CHAPTER THREE
RESEARCH METHODOLOGY

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CHAPTER THREE
RESEARCH METHODOLOGY

The previous chapter, (Chapter 2), presented in detail the review of Literature. In this current chapter, research methodology used for this research work has been presented in detail. On the basis of the identified research gaps, questionnaire has been designed and through pilot survey, it has been tested. On account of pilot survey findings, questionnaire was modified and administered. The chapter ends with the summary of this chapter.

3.0. Introduction:

The research titled “Study of Marketing Problems of SMEs in the Field of Manufacturing Industries in Pune with Reference to MIDC Chinchwad Area” has been conducted to find out the major marketing problems faced by SMEs in Pune. The marketing problems were formulated on the basis of identified research gaps after the review of various secondary sources.

3.1. Research Problems:

Manufacturing SMEs in MIDC Chinchwad area are facing various marketing problems such as inability to sell their products, constraints in conducting marketing research, promotional activities and branding. Some major research problems of the research work are as below:

Q1. What are the constraints faced by SMEs in Pune in product promotion?
Q2. What are the marketing research problems encountered by SMEs in Pune city?
Q3. What are the e-marketing problems encountered by SMEs in Pune city?
Q4. What are the problems encountered by SMEs in Pune city in managing customer relationships?
Q5. What are the reasons for not implementing brand management techniques by SMEs in Pune city?
3.2. Scope of the Study:

This research work has a great impact on SMEs of Pune as well as whole Indian SMEs as the key focus of this research is to help SMEs in solving its marketing related problems. By solving marketing related problems, there should be sky as the limit and would help in the dream vision of honorable Prime Minister of India Mr. Narendra Modi’s “Make in India.” The decision to study the SMEs of Pune with reference to MIDC Chinchwad area due to the following major reasons:-

a. There are around 9,400 small and medium size units in Pune employing about 5.6 lakhs people.

b. The annual turnover of Pune manufacturing hub has grown manifold during the last two decades. While in 1985 the turnover was Rs 2,749 crore and after 2007, it was more than Rs 5,2000 crore.\(^1\)

c. SMEs in Pune region had shown a growth rate of 33 per cent in last two years and expecting an average revenue growth of 40 per cent in next couple of years.

d. SME segment form nearly 99 per cent of the Pune economy in terms of numbers.

e. Nearly 84 per cent of the total industrial jobs in the Pune region are created due to SMEs.\(^2\)

f. The total employment in SMEs amounts to approximately 4.17 lacs.\(^3\)

3.3. Research Objectives of the Study:

1. To study marketing profile of SMEs in manufacturing industries in Pune.

2. To study marketing problems faced by SMEs in manufacturing industries in Pune.

3. To find out how SMEs are using latest digital marketing techniques.

4. To study brand building activities of SMEs in manufacturing industries in Pune and problems associated with them.

5. To attempt critical review of marketing efforts of SMEs and make suitable suggestions.
3.4. Research Hypotheses of the Study:

The researcher has developed five null and five alternative hypotheses on the basis of identified research gaps. The developed hypotheses were as follow:

**Hypothesis#01: Lack of marketing research orientations and lack of infrastructure facilities for marketing research are the major marketing research problems faced by SMEs in Pune.**

H₀: Weightage respondents attach to the various marketing problems do not differ in magnitude.

H₁: Weightage respondents attach to the various marketing problems differ in magnitude.

SMEs in Pune were not conducting marketing research frequently and were manufacturing their products without conducting marketing research. Due to this, the SMEs were not able to cater the needs of the markets as they were unaware about the needs of the market. Therefore marketing research was one of major marketing troubles faced by them.

**Hypothesis#02: Time constraint and Lack of trained research personnel at junior level are the major hurdles in conducting marketing research.**

H₀: Weightage respondents attach to the hurdles in conducting marketing research do not differ in magnitude.

H₁: Weightage respondents attach to the hurdles in conducting marketing research differ in magnitude.

SMEs were not ready to invest time and money in marketing research as they were happy with traditional approach of marketing. The employees were unskilled and untrained enough to conduct it.
Hypothesis #03: SMEs are facing problems in conducting e-marketing.

H0: Weightage respondents attach to the problems associated with e-marketing do not differ in magnitude.

H1: Weightage respondents attach to the problems associated with e-marketing differ in magnitude.

E-marketing has become the need of the today’s enterprises as it is very cheaper and better way of marketing the products and help in branding more effectively. SMEs which were following traditional marketing approach were not well trained and incapable to adopt e-marketing for product sales and brand promotion.

