

**Chapter V**

**RESEARCH METHODOLOGY**

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### RESEARCH METHODOLOGY

#### 5.1 Introduction

The purpose of this chapter is to explain the methodology used for undertaking the study. The nature of the study, sample design, sources of data, methods of data collection and analysis done on the data collected are included in this chapter.

#### 5.2. Nature of the study

“Emotional Intelligence is about knowing what you are feeling, and being able to motivate yourself to get jobs done. It is sensing what others are feeling and handling relationships effectively.” (Dulewicz, Higgs, 2000)<sup>1</sup>. Emotional Intelligence espouses social awareness and belief in the symbiotic outcomes of cooperating with others. Possessing these skills helps to establish good relationships with other people. Any organization wishing to thrive through change must make the choice to promote, and allow employee expressions of Emotional Intelligence (EI) (Hunton et al., 1998; Robertson et al., 1999)<sup>2</sup>. Emotional Intelligence is all about being able to interact with other people; using our own emotions in harmony with others’ emotions to create a desired outcome. An individual who has the ability to recognize and manage his emotions, develop care and concern for others, make responsible decisions, establish positive relationships and handle challenging situations effectively. People at work basically want satisfaction; the feeling that they are contributing positively to the workplace. The attitude determines how well people do a job. Ashkanasy and Hooper (1999)<sup>3</sup> utilized the proposition that affective commitment towards other people is a necessary component of social interaction and argued that the showing of positive emotions is associated with a high likelihood of success at work. Assessing one’s emotional intelligence and presenting the findings affords one an opportunity to engage in self-exploration which may potentially lead to self-growth and self-actualisation and indirectly lead to improved job performance. People who are emotionally intelligent are able to process information logically, cognitively and efficiently, and of the basis of this,

make informed decisions and manage themselves (Coetzee *et al.*, 2006)<sup>4</sup>. If Emotional Intelligence and workplace outcomes of employees go hand in hand, there arises a comfortable work environment.

The present study empirically investigates the linkage between emotional intelligence and work place outcomes among the managers and supervisors in Public Sector Firms in Kerala.

A descriptive research approach was adopted for this study, in order to satisfy the research objectives. Descriptive research includes surveys and fact finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. The methods of research utilised in descriptive research are survey methods of all kinds, including comparative and correlational methods.

### **5.3. Area of study**

The study was done by collecting data from select Public Sector firms, located in the three regions - North, Central and South - in Kerala. From each region, two Public Sector Firms were selected for the study, taking into consideration certain criteria. The criteria used were nature of business; profit/loss making; and number of supervisors and Managers.

### **5.4. Period of the study**

Period of study was from March 2011 to August 2015.

### **5.5. Sampling design**

#### **5.5.1. Population**

The target population for this study includes Managers and Supervisors working in Public Sector Firms in Kerala. The total number comes to 13838.

#### **5.5.2. Sampling method**

Multistage Stratified proportional sampling method was used for the study. In stratified sampling the population is divided into several sub populations that are individually more homogeneous than the total population and then select items from each stratum to constitute a sample. With proportionate stratified sampling, the

number of elements from each stratum in relation to its proportion in the total population is selected. In this study as the first stage the state of Kerala was divided into three regions. In the second stage from each region a separate list of Public sector firms making profit and those incurring loss were identified. In the third stage two groups of firms (manufacturing and service) based on the nature of business from profit making and loss making categories were selected from each region. As the fourth stage firms with highest number of employees were selected for choosing the study population (managers and supervisors) for the study. From the firms thus identified, the study population was selected according to the proportion of each stratum to the total population. Simple Random sampling was used for identifying the respondents from each selected firms.

### 5.5.3. Sample size

Data were collected from 700 respondents (Managers and Supervisors) working in Public Sector Firms, selected for the study. This comes to around 5% of total population. Out of these respondents, 344 were Managers and 356 were Supervisors.

Region	Criteria		No. of firms	Population	Firms selected	No.of respondents
South	Manufacturing	Profit	13	Managers-589	1	30
				Supervisors-761		38
		Loss	11	Managers-182	1	9
				Supervisors-690		34
	Service	profit	24	Managers-4275	1	216
				Supervisors-1328		67
Loss		14	Managers-392	1	20	
			Supervisors-2169		109	
Central	Manufacturing	Profit	9	Managers-315	1	16
				Supervisors-367		18
		Loss	7	Managers-150	1	8

				Supervisors-188		9
	Service	profit	3	Managers-610	1	31
				Supervisors-1277		64
		Loss	5	Managers-114	1	7
				Supervisors-272		13
North	Manufacturing	Profit	2	Managers-24	1	2
						Supervisors-17
		Loss	4	Managers-84	1	5
						Supervisors-34
	Service	profit	nil			
		Loss	nil			
Total			92	13838	10	700

In the southern region there were 24 manufacturing firms and 38 service firms. Among the manufacturing firms 13 were profit making and 11 were loss making. In the profit making firms there were 589 managers and 761 were supervisors. In the 11 loss making manufacturing firms there were 182 managers and 690 supervisors. One profit making manufacturing firm and one loss making firm were selected. The criteria used were number of employees. The firms with highest number of employees were selected in each category. Thus from the two manufacturing firms 39 managers and 72 supervisors were selected. The same procedure was followed in the case of service firms. There were 4275 managers and 1328 supervisors in the 24 profit making service firms in the southern region. There were 392 managers and 2169 supervisors in the 14 loss making service firms. One profit making and one loss making service firms were selected. From these firms 236 managers and 176 supervisors were selected as respondents.

