Chapter IV

METHODOLOGY

4.1 Introduction

This chapter describes how the research proposal came to be formulated and how the research was carried out.

A review of some studies on small scale industries and a case for a study on the marketing practices of small scale industries has already been given in Chapter II, hence the same is not being repeated.

(a) **Statement of the Problem :**

The small industrialist performs or rather combines in himself the responsibilities of all functional areas such as production, finance, marketing, etc., which otherwise are performed by paid professional employees under division of labour in the organised sector. Baumback calls this "the one-man band problem". As the study is concerned with marketing aspects only, the problem that is taken up for investigation is to find out how systematic and scientific are the marketing practices of the small scale entrepreneurs.

(b) **Research Objectives:**

The objectives of the study are :

(i) to ascertain, the level of performance of

the small scale entrepreneurs on the different marketing practices;

(ii) to ascertain, the existence of relationship and the extent of relationship between the performance variable, (sales), and predictor variables, (the marketing practices), both for the entire sample and for sub-samples. The marketing practices included are :

- competitive and demand practices (CDP),

- product practices (PDP),

- new product practices (NPP),

- pricing practices (PRP),

- promotion practices (PMP);

(iii) to differentiate the various sub-groups in respect of their marketing practices. The sub-groups that are mutually exclusive are,

: Market oriented group - Job work oriented group,

: Partnership group - Proprietary group,

: Ancillary SSI group - Non-Ancillary SSI group,

: High Capital Intensive group - Low Capital Intensive group.

(c) Focus of research

The focus of research in the present study is concerned with relationship among the characteristics of the

objects, (here the objects are the small entrepreneurs and characteristics are the different variables under study).

The research design, for acquiring the information needed is inclusive of exploratory, descriptive and causal studies. An 'experience survey' was undertaken by the investigator in an attempt to obtain information on the strengths and weaknesssof small industrialists with special reference to the marketing aspects.

Further, three industrial units situated in Makarpura estate were chosen at random for the purpose of pilot study. The proprietors/partners were interviewed (informally) regarding the various issues, problems and functioning of their units. In this way, the investigator gained insight into the actual working of the industrial units, the extent of co-operation that could be expected from small entrepreneurs and also as to which are the 'sensitive' areas for the small entrepreneurs.

4.2 Sampling

(a) Sample Frame

The population of the GIDC industrial estate at Makarpura comprised 770 units, as per the Makarpura Industrial Estate Directory. This figure was

inclusive of manufacturing establishments, trading
offices, shops, service establishments such as
banks, post office etc. But for the purpose
of study, only manufacturing establishments are
of relevance. Hence, a study population was
derived from this list, which brought out 522
establishments as indulging in manufacturing
activity. (The details of 'population of
Makarpura industrial estate' can be found in
Table IV -1).

Thus the sampling frame consisted of 522
manufacturing units included in the study
population. The composition of Makarpura
industrial estate is one of heterogenity,(that is,
different types of products are manufactured in
the estate) These units were then classified
on the basis of the products they manufacture
into different industry code groups. It was
found that 17 industry groups emerged. Of these
industry code groups, 6 groups were dominant and
accounted for 81.42% of the manufacturing activity
in the estate. The 6 dominant groups are industry
codes 30, 31, 33, 34, 35 and 36. The details of
these 522 units are given in Table III·1

Table IV-1 : Details of the Population of GIDC
Industrial Estate at Makarpura, BARODA

Sr. No.	Description	No.of Units	% to total
1	Presently engaged in manufacturing activity	522	67.79
2	Units undertaking only job work of a non-manufacturing nature	22	2.86
3	Units indicated as closed	35	4.55
4	Units under construction	19	2.47
5	Indicated as open plots	118	15.32
6	Units that render service such as, research centres, banks, post offices, etc.	24	3.12
7	Others such as shops, godowns, trading firms, etc.	30	3.90
		770	100.00

Source : Compiled from Makarpura Industrial
Estate Directory.

(b)   <u>Sample Size</u> :

It was decided that 10% of the study population would be drawn as the sample size. This works out to 52 small scale industrial units, which was considered to be an expedient size from all practical aspects.

