RESEARCH METHODOLOGY
Chapter-IV

RESEARCH METHODOLOGY

The details of the methodologies followed to carry out the present research have been discussed under the following sub-heads:

1. Research design
2. Locale of the study
3. The sample
4. Variables and measurement
5. Data analysis

1. Research design

The processed entrepreneurship development involves the entrepreneur as an individual placed in a particular socio-economic sphere where some factors have facilitative role and other inhibitive in her journey to become an entrepreneur.

2. Locale of the study

The study was conducted at Lucknow district. The area is endowed with good infrastructure for manufacturing, servicing and marketing along with some functioning entrepreneurship parks. In addition, there are many institutions in the area which are engaged in entrepreneurship development for work for several years. Further, no holistic study on the topic has been conducted in the area so far.

3. The sampling

There are several institutions engaged in promoting entrepreneurship development among women in Lucknow district. Out of them the following institutions were contacted to prepare a list of women headed.
Enterprises operating in the region: Consortia of women entrepreneurs of India (CWEI), FICCI, Ladies Organization (FLO), World Assembly of Small and Medium Enterprises (WASME), Federation of Women Entrepreneurs of India (FLWE), Rural Development and Self Employment Training Institute (RUDSEL-I) and Bhartiya Yuva Shakti Trust (BYST). A preliminary list of 150 women entrepreneurs was prepared.

4. Variables and their measurement

The relevant variables for the present study were selected after extensive review of literature and the framework of the theoretical orientation presented under Chapter II. A brief consultation of these variables and their measure tools/techniques have been mentioned here.

Socio-personal variables

1. Age

It refers to the chronological age of the respondents and was measured in number of years.

2 Educational qualification

It refers to the academic qualification acquired through formal schooling. The scoring key developed to measure one's level of education was as follows:

<table>
<thead>
<tr>
<th>Level of education</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school</td>
<td>1</td>
</tr>
<tr>
<td>Intermediate</td>
<td>2</td>
</tr>
<tr>
<td>Graduate</td>
<td>3</td>
</tr>
<tr>
<td>Post graduate</td>
<td>4</td>
</tr>
<tr>
<td>Technically qualified</td>
<td>5</td>
</tr>
</tbody>
</table>

3. Marital status

It refers to actual situation with regard to the respondent's marriage. The scoring key developed to measure one's marital status was as follows:
<table>
<thead>
<tr>
<th>Marital status</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>1</td>
</tr>
<tr>
<td>Widow</td>
<td>2</td>
</tr>
<tr>
<td>Unmarried</td>
<td>3</td>
</tr>
</tbody>
</table>

4. Experience

It refers to the number of years spent as active entrepreneur which is some as the age (in years) of the enterprise.

5. Training

It refers to the kind of business exposure the women entrepreneur had either formally or informally which imparted them knowledge and skills for improving their performance. The training received the entrepreneurs were of the following types:

(a) Formal training is defined as acquiring skills and knowledge through a proper course from an institute or organization.

(b) Informal training refers to acquiring of knowledge and skills through exposure either in her own family or some where else, without attending any formally structured course.

(c) Experimental training refers to gaining knowledge and skills through hands on experience by working in a similar enterprise. This was measured by assigning them Numerals as follows:

<table>
<thead>
<tr>
<th>Training</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal training</td>
<td>2</td>
</tr>
<tr>
<td>Informal</td>
<td>1</td>
</tr>
<tr>
<td>Experimental</td>
<td>3</td>
</tr>
</tbody>
</table>
6. Caste

It refers to the socially defined/determined caste or community to which the respondent belongs. The scoring key for assigning score to one’s caste is as follows:

<table>
<thead>
<tr>
<th>Caste</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper caste</td>
<td>1</td>
</tr>
<tr>
<td>O.B.C.</td>
<td>2</td>
</tr>
<tr>
<td>SC/ST</td>
<td>3</td>
</tr>
</tbody>
</table>

7. Family size and type

The total number of family members including children staying together in a home and taking food from the same kitchen, determined size of the family. This also includes divorced or widowed women who are either living with their parents or in-laws. The type of family refers to whether the family is joint or nuclear. Family as a variable was assigned scores as follows:

<table>
<thead>
<tr>
<th>Family type</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear</td>
<td>1</td>
</tr>
<tr>
<td>Joint</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family size</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small (up to 4 members)</td>
<td>1</td>
</tr>
<tr>
<td>Medium (5 – 6 members)</td>
<td>2</td>
</tr>
<tr>
<td>Large (&gt; 6 members)</td>
<td>3</td>
</tr>
</tbody>
</table>

8. Family income

It refers to the total amount earned by all the members of the family in an year and was measured in thousands of rupee.