In the central region there were 16 manufacturing firms and 8 service firms. Among the manufacturing firms 9 were profit making and 7 were loss making. In the profit making firms there were 315 managers and 367 were supervisors. In the 7

loss making manufacturing firms there were 150 managers and 188 supervisors. One profit making manufacturing firm and one loss making firm were selected. The criteria used were number of employees. The firms with highest number of employees were selected in each category. Thus from the two manufacturing firms 24 managers and 27 supervisors were selected. The same procedure was followed in the case of service firms. There were 610 managers and 1277 supervisors in the 3 profit making service firms in the central region. There were 114 managers and 272 supervisors in the 5 loss making service firms. One profit making and one loss making service firms were selected. From these firms 38 managers and 77 supervisors were selected as respondents.

In the northern region there were 6 manufacturing firms and there are no service firms. Among the manufacturing firms 2 were profit making and 4 were loss making. In the profit making firms there were 24 managers and 17 were supervisors. In the 4 loss making manufacturing firms there were 84 managers and 34 supervisors. One profit making manufacturing firm and one loss making firm were selected. The criteria used were number of employees. The firms with highest number of employees were selected in each category. Thus from the two manufacturing firms 7 managers and 4 supervisors were selected

## **5.6. Types of data**

Both primary and secondary data were used for the study.

## **5.7. Sources of data**

### **5.7.1. Primary data**

Primary data were collected from 700 respondents, who are the Managers and Supervisors working in the select Public Sector Firms in Kerala.

### **5.7.2. Secondary data**

Secondary data were collected from Journal articles, books, magazines and government publications.

## **5.8. Methods of data collection**

### **5.8.1. Primary data**

To obtain the primary data, survey method was used.

### **5.8.2. Secondary data**

Secondary data were collected through desk research.

## **5.9. Tools for data collection**

Primary data were collected using a questionnaire which has five sections.

### **5.9.1. Questionnaire design**

A structured questionnaire was designed with five different sections. Section A was intended to collect the demographic data of the respondents. Section B, C, D and E consist of statements related to the study variables that is Emotional Intelligence, Work attitude, interpersonal facilitation and Job performance respectively.

For constructing emotional intelligence statements, *Emotional Intelligence Scale* (EIS) by Upinder Dhar, Sanjyot Pethe, and Anukool Hyde (Hyde, Pethe, & Dhar, 2007)<sup>5</sup> was used and made changes according to the nature of the study population. The actual scale consisted of ten components. For the present study it reduced to four and it includes perceiving emotions, using emotions, understanding emotions and managing emotions. The statements consisted of 34 items with response options of strongly agree, agree, undecided, disagree and strongly disagree.

For constructing work attitude statements, A. Hafeez and S.V.Subbaraya (Hafeez and Subbaraya 1994)<sup>6</sup> measure of workers attitude was adopted and made changes according to the nature of the study population. The actual scale consisted of seven components. In this study it is reduced as five components and it includes attitude about work, working conditions, co-workers, superiors and management. The statements consisted of 17 items with response options of strongly agree, agree, undecided, disagree and strongly disagree.

For constructing interpersonal facilitation, James R. Van Scotter (1994)<sup>7</sup> measure of interpersonal facilitation was adopted and made changes according to the

nature of the study population. The actual scale consisted 13 items. For the purpose of this study added 2 new items to the scale and the total comes to 15. The statements include expressive, helpful, beneficent, directive, and considerate behaviours of a person. A five point likert scale was used to record the response.

For constructing Job performance statements, Campbell et al. (1993)<sup>8</sup> job performance model and W.C. Borman and Motowidlo's measure of contextual performance was adopted and made changes according to the nature of the study population.. For this study 28 items to assess the six sub dimensions of performance was used. The study use 5-level Likert scale, whereas 1= strongly disagree, 2=disagree, 3=undecided, 4=agree, and 5=strongly agree.

After using exploratory factor analysis to identify items with high loadings on the proposed factors and low loadings on other factors, we excluded items that showed high cross-loadings in the pilot data from subsequent data collection. The Results section describes the content and psychometric properties of the final Questionnaire items in detail.