(c)   <u>Sampling technique</u>

Having decided on the sample size, the next aspect to be considered is the method of drawing the sample. As indicated earlier the 522 industrial units of the study population came under 17 different industry code groups and many of these groups comprised so few units that stratified sampling could not be undertaken, although, it would have been more appropriate to do so. Therefore, it was decided to go in for 'simple random sampling'.

(d)   <u>Sample selection</u>

The sampling units included in the study population were arranged in sequence according to their plot number. Then each of these units was numbered serially, and, 'table of random numbers' was referred and 52 units were chosen. These 52 industrial units constituted the sample.

The extent of the sample was confined to the
Gujarat Industrial Development Corporation,
Industrial Estate at Makarpura, Baroda.

The time when the sample was drawn is June 1985.

The elements in the sample were to comprise
either the proprietor or partner of the small
industrial units located at GIDC industrial estate
at Makarpura, Baroda.

4.3 Instrumentation - Questionnaire

To carry out the survey, a questionnaire had to be
developed. This was necessitated since the means of
obtaining information from respondents was through
'structured-direct interviews'.

While framing the questionnaire the research objectives
were assimilated and the information required to be
collected were listed.

As the respondents formed a heterogenous group, and as
only one questionnaire was developed, care was taken
to see that it would cater to all elements in the
sample, and also, comprehensible by the least able
respondent.

The questionnaire was divided into 6 sections.
Section one included questions of a very general nature,
which would help in the classification of respondent
units. Section two to section six contained questions
on the various marketing practices of the small
entrepreneurs. These are described a little later
in the chapter.

Having decided on the various questions to be asked,
the next issue was regarding the 'response format' to
the questions. In the questionnaire, two types of formats
were used, namely, dichotomous questions and multiple
choice questions.

Before the questionnaire is pressed into the field, it
needs to be pre-tested and revised if necessary. This
is required in order to search out areas for improvement.

Pre-testing of the questionnaire was done in two stages.
In the first stage the 'Delphi Method' was used. Three
experts in the field were chosen and they were individually
requested to estimate the questionnaire regarding its
contents, comprehension and ambiguity. The remarks/
comments/suggestions of the three judges were then pooled
in and the questionnaire accordingly revised.

The second stage in the pre-testing of the questionnaire
was done in the field itself. Three industrial units
of the population were chosen at random and the
questionnaire was administered to them. The feed back
received in the pre-testing of the questionnaire was
taken care of and, the final draft of the questionnaire
was ready for field operations.

4.4   Scoring Technique

While developing a questionnaire an important aspect to
be borne in mind is, the measurement of the response/
data collected. The responses that are codified should
be capable of lending themselves to the type of analysis
with which the data are to be treated. Keeping this in
mind the following scoring technique was developed.

The questionnaire contains 6 sections. (A copy of the
questionnaire enclosed as an annexure may be referred).
Section '1' contains questions of a general nature and
thus no scores were allcted to the same.

Section 2, 3, 4, 5 and 6 deal with the different
marketing practices of the small entrepreneurs, and
scores have been allotted to every question in each of
these sections.

Three types of scoring were adopted in assigning scores
to the various questions. They were, namely -

- equal scoring,
- unequal scoring, and
- frequency.

The score allotted to questions whose response format is
dichotomous in nature, was 'ONE SCORE' only. That is, the
respondent had to answer either 'YES' or 'NO'. Those
respondents who answer in the affirmative were to be
allotted one score each and in calculating the extent of
the particular marketing practice only the 'FREQUENCY' had
to be taken.

Yet another type of question used in the questionnaire
is one in which the question has many sub-divisions and
for each of these, the response format is dichotmous in
nature. Hence, an affirmative response would score ONE and
each sub-division is allotted a score of ONE only. Thus all
sub-divisions of a single question have an 'EQUAL' scoring.

The system of 'UNEQUAL' scoring has been adopted where a
question has many sub-divisions and an incorrect answer
would get a nil score, a partially correct answer a lesser
score than a fully correct answer.

In questions that have many sub-divisions but in response
where 'only one tick' has been specified, the query carries

a score of ONE only (i.e. a system of equal scoring).