Hypothesis #04: There is no more CRM budget for managing customer relationship by SMEs in manufacturing industries in Pune.

H0: Weightage respondents attach to the problems faced by SMEs in managing customer relationship do not differ in magnitude.

H1: Weightage respondents attach to the problems faced by SMEs in managing customer relationship differ in magnitude.

Customer attraction, acquisition and retention were very essential for SMEs and for doing all there was a need for budget. SMEs were not focusing more on CRM.

Hypothesis #05: SMEs in Pune city avoid branding since they believe brand building to be a time consuming and expensive exercise.

H0: Weightage respondents attach to the reasons for not being able to build brand do not differ in magnitude.

H1: Weightage respondents attach to the reasons for not being able to build brand differ in magnitude.
Brand is the identity of an enterprise which helps in selling the product easily in the markets. Brand creates a unique image of the enterprise’s product in the market which has a competitive advantage over the other enterprises. SMEs in Pune were not well versed in the art of branding and hence were facing various problems in brand awareness, brand visibility.

3.5. Research Type and Research Design:
Preparing research design is main central part of any research study as it acts as a guide for the researcher. The research type and research design for this study has been presented as below:

3.5.1 Research Type
This is an exploratory and analytical study in nature. In an exploratory study, the major emphasis is on the discovery of ideas and insights, and hence, while formulating a research design, one should permit it to be flexible enough, so that different aspects of phenomenon could be studied. The main purpose of an exploratory study research is that of formulating a problem for a more precise investigation or of developing the working hypotheses from an operational point of view.4

This current study has emphasized more on systematically identifying the marketing problems faced by SMEs due to which they are not able to exploit the market. The researcher has gathered background information from various sources on these problems to redefine the research questions for further studies on it. This is also an analytical study as it is concerned with cause-effect relationship and the reasons for the problems. SMEs are facing marketing related problems and due to these, there are many side effects on them such as low customer base, low market share and closing of units. The researcher has critically evaluated the subject to find the most relevant information from the research work and it lead to new knowledge.5, 6 & 7
3.5.2 Research Design

The researcher has selected various marketing problems faced by SMEs in MIDC Chinchwad area. After selecting the problems, the hypotheses were formulated considering the research objectives by the researcher. Related to the research study, review of literature was done and research gap was identified. On the basis of identified research gap, questionnaire has been designed so that the data may be collected from MIDC Chinchwad area by selecting sample size of about 250 manufacturing SMEs from all manufacturing SMEs of MIDC Chinchwad area. The research design for research work has been presented as below:

3.5.2.1 Universe

All manufacturing Small and Medium sized Enterprises of MIDC Chinchwad in Pune has been selected as a universe for this research work. These SMEs make components, raw materials, spare parts, do assembling and make complete products.

3.5.2.2 Sampling Units

SMEs in the field of manufacturing industries of MIDC Chinchwad area were the sampling units for this research work.

3.5.2.3 Sample Size Determination

Sample size determination techniques using mean method was used to determine sample size for research study. As variables in this study have been measured using five point measurement scale, therefore, this mean method was used as a sample size determination technique.

Sample Size Determination Formula Used:

\[ N = \frac{z^2 \cdot s^2}{e^2} \]

In the above formula, ‘z’ denotes standard score linked with confidence level which is 95% in present case. Thus standard scores equals to 1.96 which has been taken from normal table.
‘s’ denotes variability in data set and is calculated as below:

\[
\text{Variability} = \frac{\text{ratio of range}}{6}
\]

Here in the above formula, ratio of range is equal to 5-1 = 4

In the above calculation, 4 is variation between minimum and maximum value in five point scale and 6 refer to ±3 standard deviation values on the X axis of the standard normal curve, which takes in all the data set in study. Therefore the calculated variability = 4/6 = 0.66

‘e’ denotes the tolerable error = 8% in the current study and \( n \) denotes sample size.

\[
\text{Sample size } n = \frac{1.96^2 \times 0.66^2}{0.08^2} = 261.
\]

Hence, the calculated sample size was 261.

Questionnaires were distributed to 270 SMEs. After editing the filled in questionnaire, a few were found to be invalid or incomplete or showing internal inconsistency. Thus effective and valid sample size at hand was that of 250.

3.5.2.4 Sample Size

The Sample size finalized to carry out the present study was 250 SMEs (Small and Medium sized Enterprises) of MIDC Chinchwad area.

