as 
   d) ISO, JIT, ABC analysis
   e) Productivity
   f) Ratio analysis
3. There is significant correlation between the turnover of the enterprise and the following factors.
   c) Staff that controls various production activities
   d) Staff that controls accounting activity
4. There is significant correlation between business growth and the following factors.
   c) Making timely payments to suppliers.
   d) Keeping one’s knowledge updated by reading books, journals, attending qualifying courses.

5.6 **Scope and limitation:**

In today’s era entrepreneur has to be alert and dynamic. He has to go through various steps to establish and operate the enterprise. He has to demonstrate his abilities at each and every step. The viability of the enterprise should be analyzed. Viability, profitability and sustenance of the enterprise are assessed based on the data gathered from the market. The hindering forces can be analyzed. The probability of success can be assessed to a greater extent. The facilitating forces can be used for the
benefits of the business, also effects of the hindering forces can be reduce. During the process of planning the economic analysis is carried out. The entrepreneur also identifies the risk fatal to the success of the enterprise. Various management functions and entrepreneurship functions are considered as they play an important role in entrepreneurial development.

The research work is confined only to the respondents from engineering base industries. Small scale and tiny industries are only tested that to in and around Pune city.

5.7 Research Methodology

The research methodology applied in the present study is quantitative as well as descriptive in nature. It is a exploratory research on a specific nature of the problem of investigation. To study the influence of Management functions on over all entrepreneurial activities of small and tiny industries in and around Pune city, it was decided to record opinions on various aspects related to the entrepreneurship. An exhaustive literature survey concerning the subject matter of investigation is undertaken.

5.7.1 Primary Source

This is a original work of research or raw data without interpretation that represent an official opinion. The survey of SMEs carried out in Pimpri, Chichawad, Sinhghad, Parvati, Hadpsar, Chakan, etc. areas in Pune.

The survey carried out was based on questionnaire. Questionnaires are the one of the most popular method of conducting scholarly research. Questionnaire is a form of formulated series of questions relating to a research study. It is a paper sheet or a few papers containing a number of questions. These questions are very carefully drafted keeping in view the main object, nature and scope of the problem under investigation. They provide convenient way of gathering information from target population. They are easy to analyze and are familiar to most people. Following care was taken during structuring the questions.

1. The size of the questionnaire was kept as modest as possible as possible but not at the cost of necessary information to be collected.
2. Appearance was kept elegant.
3. Questions were designed as simple as possible.
4. Maximum clarity was maintained.
5. Sequence of questions was maintained.
6. It attracts the attention and generate the interest of the informant.
7. Sufficient scope is given to the informant to express all the relevant facts, thought and information.

Questions were related to find out the attitude of the entrepreneur, towards entrepreneurial functions and management functions. Under the headings of management functions [Planning, Organizing, Controlling, Coordinating, Directing], various questions related to entrepreneurship and concerning management functions are designed. Attitude of the entrepreneur and his enterprise performance can be understood well.

All the respondents were thus contacted and inputs were gathered. Statistical data is collected personally, by directly approaching the people concerned. This has helped to study thoroughly and closely the problems which are under investigation. This method of gathering data being of an intensive type a good deal of time, patience and energy is required.

The responses received were further analyzed and were tabulated. The tabulation helped to draw the inferences related to Influence of management functions on entrepreneurial growth. Conclusions drawn are represented in tables and also for few aspects the graphical representation is made.

5.7.2 Secondary sources

An extensive research was carried out by accessing various books, Journals, Research monographs and allied materials mostly from the various institutions in and around Pune.

- IBS Pune
- Mahratta chamber of Commerce, Industries and Agriculture (MCCIA)
- BYST Pune
- Tilak Maharashtra Vidyapeeth
- Internet –Ebesco Link, Informatics [informindia.co.in] –website sources.
- Gokhale Institute of Politics and Economics

Though the above list of data cannot be said to be complete, yet it can be pointed out that it indicates fairly the chief sources of secondary data. Before
accepting secondary data it is scrutinized properly in regard to its accuracy and reliability. Timely relevant data is only considered.

The focus of the study is on small and tiny industries in and around Pune. At the outset, it is essential to know the history and the present status of industrialization in and around Pune.

5.8 Industrialization in and around Pune.

Pune as an industrial township really came into its own only with the Explosives factories that were set up during the World War II in Khadki. The next milestone was the entry of Kirloskar Oil Engines Ltd., which signed an agreement with Associated British Oil Engines Export Ltd., UK, in the mid-forties with which Pune started developing its strengths as a hub for engineering. Some years later, Finolex and the JN Marshall groups also chose to set up their manufacturing units along the Mumbai-Pune belt.

These developments led to a mushrooming of industrial growth along the Pune-Mumbai corridor and especially in the Pimpri-Chinchwad area. At that point in time, the State Government of Maharashtra had imposed some restrictions on industrial growth in Greater Mumbai. As a result, suburbs of Pune like Pimpri Chinchwad thus proved to be the logical area for accommodating the spill-over of the industrial activity. In 1956, the Pune Municipal Corporation set up the Hadapsar Industrial Estate and gave octroi exemptions on the raw material and machinery required for the units established therein. Thus, some units started operations in Hadapsar as well.