9. Family occupation

The main source of earning livelihood was taken as family occupation. Numeral was assigned to one’s occupation as per the following scoring key.
<table>
<thead>
<tr>
<th>Occupation</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service</td>
<td>1</td>
</tr>
<tr>
<td>Business</td>
<td>2</td>
</tr>
<tr>
<td>Agriculture</td>
<td>3</td>
</tr>
<tr>
<td>Labourer</td>
<td>4</td>
</tr>
</tbody>
</table>

10. Social participation

It refers to involvement of the respondents in institutional or organizational activities. The level of participation was determined by her nature of involvement, viz., as a member, as an office bearer or as promoter of the organization/institution. Social participation score was arrived as per the following scoring procedure.

<table>
<thead>
<tr>
<th>Social participation</th>
<th>Score assigned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>1</td>
</tr>
<tr>
<td>Activist</td>
<td>2</td>
</tr>
<tr>
<td>Office bearer</td>
<td>2</td>
</tr>
</tbody>
</table>

Additional scores were given for being member/activist/office bearer in more than one organisation. Membership in one organisation was given one score, in two organizations was scored as two and so on. If a woman was an ordinary member of five organization (5), activist in one organization (2) and office bearer in two organization (2+2), then her total participation score was taken as 11. All the respondents thus attained minimum one score, being at least a member of the organization through which they were contacted.

Human Resource Variables

Mobilizing forces

It refers to the purposes towards which an endeavour of launching an enterprise is directed. These have a directive mobilizing and energizing function. The main aim to establish a business of her own has been taken as the mobilizing force driving the women entrepreneurs in the study. Open ended
questions framed to elicit the responses regarding these forces were included in the schedule.

**Entrepreneurial competencies**

Competence has been defined as an underlying characteristic of a person which results in effective and/or superior performance on a job. Competencies are related set of skills, knowledge and attributes which jointly determine level of performance on a job.

A personal Entrepreneurial Competence (PEC) instrument developed by International Centre for Entrepreneurship and Career Development (ICECD), Ahmedabad (1988) was used in present investigations to determine respondents’ entrepreneurial competence.

The details of the instrument have been given below:

**PEC Instrument**

1. **Initiative**
   - Does things before being asked or forced to by events.

2. **Opportunity Seeking**
   - Acts to extend the business into new areas, products or services.
   - Seizes unusual opportunities to start a new business, obtains finances, equipment, land, workspace or assistance.

3. **Persistence**
   - Takes action in the face of a significant obstacle.
   - Takes repeated actions or switches to an alternative strategy to meet a challenge or overcome an obstacle.
   - Takes personal responsibility for the performance necessary to achieve goals and objectives.
4. Information Seeking

* Personally seeks information from clients, suppliers and competitors.
* Does personal research on how to provide a product or service.
* Consults experts for business or seeks technical advice.

5. Quality

* Finds ways to do things better, faster or cheaper.
* Work meets agreed upon standards of quality.

6. Commitment to the work contract

* Makes a personal sacrifice or expends extraordinary effort to complete a job.
* Pitches in with workers or in their place to get a job done.
* Strives to keep customers satisfied and place long term goodwill over short term gain.

7. Demand for Efficiency

* Acts to do things that meet or exceed standards of excellence.
* Develops or uses procedures to ensure work is completed on time.

8. Systematic Planning and Monitoring

* Plans by breaking large tasks down into time-constrained sub-tasks.
* Revises plans in light of feedback on performance or changing circumstances.
* Keeps financial records and uses them to make business decisions.

9. Problem solving

* Solves problems by proper strategizing
* Thinks of various alternatives and new ways of solving problems.
* Looks for solution rather than being fatalistic.

10. Self confidence
* Expresses confidence in own ability to complete a difficult task or meet a challenge.
* Is hopeful of finding ways on basis of self competence.

11. Assertiveness
* Asserts in face of opposition or ambiguity.

12. Persuasion
* Uses deliberate strategies to influence others.
* Uses key people as agents to accomplish her own objectives.
* Uses strategies to persuade others.