For a detailed account on the scores allotted to each question, the annexure on 'scoring technique' may be referred.

A questionnaire of the kind administered in the present study, does not measure attitudes or preferences but only facts. The questionnaire in the present study seeks to ascertain the marketing practices adopted by the entrepreneurs in their various marketing decisions. Thus there arose no requirement to conduct a reliability and validity test for the questionnaire. Nevertheless to overcome any incongruencies, the 'judgemental method' of testing was once again applied. Three judges (experts in the field) were chosen and they were asked to evaluate the scores allotted to the different queries in the questionnaire. The opinions of the three judges was then pooled in and the necessary changes made in the allotment of scores.

4.5 Data Collection

The questionnaire after having passed through all the stages enumerated above, was pressed into the field. The investigator personally interviewed the respondents and collected the data.

At the time of administering the questionnaire additional information, as detailed below was collected from each respondent -

(i)   Total output for 3 consecutive years,
        (1982-'83, 1983-'84, 1984-'85);

(ii)   Sales for 3 consecutive years,
        (1982-'83, 1983-'84, 1984-'85);

(iii)   Workers employed for 3 consecutive years,
        (1982-'83, 1983-'84, 1984-'85);

(iv)   Investment in Plant and Machinery for 3
        consecutive years,
        (1982-'83, 1983-'84, 1984-'85).

4.6 Data Analysis

In making the choice of the appropriate statistical technique, the objectives of the study were given due consideration.

To fulfill objective (i) of para 4.1 b above, simple techniques such as arithmetic mean, standard deviation, co-efficient of variation and percentages were used.

In trying to fulfill objective (ii) of para 4.1 b outlined above the following aspect had to be considered i.e. the nature of assumed prior judgements on how the

data matrix is to be partitioned in terms of the number
of sub-sets, and also, the number of variables in each
of these partitioned sub-sets — the criterion versus
predictor variables. Taking all these aspects into
account the statistical technique chosen for the fulfill-
ment of the objective is the 'step-wise multiple regression
technique'. This would help in bringing out which of the
predictor variables are of importance and their order of
importance/contribution to the criterion variable.

The third objective outlined in para 4.1 b above involves
the differentiation of the sub-groups in terms of marketing
practices. One way of accomplishing the same is through
the use of discriminant analysis, which helps in determining
whether differences in average score profiles for two or
more groups are statistically significant. This can be done
by undertaking group t tests on each of the variables for
each of the group classifications. Thus it is possible to
discriminate between two groups (as in the present study)
on the basis of a few variables (in the present study it
would be marketing practices).

4.7 Classification of respondent units

For the purposes of analysis the respondent units were
divided into groups on the basis of six different
criteria. Each of them is examined below.

(i) <u>Industry code groups</u>

The Government of India, National Industrial
Classification 1970, categorizes each manufacturing
activity under different code groups. The same
classification was made use of in dividing the
respondent units into different groups. Table IV-2
may be referred for Industrial Classification of
units in the sample. Also, from this table it is
found that there are two industry code groups that are
more prominent.

They are,

- Industry Code 35 which denotes,
  manufacture of machinery, machine tools
  and parts except electrical machinery
  and

- Industry code 36 which denotes,
  manufacture of electrical machinery,
  apparatus, appliances and supplies and parts.

These two groups together constitute 50% of the sample.

(ii) <u>Market oriented group (MO) - Job Work oriented group(JW)</u>

A close look at the functioning of the small enterprises
discloses the operational patterns of the small
entrepreneurs. There are some entrepreneurs who want to
play safe and minimise their loss (if any).

