# Chapter 4

**Research Methodology**

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Chapter 4
Research Methodology

4.1 Research Issue
As is evident from the diagrammatic representation of the conceptual framework in chapter 2 (Figure 2.2) and further development of hypotheses in the preceding chapter on survey of literature, in this proposed research we attempt to study the factors influencing socialization as an adaptive process for new employees as they learn and inculcate values and norms that are part of the culture of the organization where they are employed. Through this process the newcomers make the transition from being organizational outsiders to being insiders. Individualized socialization encourages newcomers to develop unique approaches to their roles, producing innovative role orientation. Organizational socialization on the other hand helps to enhance the satisfaction level of the newcomers so that they become an active member of the organization. As a whole the total process predicts satisfaction and is said to encourage innovative role orientation, so that it can reduce constraints on achievement.

We seek to test the variables influencing socialization of newcomers given their personality characteristics and socialization tactics used by the organization. With standardized instruments we propose to evaluate self-efficacy, self mentoring, perception about new job and attitude towards group as variables in job content, innovation and successful socialization.

The literature provides socialization process is accelerated by employee proactivity, information and feedback sharing and relationship building. We consider these are the prime drivers in affecting successful socialization. Through primary responses from individuals the research intends to study the relationship between role change, job satisfaction, organizational commitment and comprehensive socialization outcomes. Along with respondents characteristics this research also has involved in its data set the different socialization tactics used by the employer.

However the information about the nature of socialization tactics used has been gathered from the perception based responses of the graduates who have been part of the sample. Since employers normally do not use tactics by formally announcing their names, like
Fixed (vs. Variable), Sequential (vs. Random), Formal (vs. Informal) etc., but they practice the tactics which are naturally in the form of a sequence or a random or fixed or variable or formal or informal. Thus proxy questions about the nature of tactics used was canvassed on the respondent to get names of the tactics.

To arrive at a theorization the drivers of comprehensive socialization outcomes will be attempted to be related to socialization tactics and personality profile of the respondents.

**4.2 Research Design**

To operationalize this issue a primary survey was initiated based on structured questionnaire.

**4.2.1 Questionnaire**

The study collected data on the basis of structured direct survey method of obtaining information through questionnaire designed to elicit specific information from the respondents. The respondents were asked a large variety of statements based on their behavior, intentions, attitudes, job related awareness and demographic and personal characteristics. All the statements are rated in 7 – point Likert scale so that the respondents are required to indicate the degree of agreement or disagreement with each of the series of statements. The rating scale we used is as follows –

1 = Strongly Disagree  
2 = Disagree  
3 = Partly Disagree  
4 = Neither Agree nor Disagree  
5 = Partly Agree  
6 = Agree  
7 = Strongly Agree

We employed three waves of structured questionnaire (Annexure B) to interview the respondents in order to capture their personality, socialization process employed to them and their adjustment attitudes.

The first wave of the questionnaire was designed to capture the demographic and personality characteristics of the respondents. Keeping this in mind 29 different proxy statements (for example I feel proud when someone very close to me achieves a difficult
The second wave of the questionnaire was designed to capture the perception of the respondents on socialization process employed by the organization. As the organizations do not introduce the socialization tactics by formally naming them, hence we have also framed 28 different proxy statements (for example I had gone through multiple selection rounds before the job was offered to me………………..) in 7 – point Likert scale. As the literature provide that socialization tactics are employed to the respondents through different selection procedure of the organization. For the purpose of the study we have also tried to frame our questionnaire so that we can capture various selection procedure and training methods used by the organization to socialize their employees.

The third wave questionnaire was designed to measure the organizational effect on the employees. The literatures provide that the socialization affect the professional role adjustment of the new employees as institutionalized socialization reduces role conflict and role ambiguity, where as it helps to initiate custodial role orientation (King & Sethi, 1998). To capture both organizational and individualized socialization outcomes 55 statements were framed in 7 – point Likert scale. Out of these statements, 39 statements (for example I have perfect knowledge of the strategic plans set up by my organization………………..) throw light on organizational socialization outcomes and rest 16 statements (for example sometimes I have to complete my assignments without proper manpower………………..) to capture individualized socialization outcomes.

The following figure represents the detailed structure of the questionnaire used to capture the information from the respondents relating to their personality, nature of socialization tactics employed to them and their different socialization outcomes.
The respondents’ perception on socialization has been captured on the basis of three completed questionnaires.