13. Influence
* Exercises indirect control by influencing others.

In order to measure the above entrepreneurial traits in numerical term, an instrument was developed which has been given in the schedule and its scoring key has been given in Appendix II.

Aspirations

Aspirations are goal statements concerning future level of achievement (Preston and Bayton, 1941). These are reflective of individual’s concept of future prospects and act as self motivation force as well. Questions covering certain areas of individual needs such as education to son and daughter, increase in income and growth of enterprise were developed based on a scale developed by Muthayyaya (1971). The respondent was asked to indicate her aspiration for her children's education. Questions were also posed as to how much income and
growth in enterprise does she aspire for in next three years. The increase in income was calculated by subtracting the present level from the aspired level. Then these were given scores as per the scoring key given in Appendix II. These raw scores were then converted into standard scores following the method given by Muthayaya (1971) and Garret (1966) for each of three areas of individual needs. An average of standard scores earned by an individual in these three areas of her needs, was taken as her level of aspiration.

Achievement Motivation

Achievement motivation is an urge to improve and achieve a goal. It is the disposition to strive for satisfaction derived from success with some standard of excellence. Mehta (1976, 1994) gave the following parameters of achievement motivation, which are highly relevant to promotion of an entrepreneurial activity.

(i) **Personal Achievement**: To achieve something unique or excellent for personal achievement goal as shown by a desire for success in relation to some standard of excellence in one's life or a long term involvement for some career goal.

(ii) **Social Achievement**: To achieve something excellent for social life well being.

(iii) **Influence Motivation**: This refers to the desire of someone to influence an ongoing situation or to assert upon other people in a given situation. The desire for influencing people and surrounding environment may be at work, in family or elsewhere.

A Thematic Apperception Test was used for ascertaining the level and intensity of achievement motivation through imaginative writing of stories by the respondents in response to three pictorial cues to which they were exposed
(Appendix III). “This test is based on the principle that when a person interprets an ambiguous situation, he is apt to reveal aspects of his own personality which he otherwise will not admit or of which he is not aware. In creating stories based upon ambiguous pictures, the individual organizes content of his own personal experiences” (Freeman, 1965).

Administration of test: The women were interviewed individually as per their convenience. After building rapport with them they were prepared for narrating stories by giving the following instructions in Hindi. This is a test of your creative imagination or story telling. Three pictures will be shown to you. You will have twenty seconds to look at the picture and then about six minutes to tell a story about it. While telling a story please keep in mind the following four questions.

1. What is happening?
2. What has led to this situation, that is, what has happened?
3. What is being thought? What is wanted, By whom?
4. What will happen? What will be done?

You do not have to answer the questions directly. They are simply to help you think up and build an imaginary story. Please plan to spend about a minute and a half on each part. There is nothing right and wrong in a story, so you may feel free to make up stories interesting, for this is a test of your creative imagination. Do not merely describe the picture you see, which would not reveal your creative thinking.

After giving the instructions, the pictures were shown to the respondents one by one and the stories narrated by them on each of the pictures were taken down verb turn exactly in the language they used to narrate the story.
Sense of Efficacy

Sense of efficacy refers to self confidence of general adequacy in a person. Dominant thoughts and perceptions about self are indicative of one's inner strengths or weaknesses generally referred to as adequacy or inadequacy. Sense of personal efficacy scale (E – scale) developed by Mehta (1995) was used, which measures sense of self-efficacy on following three dimensions.

1. Autonomy vs Dependence
2. Self-Esteem vs Self Depreciation
3. Reflective vs Repetitive Behaviour

Autonomy includes initiative, hope of success and problem solving while dependency includes fear of failure, problem avoiding and conformity. Self esteem includes innovativeness and creativity whereas self depreciation includes safe playing and security. Reflective behaviour reflects actor role, challenge and quality seeking whereas repetitive behaviour reflects pawn role, labouring mechanically and tendency for routine performance. Scores on all three dimensions provide a final score on efficacy vs powerlessness. Sense of efficacy indicates a sense of psychological empowerment.

The E-scale includes in the schedule is given in Appendix I.

Scoring

Each response was related on a five points scale varying between agreement – disagreement and score assigned as 1 for strongly agree and 5 for strongly disagree response. Scoring for item numbers 2, 3, 4, 6, 12, 14 and 15 were reversed, that is, strongly agree was scored as 5 instead of 1 and strongly disagree was assigned a score of 1 instead of 5.