### **5.9.2 Pilot study**

A pilot study was conducted to pretesting the research techniques and questionnaire. For this 10 public sector firms based on the nature of business from three regions of Kerala (South, central and north) was identified. From this a sample of 150 managers and supervisors were selected. Thus it formed 30 samples for each sectors (manufacturing and service) from three regions of Kerala.

### **5.9.3. Reliability test**

Joppe (2000)<sup>9</sup> defines reliability as the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. Cronbach alpha is an important measure of reliability. An acceptable values of alpha, ranging from 0.70 to 0.90(Nunnally J, Bernstein, 1994 and DeVellis R 2003)<sup>10</sup>. The following reliability scores of the variables computed in this study and the score is presented in the table.

Construct	No.of Items	Cronbach Alpha
Part-A Emotional Intelligence	34	0.807315
Part-B Work Attitude	17	0.781905
Part-C Interpersonal Facilitation	15	0.868844
Part-D Job performance	28	0.868844

Table above shows that three constructs have loadings of greater than 0.80 respectively and work attitude has loading of 0.781 also exhibiting adequate reliability. These measures confirmed that the data were highly reliable to use and then continued the analysis.

#### 5.9.4. Validity test

Farrell (2010)<sup>11</sup> defines discriminant validity is the extent to which latent variable A discriminates from other latent variables. Average Variance Extracted (AVE) is an important measure of discriminant validity. The AVE value for the study variable emotional intelligence is 0.78, Work attitude is 0.83, Interpersonal facilitation is 0.80 and job performance is 0.73. For average variance extracted, the loadings should be equal to 0.50. Here all constructs have normal values.

#### 5.9.5. Questionnaire administration

Questionnaire was administered directly to the respondents (824) questionnaires were distributed and only 782 were returned. From this 700 completed questionnaires were taken for the study.

#### 5.10. Tools for data analysis

For constructing factor structure and development of structural models for each study variable, the statistical tools of Factor analysis- Exploratory and Confirmatory factor analysis and Structural equation modelling were used. To perform hypotheses testing based on the study objectives, the tools applied were ANOVA, Correlation and Regression.

### 5.10.1 Factor Analysis

Factor analysis is a technique applicable when there is a systematic interdependence among a set of observed or manifest variables and the researcher is interested in finding out something more fundamental or latent which creates this commonality. Exploratory and confirmatory factor analysis was used in the study. Exploratory factor analysis (EFA) was used to discover the factor structure of the study variables and to examine its internal reliability. Exploratory factor analysis has three basic decision points: (1) decide the number of factors, (2) choosing an extraction method, (3) choosing a rotation method. Parallel analysis was used to decide the number of factors. The extraction method used was principal axis factoring. Promax was used as the rotation method.

Confirmatory factor analysis then was used to test the hypothesized factor structure. It would improve a psychometric property (internal consistency). In a CFA the researcher has a strong idea about the number of factors, the relations among the factors, and the relationship between the factors and measured variables. The goal of the analysis is to test the hypothesized structure and perhaps test competing theoretical models about the structure. Factor extraction and rotation are not part of confirmatory factor analyses. In short, Exploratory and confirmatory factor analyses were used to examine the factorial validity of the study variables. The estimation method for confirmatory factor analysis was general linear model. The normality of the data can be tested using mardia test. Mardia (1970)<sup>12</sup> proposed a multivariate normality test which is based on multivariate extensions of skewness and kurtosis.

### 5.10.2. Structural Equation Modelling (SEM)

Structural equation modeling (SEM) is a series of statistical methods that allow complex relationships between one or more independent variables and one or more dependent variables. SEM permits complicated variable relationships to be expressed through hierarchical or non-hierarchical, recursive or non-recursive structural equations, to present a more complete picture of the entire model (Bullock et al., 1994)<sup>13</sup>. Through SEM analysis, structural relationship of each study variable was established. The estimation method was general linear model.

**5.10.3 Correlation**

Correlation was used to measure the closeness of relationship between two variables, more exactly of the closeness of linear relationship. But correlation does not predict anything about the cause and effect relationship. Correlation analysis was used to establish the relationship between workplace outcomes and emotional intelligence of managers and supervisors of select Public Sector Firms in Kerala.

**5.10.4. Regression**

Regression is used for estimating or predicting the unknown value of a variable from the known value of a variable of another variable. Regression analysis used to study the nature of relationship between emotional intelligence and workplace outcomes of managers and supervisors.

**5.10.5. ANOVA**

ANOVA techniques investigate any number of factors which are hypothesized or said to influence the dependent variable. In this study ANOVA was applied in two perspectives. Firstly ANOVA was used to find out the difference among the job performance, interpersonal facilitation and work attitude of supervisors and managers of Select public sector firms in Kerala. Secondly it was used to test the demographical differences on the study variables.

**5.11. Tools for presentation of data**

Tables and charts were used to present the statistical analysis of the study.

**5.12 Conclusion**

This chapter described a detailed account of the research methods and instruments used in the study.

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