Table IV - 2 : Industrial Classification of Units
included in the sample

Sr. No.	Industry Code	Description	No. of Units	% of total
1.	20	Food products	1	1.92
2.	26	Textile products including wearing apparel other than foot-wear	1	1.92
3.	28	Paper and Paper products, printing and publishing, and allied industries	2	3.85
4.	30	Rubber, Plastic, Petroleum and Coal products	6	11.54
5.	31	Chemical and Chemical Products (except products of petroleum and coal)	3	5.77
6.	33	Base metal and alloy industries	3	5.77
7.	34	Metal products and parts except machinery and transport equipment	7	13.46
8.	35	Machinery and machine tools and parts except electrical machinery	13	25.00
9.	36	Electrical machinery, apparatus, appliances and supplies and parts	13	25.00
10.	38	Other manufacturing industries	3	5.77
			52	100.00

Such entrepreneurs undertake manufacturing activity only when they have firm orders on hand, such as, tenders or contracts etc. This is to say that their factories are operational only when the entrepreneurs have orders in hand. At other times the machines remain idle. Such industrial units are termed as 'Job Work' Oriented units in this study.

In contrast to the group described above there is another set of entrepreneurs who are termed as the 'Market' Oriented group. The entrepreneurs in this group have their factories operational right through the year. They set for themselves a particular level of production which they feel they can sell in the market without much difficulty They continue the process of manufacturing and at the same time are looking for different target groups/ customers to whom they can sell.

The percentage of industrial units coming in each of these categories is given in Table IV-3.

Table IV-3 : Composition of Market Oriented units and Job Work oriented units in the sample

Description	No. of Units	%to total
1 Market oriented group	34	65.38
2 Job Work oriented group	18	34.62
	52	100.00

(iii)   <u>Partnership group (PT) - Proprietary Group (P)</u>

This dichotomous classification is based on the
'type of organisation' of the industrial units.
The criterion used here is the division of labour
involved in the management of the unit.

In the Partnership type of organisation, it is found
that division of labour depends on the number of
working partners. Irrespective of the number of
partners, there are always a minimum of two working
partners. The division of labour where there are
only two working partners (normally) involves one
partner sitting in the factory and taking charge of
production while the other looks after all the out-door
activity.   Under this type of organisation there is
always a greater chance for the unit functioning and
performing better as resources and talent are pooled in.

In contrast to the group described above, in the
proprietary group, there is only one person i.e.,
the proprietor available for performing all the
different tasks required in running an industrial
unit. Therefore, it is not possible for the proprietor
to personally supervise the entire process of production
all the time. No doubt, supervisory staff are

employed by the proprietor. But, generally unless the unit is a fairly large one, the remuneration offered by such entrepreneurs does not attract the right type of personnel.

The composition of the proprietary group and partnership group is given in Table IV-4. The reason behind this classification is to ascertain which type of organisation is performing better by way of sales so that the same may be recommended for small scale industries.

Table IV-4. : Composition of Partnership units and Propreitary units in the sample

	Description	No. of Units	% to total
1	Partnership units	35	67.31
2	Proprietary units	17	32.69
		52	100.00

(iv) Ancillary SSI group (ASSI) - Non-ancillary SSI group (NASSI)

Within the framework of small scale industries are the ancillary units. Expert opinion is that the marketing problems of non-ancillary small scale industries differ from those of ancillary units, and, ancillary units have problems that are peculiar to them.

In order to distinguish which of the SSI units are ancillary industries and which are non-ancillary units, the study draws upon the definition of ancillary units as given by the Ministry of Industry, Government of India. A full definition of ancillary industries has been given in the first chapter. The explanations/clarifications for identifying ancillary units as indicated by the Development Commissioner (SIDO) and utilised in the study are :

: "Units producing intermediates are recognised as ancillaries;

: Units providing servicing facilities such as sand-blasting machinery, pressure cleaning, grinding etc. are treated as ancillaries;

: The concept of 'parent' unit is included in small scale industries also. This means that one small industry can function as ancillary to another small industry;

: A unit may be treated as ancillary if it supplies 50% of its production to one or more parent units."

Using the above distinctions, the sample units were divided into two groups - the ancillary small scale industries and non-ancillary small scale industries. As to how many units came under each of these categories is given in Table IV-5.

Table IV -5 : Composition of Ancillary Units and
Non-ancillary Units in the sample

	Description	No. of Units	% to total
1	Ancillary SSI Units	23	44.23
2	Non-Ancillary SSI Units	29	55.77
		52	100.00

(v) High Capital Intensive Units (HCI) - Low Capital
Intensive Units (ICI)

Yet another criterion used to bifurcate the sample units
into two groups is the 'Investment of the unit in Plant
and Machinery'.