Each dimension i.e. Autonomy vs Dependence, Self-esteem vs Self-depreciation and Reflection vs Repetition had five items each. Thus each
dimension's total score ranged between 0 - 25. Higher the score, greater the positive tendency and lower the score, greater was be the opposite tendency. The three total scores were combined to provide a final score on Efficacy vs Powerlessness. Higher the score, greater the tendency towards self-efficacy and lower the score, greater the tendency towards a sense of powerlessness. Sense of efficacy, thus, indicated a sense of psychological empowerment.

**Orientation towards social values**

Culturally enforced values limit women from exercising their full potential as economic actors and decision makers. Social norms, values and practices constitute the structure around which women act, negotiate their roles and assert themselves. Such structures are not monolithic, they pose both constraints and opportunities to work around constraints.

A woman's response to entrepreneurship and her decision to opt it as a career would be influenced, conditioned and directed by her value orientation. A large number of statements reflecting social values regarding, women's role as an earning member, mobility restrictions, socialization, interaction norms, her worth as an individual and social status were collected.

After editing, the final four relevant social values were included in the study and for each value two statements were chosen, viz. (a) bread earning restrictions (statements 1 & 4), (b) economic independence (statement 2 & 3), (c) mobility and interaction restrictions (statements 9 & 10) and (d) empowerment (statements 5 and 6). Out of two statements for each value one was positive (considered facilitative) and the other was negative (considered inhibitive). Responses were collected on a five point continuum as strongly agree, agree, neither agree or disagree, disagree and strongly disagree. The scores assigned to positive statements (statements nos. 2, 4, 6 & 9) were 5, 4, 3, 2 and 1 and for negative statement (statement nos. 1, 3, 5 and 10) the system of
scoring was reverse. The total score for each respondent on each of the four values was worked out. The score for each respondent could range from 2 to 10 for each of the 4 values. The question no. 15 in the schedule contained eight statements measuring value orientation (Appendix I).

Process variables

Facilitators and Inhibitors

A thorough study of facilitative factors acting as promoters for entrepreneurship development among women and also the inhibitive factors which pose problems in the path of women entrepreneurs was undertaken. Interviews and case studies were the methods employed for this.

Enterprise Details

The following details were obtained using open ended questions in the schedule (Appendix I).

(i) Capital invested: The exact amount of money first used to launch business was taken as capital invested.

(ii) Source of start-up-finance: It refers to the source from which the money needed to launch an enterprise was arranged; from an organisation’s loan, from any individual, from family/relatives or from own savings.

(iii) Kind of Enterprise: The kind of activity pursued as entrepreneurial venture, viz., service, manufacturing and trading was taken as the kind of enterprise.

(iv) Form of enterprise: Form of enterprise generally has a bearing on all aspects of an enterprise as managing the enterprise ultimately depends on whether it is a sole proprietorship, partnership, a joint stock company or a family business.
(v) Location of enterprise: It refers to the site where the enterprise is located. Whether it is nearer to market, industrial area or for convenience nearer home also affects the marketability and performance.

(vi) Enterprise management: How well the enterprise is managed, how many workers are employed, what is the sales turnover etc. were taken as the features of enterprise management.

Consequence Variables

Entrepreneurial Performance

Running an enterprise successfully is the ultimate test for the entrepreneurial capability as it determines the profitability, growth and survival of the unit. It is not easy to evaluate the performance of such diverse units engaged in manufacturing, trading and service, since each of the above sectors encompassed a wide variety of enterprises. No single economic indicator could portray performance measure for such a mix of enterprises. Entrepreneurial Economic Success Index (EESI) developed by Akhouri (1978) was based on four features converted into a mathematical formula. The features were: (a) propensity of risk, (b) insight in sensing the opportunities in the environment and capacity of mobilizing them for goal attainment, (c) managerial efficiency and (d) quality of constantly striving for progress and further growth.

For women entrepreneurs, economic and managerial aspects do indicate the extent of success or performance, but social aspects like importance received by her, increased share in decision making in the family and status increase in social circle are also very important.