### Table 4.1: Research Design

<table>
<thead>
<tr>
<th>Phases of Integration</th>
<th>Waves</th>
<th>Time of interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipation</td>
<td>First Wave</td>
<td>After getting offer letter and before joining</td>
</tr>
<tr>
<td>Encounter</td>
<td>Second Wave</td>
<td>4 weeks after joining</td>
</tr>
<tr>
<td>Adjustment</td>
<td>Third Wave</td>
<td>12 weeks after 2nd wave</td>
</tr>
</tbody>
</table>

### 4.2.2 Pilot Survey

Prior to the final data collection for the main investigation a pilot study has been conducted to test the questionnaire. The main aim of the pilot study is to ensure that

(a) The survey instructions are written in a concise and understandable format,

(b) The survey format is understandable and easy to complete,

(c) The survey format should be adequate to collect the data sought as part of the main investigation.

The sample for the pilot study has been collected from 50 respondents from few engineering and management colleges of Kolkata. In order to ensure the reliability a
Cronbach’s alpha test has been conducted which exhibited that the alpha is satisfactory as it is greater than the acceptable limit of 0.60. Following the pilot survey, small modifications as required was incorporated in the questionnaire to refine the test instrument free from question ambiguity.

### 4.2.3 Sample Design

The study has been conducted on selected respondents MBA and Engineering graduates. In order to study a heterogeneous mix in the sample, we chose MBA (with BA, B.Sc or B.Com) and BE or B.Tech as the qualification for the respondents to be included in the sample.

Since we wanted to collect responses from Engineering and Management graduates, we considered the population of the West Bengal University of Technology (WBUT). Given the resource constraints it was understood that taking a sample from this University would spread the population over whole of West Bengal. The total number of students to complete Engineering and Management degrees from the colleges of West Bengal University of Technology (WBUT) in the year 2013 was 21,160 and 2760 respectively.

Concentrating on the Engineering and Management colleges of Kolkata for the purpose of conducting the field survey, the sample of selected respondents was picked out using a random number table from the pooled population comprising of 11,586 engineers and 1,500 management graduates of the colleges in Kolkata. Total numbers of Engineering and Management colleges of Kolkata are 23 and 18 respectively. We have contacted all the 23 Engineering and 18 Management colleges and received positive co-operation from 15 Engineering and 12 Management colleges. So we worked with 15 Engineering and 12 Management colleges and hence more than half of the colleges in Kolkata were covered.

Figure represents the detailed method used for statistical selection of the sample for the study using random no table.
Figure 4.2: Sample Selection Method

A. For Engineering Graduates

- Sample, 300 (spread over 15 Colleges)
- Engineering Students in Kolkata, 11586 (spread over 23 Colleges)
- Total Engineering Students, 21160 (WBUT Batch 2013)

B. For Management Graduates

- Sample, 300 (spread over 12 Colleges)
- MBA Students in Kolkata, 1,500 (spread over 18 Colleges)
- Total MBA Students, 2,760 (WBUT Batch 2013)

Note: Out of 23 Engineering colleges response received from 15 colleges only and out of 18 Management colleges response received from only 12 colleges.
As mentioned earlier we employed three data collection points to capture the three phases of newcomer integration (anticipation, encounter and adjustment) within the first two to three months following newcomer entry to a team. Since there is no specific theory about when each socialization period begins and ends, we have designed three data collections points at time intervals corresponding to the three socialization periods.

(a) The first wave of the questionnaire has been canvassed during final semester of the course, respondents are that who have received job offers, but just before the respondent has joined the new organization in order to capture the extent of pre-arrival learning and perception of the employee about the new job. The first questionnaire also collected demographic and background information of the respondent. It also helped us to measure the personality trait of the newcomers by measuring self-efficacy level, self-mentoring ability, perception about new job, etc. of the respondents.

During the first wave data was collected from 600 respondents out of which 300 were engineers and 300 were management graduates. Engineers were selected from 15 different colleges of Kolkata with an average of 20 respondents from each college. Similarly management graduates were selected from 12 different colleges of Kolkata with an average of 25 respondents from each college. Respondents are interviewed through structured questionnaires.

(b) The second wave is attempted to visualize the encounter stage of the employee and measure how far the expectations and reality may be divergent. This has been canvassed after four weeks after the respondents joins an organization. The data for the study derived from the second questionnaire deals with information on socialization tactics and the newcomers’ ways of sharing information.