3.5.2.5 Sample Technique

Stratified Sampling technique has been applied for the study. In this method, the researcher has divided all manufacturing SMEs of MIDC Chinchwad area into strata and sample was drawn from each stratum. 50 was the sample size from each stratum.

The segmented five strata of the whole universe are as below:

1. SMEs making components.
2. SMEs making raw materials.
3. SMEs making spare parts.
4. SMEs doing assembling and
5. SMEs making final products.
The reason for using this method was to increase the precision of sampling.

Table No. 3.1: Sample Size distribution among five strata

<table>
<thead>
<tr>
<th>SMEs making components</th>
<th>SMEs making raw materials</th>
<th>SMEs making spare parts</th>
<th>SMEs doing assembling</th>
<th>SMEs making final products</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

No service industries have been selected for this study as this study was on manufacturing industries.

3.5.2.6 Sampling Methods

Purposive and Convenience which are non-probability sampling methods have been used for this research work by the researcher. A purposive sampling method has been used to ensure representative sampling selecting a sub-group of SMEs which are the representative of the whole SMEs in MIDC Chinchwad area. The entire sample is homogenous in nature and this method is very useful for the research work as it is less expensive, less time taking and the sample selections are based on the judgment of the researcher. The second sampling method used is Convenience sampling method to easily select the sampling units so that the researcher should have convenience such as easy availability of information and sampling unit’s nearness. Hence as per the above reasons these two sampling methods have been used by the researcher.\(^8\)

3.5.3 Tools and Techniques

All the collected data from primary sources should be classified, tabulated, analyzed and interpreted using different statistical tools and techniques like - Likert scale and mean. The developed hypotheses have to be tested using Friedman Chi-square test and Cochran’s Q test. Friedman Chi-square test which is a non-parametric test for testing the difference between several related samples.

The test has to be used in this research study to test four hypotheses as the questionnaire is based on five-point scale from strongly agree to strongly disagree and are rated from 5 for strongly agree to 1 for strongly disagree.\(^9\)

Cochran’s Q test has to be used in this research study to test one hypothesis having dichotomous variables (Yes=1 and No=0).\(^10\)
3.5.4 Collection of Data for Research

To achieve the research study in scientific and logical manner, the researcher has to collect data using primary data collection method.

3.5.4.1 Primary Data

In this present research study, the researcher will have to conduct surveys using questionnaire through physical interviews by visiting various SMEs of the above mentioned strata will collect primary data by meeting Owners, Proprietors, Entrepreneurs, Marketing Heads, Site In-charges, Marketing Executives, Marketing Managers and Production Managers etc. from various SMEs in the field of manufacturing industries of MIDC Chinchwad. The researcher has designed a questionnaire containing 39 questions to take an opinion of various SMEs units in MIDC Chinchwad area which are in manufacturing fields. The questionnaire compromise of close-ended and open-ended questions.

3.6. Pilot Survey:

The pilot survey was conducted by the researcher by visiting 20 SMEs units in MIDC Chinchwad area selecting 4 SMEs from each five segmented strata. Feedbacks from experts in the research area were also taken.

3.6.1. Objective of having Pilot Survey

The objectives of conducting pilot survey were as follows:-

1. To test the questionnaire.
2. To find out that the research work is in right direction or not.
3. To know the achievable numbers of objectives and hypotheses.

As per pilot survey findings, it was found that there was a need for refining and modifying the questionnaire to reach some specific results. Hence, the researcher has refined the final questionnaire on the basis of the pilot survey findings and collected the final data for the research work by visiting about 270 SMEs units through physical interview. After editing the filled in questionnaire, a few were found to be invalid or incomplete or showing internal inconsistency. Thus effective and valid sample size at hand was that of 250 manufacturing SMEs.
3.7. Test of Reliability:

Using Test Retest method, reliability has to be tested as this is the most straightforward method used to access reliability wherein the same variables and instruments are administered to the same respondents on two different occasions, then the two sets of responses are correlated using the statistical tools like Spearman’s Rank order correlation, Phi and Cramer’s V.

3.8. Summary of the Chapter:

In this part of study, the blueprint of the proposed research work has been planned to achieve the desired results. On the basis of identified research gaps, the questionnaire was designed and prior to final data collection, pilot survey was conducted to test the questionnaire. The respondents have to be contacted personally through visits. The collected data have to be compiled and coded for analyzing it. To test the hypotheses, statistical tools like Friedman Chi square test and Cochran’s Q test have to be used. In this way, this chapter has acted as the central part in the whole thesis.
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