Hence, the following five indicators were used in the study to develop a rating scale to measure entrepreneurial performance.
Earning Profit (P)

1. Expanding Enterprise, growth, diversification or refinement of the products/services (G).

2. Increased Decision Making share (D.M.)

3. Autonomy Enhancement (A.E.)

4. Importance granted to woman entrepreneur and her abilities by significant ones in her social space (R.M.).

The rating scale was constructed by framing 3 statements for each of the five performance indicators. Care was taken while framing the statements that they should adequately reflected the performance indicator unambiguously. These statements were then placed on a five point rating scale varying from strongly agree to strongly disagree with scores assigned as 5 for strongly agree and 1 for strongly disagree.

The five indicators of the performance do not seem making uniform contribution to entrepreneurial performance. They vary from each other in their contribution towards entrepreneurial performance. Hence it was decided to find out their relative strength or weightage for making contribution to entrepreneurial performance. For this the five indicators were rated by a panel of 20 judges drawn from the faculty of Division Extension, IARI and the directors of NIESBUD and Rudset. The judges were asked to rank the five indicators in order of their quantum of contribution made to entrepreneurial performance. The ranks assigned by them were averaged which determined the relative strengths of each indicator.
Job satisfaction and Goal Achievement

Job satisfaction refers to affective orientations on the part of individuals towards work roles, which they are presently occupying (Vroom, 1967). It is the general attitude towards the job as a whole. Cooper (1993) argued that

Role Stress

Since women entrepreneurs are performing new roles that are so different from the traditional roles of women in the society. Hence it is likely to yield role stress as a consequence. Areas of conflict between domestic and entrepreneur role are many, like domestic work neglect, neglect of spousal expectations, children neglect, work overload etc. Women entrepreneurs were asked whether they experienced any role stress and their responses in affirmative or negation were recorded. The women who responded in affirmation were asked what coping strategies did they employ. These were documented by including open-ended questions in the schedule.

5. Statistical data analysis

The data collected were scored, tabulated and categorized. These were subjected to appropriate methods of analyses, viz., empirical, content and logical as per the objectives of the study, statistical tools like percentage, $\chi^2$.

(a) Percentage

\[
\text{Percentage} = \frac{\text{The sum of all the responses}}{\text{Total number of all the responses}} \times 100
\]

(b) Chi square test

In order to test the independence of two attributes, a Chi-square test is applied as:

\[
\chi^2 = \sum_{i=1}^{n} \frac{(o_i - e_i)^2}{e_i}
\]
Where,

\[ o_i = \text{Observed frequency of } i^{th} \text{ cell} \]

\[ e_i = \text{Expected frequency of } i^{th} \text{ cell} \]

In a \( r \times c \) contingency table, \( \chi^2 \) value is compared at \((r-1) \times (c-1)\) degrees of freedom with theoretical value of \( \chi^2 \) on 5 per cent level of significance.

**Correlation coefficient**

Karl Pearson has given a coefficient of correlation for the measurement of linear relationship, which exists between two variables. If \( X \) and \( Y \) are two variables and if \( E(X,Y) \neq 0 \) then correlation coefficient \((r)\) is

\[
r = \frac{\text{Cov.} (X, Y)}{\sqrt{\text{Var.} (X) \cdot \text{Var.} (Y)}}
\]

or

\[
= \frac{\Sigma x y}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}}
\]

where,

\[ \Sigma xy = \left[ \Sigma XY - \frac{\Sigma X \Sigma Y}{n} \right] \]

\[ \Sigma x^2 = \left[ \Sigma X^2 - \frac{(\Sigma X)^2}{n} \right] \]

\[ \Sigma y^2 = \left[ \Sigma Y^2 - \frac{(\Sigma Y)^2}{n} \right] \]

and \( n = \text{Sample size} \)

Here, one variable is dependent on other. For testing the significance of correlation coefficient \((r)\), \( t \) test is applied. Degree of lack of relationship or coefficient of alienation is measured as

\[
K = \sqrt{1 - r^2}
\]
Quartiles

\[ Q_j = 1 + \frac{j \frac{N}{4} - C}{f} \times C \]

\( j^{th} = \) Quartile

\( Q_1 \) and \( Q_3 \) are also known as lower quartile and upper quartile respectively.

**Quartile deviation (Semi inter quartile range)**

This measure of dispersion is expressed in terms of quartiles and known as quartile deviation.

\[ Q_D = \frac{Q_3 - Q_1}{2} \]

\( Q_1 = \) Lower quartile

\( Q_3 = \) Upper quartile

\[ Q_D = \frac{2}{3} \times SD \]

\[ \star \]