In 1960, MIDC (Maharashtra Industrial Development Corporation) set up a huge industrial estate on 4000 acres of land at Bhosari in the Pimpri-Chinchwad Industrial Complex. It was in fact this development following which a spate of auto and auto-component manufacturers, including Swiss companies (Alfa Laval, Atlas Copco, Sandvik Asia and SKF were some of the early birds), made Pune the hometown for engineering units. Even as an eco-system of SSI suppliers started developing in Pune, other bigger companies such as Ruston and Hornsby, Premier Automobiles (Machine Tool Division), Buckau Wolf, K. S. B. Pumps, Bajaj Auto, TELCO and Hindustan Antibiotics also established their base in Pune.

The development of Pune as an auto-hub has been particularly evident in the period 1960-1990. The importance of Pune as an auto-hub lies in the fact that it
produces different ranges of vehicles from 2-, 3- and 4-wheelers to trucks, tractors, buses, luxury cars etc. There are a large number of ancillary units that supply components, assemblies and sub-assemblies to these automobile manufacturers. One finds huge amount of businesses happening within the Pimpri-Chinchwad units themselves. Right from cutting metal, coating, nitriding, fabrications, machining to manufacturing of press components and chassis building, the Pune auto-components industry has it all.

However, even the industrialization in Pune has begun at Pimpri-Chinchwad MIDC, it has certainly not restricted itself to PCMC industrial area; there are more industrial activity centers that are coming up in the district.

Pune, as a region, has witnessed phenomenal business growth over the past decade. Be it automobiles, auto-components, Information Technology or education, Pune Mfg. Inc. has made it to the headlines.

There are several indicators of this growth and of the increasing contribution that Pune is making to the state economy of Maharashtra. Whereas there is more and more entry of businesses into Pune, it is observed that there is no reliable record of how many units are actually operational in Pune, in what segments and where. Again there is no documentation on the employment and turnover they generate, their contribution to exports and their projections of future growth.

As we are aware, MCCIA has successfully conducted a mammoth survey of over 9800 manufacturing and service sector units operating in Pune district. Of these, around 8500 are manufacturing units whereas 1300 are associated service sector units. While trying to initially “guesstimate” the total number of industrial units in Pune district, MCCIA cross-checked every possible data-source that was available operating in Pune district.

These figures regarding number of units in Pune as received from the different registration authorities are given in the table below:-
Table No. 5.1

Data from official sources on number of units

<table>
<thead>
<tr>
<th>Registration point</th>
<th>No. of units</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational units within MIDC estates</td>
<td>2956</td>
<td>MIDC</td>
</tr>
<tr>
<td>Excise paying units</td>
<td>3500</td>
<td>Office, CC, Excise and Customs</td>
</tr>
<tr>
<td>Micro, Small and Medium Units</td>
<td>2400</td>
<td>DIC</td>
</tr>
<tr>
<td>Factories in Working Condition</td>
<td>3272</td>
<td>District Statistical Abstract</td>
</tr>
<tr>
<td>Units holding octroi current account with PCMC</td>
<td>110</td>
<td>PCMC, Octroi Department</td>
</tr>
<tr>
<td>Registered, operational (manufacturing and non-manufacturing) companies in Pune</td>
<td>5000</td>
<td>ROC Office, Pune</td>
</tr>
</tbody>
</table>

They surveyed nearly 10500 units in and around Pune of which 8500 units are into manufacturing operations. Within this group 6375 units are small scale and micro / tiny scale units.

Hence, universe considered for sample size is 6375 no. of industrial units (small scale and tiny).

5.9 Sample size determination:

Sample size determination is done by mean statistical method. Most of the variables are measured with interval scale (5 point scale). Hence, sample size is determined by mean method for appropriate sample.

Formula used for sample size determination by mean method is,

\[ n = \frac{Z^2 \times S^2}{e^2} \]

where, \( n \) = sample size

\( z \) = standard size for 95% level of confidence (1.96)

\( s \) = standard deviation

= range/6

= \( \pi -1)/6 \)

= 0.666

\( e \) = tolerable sample error

= 15%
Hence,
\[ n = (1.96)^2 \times (0.666)^2 / (0.15)^2 \]
\[ = 3.84 \times 0.444 / 0.0225 \]
\[ = 75 \]

Sample size determined is 75 no. During fieldwork total 84 nos. of respondents are covered.

**Figure No. 5.1**

*Pune City Map*

**Distribution of sample size 84 no. in and around Pune.**

[These small scale and micro/tiny scale enterprises are surveyed for data collection.]

- Pimpri- Chinchawad Munciple Corporation. – 44 no. of units.
- Dhayary, Sinhagad road. – 20 no. of units.
- Katraj, Narhe-Ambigoan. – 10 no. of units.
- Parvati, Satara road. – 5 no. of units.
- Hadapsar. – 5 no. of units.
NOTE: - 1

Analysis using SPSS – Collected data is analyzed by using SPSS.

Reason for adopting this tool – Variables such as different qualities of entrepreneurs, functions of entrepreneurs, management functions and small scale business variables are to be analyzed, statistical analysis was found suitable for result accuracy.

**Chi-square test:** -

It proves the relation between (significant association) turnover of the company and

1. Controlling method.
2. Productivity.
3. Ratio analysis.
4. Management staff.
5. Account staff.

**Multiple Regression analysis:** -

It establishes relation of business growth and different variables related to management functions.

NOTE: - 2

**Women entrepreneurship:**-

Subject of research is related to management functions and entrepreneurial growth. Gender of the entrepreneur is not playing any role in research questions. Hence, women- entrepreneurship is not focused separately.