Out of total 600 selected respondents only 395 answered the 2nd wave completely. The reason behind this may be some of the respondents have rejected the job offer and finally planned to continue their studies further. The second wave successfully collected data from 175 engineers and 220 management graduates out of 300 engineers and management graduates respectively.

(c) The third wave canvassed twelve weeks from the date of the second interview of each respondent was to measure the effect of the organization’s socialization tactics on the
employee. The third questionnaires will collect information regarding comprehensive socialization outcomes.

The following figure represents the finalization of the sample based on three wave data collection procedure

**Figure 4.3: Sample Selection – Three Waves**

Finally data based on a heterogeneous sample of 222 BE/ B.Tech and MBAs (with non engineering background) have been collected out of which 92 were Engineers and 130 Management graduates respectively. This has been summarized in the table.

**Table 4.2: Sample Design**

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Engineer</th>
<th>MBA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Engineering and management graduates of WBUT (Batch 2013)</td>
<td>21,160</td>
<td>2,760</td>
<td>23,920</td>
</tr>
<tr>
<td>No of Engineering and Management graduates from colleges in Kolkata [Note 1]</td>
<td>11,586</td>
<td>1500</td>
<td>12,086</td>
</tr>
<tr>
<td>Sample drawn (random no. table) [ Note 2]</td>
<td>300</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>1st Wave response</td>
<td>300</td>
<td>300</td>
<td>600</td>
</tr>
<tr>
<td>2nd Wave response</td>
<td>175</td>
<td>220</td>
<td>395</td>
</tr>
<tr>
<td>3rd Wave response</td>
<td>92</td>
<td>130</td>
<td>222</td>
</tr>
<tr>
<td>Final Analysis</td>
<td>92</td>
<td>130</td>
<td>222</td>
</tr>
</tbody>
</table>

*Note 1: 11,586 Engineering graduates from 23 Colleges, 1,500 MBAs from 18 colleges.*

*Note 2: 300 Engineers spread over 15 colleges (random no table), 20 students from each college (approx.), 300 MBAs spread over 12 colleges (random no table), 25 students from each college (approx)*

The overall procedure adopted for the collection of data used for the study can be summarized with the help of the figure
During the whole study the respondents have been compared through dimensions including age, gender and education. Brett (1984) recommended that best period to measure socialization experiences of the new employee’s ranges from 1 week to 6 months generally termed as organizational entry period. Based on the original work of Brett (1984), Hart and Miller (2005) incorporated the time gap of six weeks after the initial response of the newly hired managers to report on the targeted outcomes of their socialization experiences. Following Brett’s (1984) recommendation we seek to measure independent variables like socialization tactics during four weeks period when socialization process was more or less evident. Later in the transition i.e. after twelve weeks, we seek to measure dependent variables i.e. newcomers’ adjustment, when adjustment had more or less stabilized. The dependent variables are also measured during the four weeks phase to assess whether the initial changes at four weeks differs from the cumulative changes at twelve weeks.

4.3 Data Collection: Primary Survey

For the purpose of the research primary data has been collected with the help of questionnaires. Primary data refers to the collection of fresh and original data with the help of sample survey. Survey refers to the method of securing information concerning a phenomenon under study from all or a selected number of respondents of the concerned
universe. Primary data are originated by a researcher for the specific purpose of addressing the problem at hand. Not only does primary research enable the researcher to focus on specific issues, it also enables the researcher to have a higher level of control over how the information is collected. In this way the researcher can decide on such issues as size of the research (e.g., how many responses), location of research (e.g., geographic area) and time frame for completing the study. Keeping all these in mind we employed three data collection points to capture the three phases of newcomer integration (anticipation, encounter, and adjustment) within the first three months following newcomer entry to a team. There is no specific theory about when each socialization period begins and ends, we plan to design three data collections points at time intervals corresponding to the three socialization periods.

The respondents’ perception on socialization will be captured on the basis of three completed questionnaires-

4.3.1 First Wave Questionnaire
The first wave of the questionnaire will be canvassed just before the respondent joins a new organization to capture the extent of pre-arrival learning and perception of the employee about the new job. Data has been collected from engineering and management graduates during their final semester before starting a new job but after receiving an offer letter from campus interview. The collected data of the wave 1 judged the demographic and personality items and background information.