High capital intensive industries indicate the use of
more sophisticated machinery, therefore they will be
less labour intensive and this means that production
rate can be high. In contrast, the Less Capital Intensive
industries are more labour oriented and the process of
production will be slower.

In order to bifurcate the sample units into High
capital intensive units and Low Capital Intensive Units,
the following method was adopted. The arithmetic mean of
investment in plant and machinery was calculated for the

entire sample. Those units whose investment in plant and machinery were higher than that of the sample mean were treated as High Capital Intensive units, and those units whose investment in Plant and Machinery fell below that of the sample mean were considered as Low Capital Intensive units. The size of each of these groups is given in Table No.IV-6.

Table IV-6. : Composition of High Capital Intensive Units and Low Capital Intensive Units in the Sample

	Description	No. of Units	% of total
1	High Capital Intensive SSI Units	11	21.15
2	Low Capital Intensive SSI Units	41	78.85
		52	100.00

The average investment in plant and machinery for the entire sample is found to be Rs.2.86 lacs. The minimum investment in plant and machinery is found to be Rs. 0.25 lacs while the maximum is Rs. 22.42 lacs. The investment pattern of sample units is given as an annexure.

(vi) Consumer goods industries - Industrial goods industries

This is the last of the dichomotous groups used in this study. Here the bifurcation is based on the type

of product that is manufactured by the entrepreneurs. This classification is based on consumer shopping habits. According to Kotler, consumer goods comprise convenience goods such as tobacco, soap, etc. and shopping goods such as furniture, clothing, etc. and speciality goods such as car, photographic equipment, etc. Among the consumer goods manufactured within the sample units are drugs, pesticides, paper products, TV and other electronic equipment, etc.

Industrial goods comprise materials and parts, capital items such as installation and accessory equipment and supplies and services. Industrial goods manufactured by the sample units are inclusive of Original Equipment, raw materials, spare parts, services, etc.

The composition of the consumer goods units and industrial goods units in the sample is given in Table IV-7.

Table VI-7. : Composition of Consumer goods units and Industrial goods units in the sample

	Description	No. of Units	% to total
1	Consumer goods producing units	8	15.38
2	Industrial goods producing units	44	84.62
		52	100.00

Before concluding this chapter it is of relevance
to look into the different marketing variables used in
the present study.

4.8 Variables in the present study

The different aspects covered under each of the
variables are described below :

(a) **Variable 1**

The first variable stands for sales, i.e., the
total amount of products sold by the industrial
unit in a single year.

(b) **Variable 2**

The second variable stands for marketing concept
adoption in competitive and Demand practices. This
is covered in section II of the questionnaire and
concerns the following aspects :

: Knowledge of target market

: Information on competitors and their
strategies;

: Estimation of total demand and market
share etc.

(c) **Variable 3**

This variable denotes marketing concept adoption
in the sphere of product practices. It has been
dealt with in section III of the questionnaire and

includes aspects such as,

: customer's preferences/requirements in the particular product;

: estimation of sales (i.e., sales forecast)

: practice of sales analysis;

: knowledge of product life cycle and the ensuing product innovation;

: constraints on the product, etc.

(d) Variable 4

The fourth variable is also a marketing variable and denotes, marketing concept adoption in new product decisions. This is covered in section IV of the questionnaire and is inclusive of -

: introduction of new products;

: genesis of new products;

: costing of new products;

: production capacity for new products etc.

(e) Variable 5

Variable 5 denotes marketing concept adoption in pricing practices and section V of the questionnaire includes aspects such as -

: objectives in pricing;

: number of parameters considered in pricing

: limitations in price fixation;

: break-even analysis and its applications.

(f) Variable 6

This is the last of the marketing variables and stands for marketing concept adoption in promotion decisions. Section VI of the questionnaire covers this variable and the different aspects considered in this section are -

: the necessity to communicate with target market;

: purposes of advertising;

: methods of sales promotion used;

: publicity;

: responses sought through communication etc.

The data collected were processed on the computer. The data thus processed are analysed and interpreted in the next two chapters.

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