4.3.2 Second Wave Questionnaire
The second wave is attempted to visualize the encounter stage of the employee and measure how far the expectations and reality may be divergent. This will be canvassed after four weeks after the employee joins an organization. Here the information’s are collected on socializations tactics and the newcomers’ ways of sharing information. The questionnaire has been prepared keeping in mind how the organization facilitated newcomers transition into the new job and the process used by the organization. We also have framed few questions to know the job characteristics of the newcomer. To do this the questionnaire has been sub divided into five sections namely,

(a) Selection and Training Program
(b) Orientation Experience
(c) Support and Guidance from Experienced Colleagues
(d) Job Assignment and
(e) Job Characteristics

4.3.3 Third Wave Questionnaire
The third wave canvassed twelve weeks from the date of the second survey is intended to measure the effect of the organization on the employee. The third wave questionnaire will collect information regarding comprehensive socialization outcomes. In this phase the collected data helped us to know the evaluation process i.e. what are the criteria’s will be used for measuring and appraising the newcomers’ performance. The collected data also helped to know how the newcomers start knowing what is expected from them and what constitutes a job to be well done. The questionnaire aimed to capture the newcomers’ behavior towards their job. Specifically we tried to know how they deal with their colleagues, supervisors and subordinates and also the demands placed on them in their new job. Few questions have been framed to know what the newcomers have learnt to know their organizational culture. The 3rd wave questionnaire is divided into two main sections to capture
(a) Organizational Socialization Outcomes
(b) Individualized Socialization Outcomes

4.4 Sample Profile
The data analyzed in this study is based on a heterogeneous sample of 222 final year engineering and management students, from a number of engineering and management colleges/institutions. Respondents have been interviewed through structured questionnaires. While selecting the sample of respondents from the population we found concentration of engineering and management institutes mostly in Kolkata. The demographic profile of the selected sample has been presented in Table 4.3
Table 4.3: Demographic Profile of the Sample

<table>
<thead>
<tr>
<th>Demographic Profile</th>
<th>Characteristics</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Age</td>
<td></td>
</tr>
<tr>
<td></td>
<td>21 to 23 Years</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>24 to 27 Years</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>28 to 31 Years</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>Qualification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engineer</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>MBA</td>
<td>130</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2013

The study was based on the assumption that the respondents were actively seeking job after completing final year of college education irregardless of their age and professional qualification (Engineer/ MBA), they were seeking the same job opportunities. During the study the respondents were compared through dimensions including age, gender and education. There were 134 male and 88 female in the final group belonging to varied age groups. 42.2% of the respondents belong to the age group (24 – 27) years, is the dominant group in the sample. As per qualification is concerned 58.6% respondents are from different management institutions, qualified as MBA with B.Sc and B.Com degree but no one with BE or B Tech degree at the graduation level and the rest have BE or B.Tech degree.

4.5 Analysis Methodology

For the purpose of final investigation, in order to reduce huge volume of data collected through the questionnaires, data analysis of the research consisted of exploratory data analysis, factor analysis, and reliability analysis to check whether all statistical assumptions were met or not. Finally correlation and linear regression analysis has been performed to understand the effect of the independent variables, like personality traits and socialization tactics on the dependent variable of comprehensive socialization outcomes both organizational as well as individualized outcomes.

4.5.1 Exploratory Data Analysis

Exploratory data analysis (EDA) is an approach to analyze data set to summarize their main characteristics. In this research exploratory data analysis consisted of descriptive
statistics performed on the variables. Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summarization about the sample and the measures. With the help of descriptive statistics some measures that are performed to describe the data set are central tendency and measures of variability or dispersion. The measures of central tendency includes mean and median where as measures of dispersion includes standard deviation.

**Mean** - It is used in summarizing the essential features of a series and in enabling data to be compared.

**Median** - Median of a set of observations is the middle most value when the observations are arranged in order of magnitude. An important property of median is that for any given set of observations the sum of absolute deviations from median is the least.

**Standard Deviation** – Standard deviation is the square – root of the average of squares of deviations, when such deviations for the values of individual items in a series are obtained from the arithmetic average.

### 4.5.2 Factor Analysis

In this research to reduce the number of variables to a manageable level factor analysis has been performed. Factor analysis denotes a class of procedures primarily used for data reduction and summarization. It is an interdependent technique in which the whole set of interdependent relationships is examined. Factor analysis is used

(a) To identify factors (an underlying dimension that explains the correlations among a set of variables).

(b) To identify a new and smaller set of uncorrelated variables to replace the original set of correlated variables in subsequent multivariate analysis i.e. regression or discriminant analysis.

(c) To identify a smaller set of salient variables from a larger set for use in subsequent multivariate analysis.

### 4.5.3 Reliability Analysis

Reliability is the extent to which a scale produces consistent results if repeated measurements are made on the characteristics. It is assessed by determining the proportion of systematic variation in a scale. This is done by determining the association between the
scores obtained from different administrations of the scale. If the association is high and the scale yields consistent results, it is therefore assessed to be reliable.

A measure of internal consistency reliability is used to assess the reliability of a summated scale where several items are summed to form a total score. The simplest measure of internal consistency is split–half reliability i.e. the items on the scale are divided into two halves and the resulting half scores are correlated. High correlation between the halves indicates high internal consistency.

The coefficient alpha or Cronbach’s alpha is the average of all split–half coefficients resulting from different ways of splitting the scale items. The coefficient varies from 0 to 1. A value of 0.6 or less generally indicates unsatisfactory internal consistency reliability whereas a value 0.8 indicates good internal consistency reliability.

Cronbach’s alpha has been reported on the data set as whole as well as separately on each subset of personality traits, socialization tactics and organizational and individualized socialization outcomes.

4.5.4 Correlation

To measure the degree of relationship between the variables correlation has been performed. If the variables are so related that variations in the magnitude of one variable tend to be accompanied by the variations in the magnitude of the other, they are said to be correlated.

Karl Pearson’s coefficient of correlation (r) is the most commonly used method of measuring the degree of association between two variables. The coefficient assumes the following

(a) that there is linear relationship between two variables,

(b) that the two variables are casually related which means that one of the variables is independent and the other one is dependent,

(c) a large number of independent causes are operating in both variables so as to produce a normal distribution.

The values of ‘r’ lie between ±1. Positive values of r indicate positive correlation where as negative values of r indicate negative correlation between the two variables. A zero value
of $r$ indicates that there is no association between the two variables. The value of $r$ nearer to +1 or -1 indicates high degree of correlation between the two variables.

### 4.5.5 Linear Regression

Linear regression analysis has been performed to analyze the relationship between comprehensive socialization outcomes as dependent variable and independent variables like personality traits, socialization tactics. All tests of statistical significance were conducted at $\alpha = .05$ level. This is a statistical procedure which helps to analyze associative relationships between a dependent variable and one or more independent variable.

Regression analysis can be used to find out

(a) Whether the independent variables explain a significant variation in the dependent variable, i.e. whether there exist a relationship

(b) How much of the variation in the dependent variable can be explained by the independent variables i.e. strength of the relationship

(c) Determine the structure of the relationship

(d) Predict the values of the dependent variables

(e) Control for other independent variables when evaluating the contribution of a specific variable or set of variables

### 4.6 Operationalization of the Research Issue

Given the broad objective of the thesis being measuring the impact of personality traits and socialization tactics on the comprehensive socialization outcomes as well as separately both organizational and individualized outcomes, we have in this chapter laid out the parameters used for the analysis. These parameters will help to draw inferences on the effect of socialization process on the organizational environment, on the employees working within it and finally on how to overcome the problem faced by the newcomers in adjusting with the existing working environment. Based on the literature we seek to measure the independent variables at the pre arrival stage as well as during four week period when socialization process was more or less evident. Later in the transition i.e. after twelve weeks, we seek to measure dependent variables like newcomers’ adjustment when adjustment is expected to become more or less stabilized. The dependent variables are also
measured during the four week period to assess how the initial changes after four weeks differ from the cumulative changes at twelve weeks.

Impact of socialization tactics used by different organizations on the sample may have different outcomes. Keeping this in mind we consider personality traits and socialization tactics as two independent variables which directly influence socialization process of newcomers. Successful socialization leads to job satisfaction (organizational outcomes) and individualized outcomes like role conflict, role orientation and role ambiguity. The responses to each item on the questionnaire were measured on a 7 point likert scale. To ensure the reliability of all the scales used, a Cronbach’s alpha test was applied. They exhibited satisfactory alphas that were larger than the acceptable threshold of 0.60.

The figure 4.5 represents the operationalization of the research issue in brief.

**Figure 4.5: Operationalization of the Research Issue**
4.7 Summary

In brief we have explained the proposed method of drawing sample, the sample drawn in practice and the proposed statistical tools to be used for the analysis. As the study collected data using random no table, hence the chances of biasness or influence of the researcher on the decision making of the respondents have been significantly reduced. Finally, in the next chapter the collected data has been processed statistically to prepare it for the analysis to substantiate or otherwise the hypothesis developed in the earlier chapter.