CHAPTER 4

RESEARCH DESIGN

4.1 OPERATING DEFINITIONS OF VARIABLES

4.1.1 Emotional Intelligence

The Hay Group defines Emotional Intelligence as the ability to recognize our own feelings, motivate ourselves and manage emotions effectively in ourselves and others and measures it using Emotional and Social Competency Inventory – University Edition (ESCI-U). The researcher follows the same.

The ESCI - U measures 14 competencies organized into four clusters: Self-Awareness, Self-Management, Social Awareness, and Relationship Management.

Self-Awareness is defined as recognizing one’s emotions and their effects (measured through ‘Emotional Self-Awareness’).

Self-Management is defined as keeping disruptive emotions and impulses in check (measured through ‘Emotional Self-Control’), being flexible in handling change (measured through ‘Adaptability’), striving to improve or meet a standard of excellence (measured through ‘Achievement Orientation’), and having persistence in pursuing goals despite obstacles and setbacks (measured through ‘Positive Outlook’).
Social Awareness is defined as the ability to sense others’ feelings and perspectives, and taking an active interest in their concerns (measured through ‘Empathy’) and ability to read a group’s emotional currents and power relationships (measured through ‘Organizational Awareness’).

Relationship Management is defined as the ability to sense others’ development needs and bolstering their abilities (measured through ‘Coach and Mentor’), inspire and guide individuals and groups (measured through ‘Inspirational Leadership’), wield effective tactics for persuasion (measured through ‘Influence’), negotiate and resolve disagreements (measured through ‘Conflict Management’ and work with others toward shared goals thus creating group synergy in pursuing collective goals (measured through ‘Teamwork’).

4.1.2 Cognitive Competencies

This is defined as the ability to order multiple causal events (measured through ‘Systems Thinking’) and the ability to recognize a pattern in an assortment of information, unorganized or seemingly random data (measured through ‘Pattern Recognition’).

4.1.3 Locus of Control

Locus of control is defined as person's perception of control or responsibility for his own life and actions. Locus of control refers to an individual's generalized expectations concerning where control over subsequent events resides. In other words, who or what is responsible for what happens. Locus of control, according to Rotter's approach, can be divided into two separate sources of control: internal and external. People with an internal locus of control believe that they control their own destiny.
On the other hand, people who tend to have an external locus of control tend to attribute their experiences to fate, chance, or luck.

### 4.1.4 Performance

Performance is defined as existence of Generic Human Skills deployable by an enterprise (measured through ‘MAT Score and Skill Set Inventory’).

Skill Set is defined as Basic Managerial Skills, Team Management Skills and Attitudinal Skills

- Basic Managerial Skills is defined as the ability to communicate, manage information, use numbers and solve problems.
- Team Management Skills is defined as the ability to harmoniously work with others.
- Attitudinal Skills is defined as the ability to demonstrate positive attitude and behaviors, adapt to the environment, skill to continuously learn and work safely.

### 4.2 MODEL DEVELOPMENT

Individual performance is highly important for an organization as a whole and for the individuals working in it. Performance comprises of both a behavioral and an outcome aspect. It is a dynamic concept. During the past 10 or 15 years, researchers have made progress in clarifying and extending the performance concept (Campbell 1990). Further studies have been made in specifying major predictors and processes associated with individual performance. With the ongoing changes that we are witnessing within
organizations today, the performance concepts and performance requirements are undergoing changes as well (Ilgen and Pulakos 1999). Organizations need highly performing individuals in order to meet their goals.

Skills required to perform effectively and efficiently can be divided as follows:

- **Generic Human Skills**: According to Hamaz and Abdullah (2009) generic skills are the general skills, qualities, knowledge, abilities and traits a person should possess to succeed in one’s studies and career. These skills are not specific but are skills which cut horizontally across all industries and vertically across all jobs from entry level to chief executive officer. Generic skills are seen relevant, useful and durable. They underpin education and provide a basic to support lifelong learning. They revolve around such skills as problem solving, critical thinking, effective communication, teamwork and ethical practice. They are not the replacement for discipline specific skills; rather they should compliment student’s acquisition of technical skills and professional knowledge.

- **Professional Human Skills**: These are skills required specific to a particular profession. Example: Doctor, Engineer, Financial Analyst.

- **Industry Specific Human Skills**: As the term suggests, these are skills required to perform in a particular industry.

- **Firm Specific Human Skills**: These skills are specific to an organization’s culture and values. Example: Organisational Citizenship Behaviour.
The industry hires an individual on completion of the MBA program for the Generic Human Skills. Generic Human Skills are important as they are portable, can be differentiated and can be harnessed to suit the industry and the functional area. Hence this study is concerned with the Generic Human Skills.

There are many factors that impact Generic Human Skills. In this study the researcher captures the impact of three important variables, namely, Emotional Intelligence, Locus of Control and Cognitive Competencies related to Generic Human Skills. Performance that an industry evaluates at the end of the MBA program is the potential to perform in the job role. Hence we use measures for measuring the performance. One is the MAT Score which is a standardized score indicating potential to perform in a managerial career. Second is the Skill Set measured through the instrument developed by the researcher.

Review of literature has strongly indicated that Emotional Intelligence, Locus of Control and Cognitive Competencies are strong predictors of performance. Based on this, the researcher developed the following model to capture the impact of Emotional Intelligence, Locus of Control and Cognitive Competencies on Performance (which is a function of MAT Score and Skill Set)
4.3 HYPOTHESES

The hypotheses developed and tested were done in three parts:

PART I

The impact of Emotional Intelligence (EI) on Performance (P), MAT Score (P₁), Skill Set (P₂), Basic Managerial Skills (BMS), Team Management Skills (TMS) and Attitudinal Skills (AS)

The hypotheses being tested under PART I are as follows:

\[ H₁ : \text{There is a significant relationship between Performance (P), MAT Score (P₁) Skill Set (P₂) and Emotional Intelligence (EI).} \]
There is a significant relationship between Basic Managerial Skills (BMS), Team Management Skills (TMS), Attitudinal Skills (AS) and Emotional Intelligence (EI).

**PART II**

The impact of Locus of Control (LOC) on Performance (P), MAT Score (P₁), Skill Set (P₂), BMS, TMS and AS

The hypotheses being tested under PART II are as follows:

$H_3$: There is a significant relationship between Performance (P), MAT Score(P₁) Skill Set (P₂) and Locus Of Control (LOC).

$H_4$: There is a significant relationship between BMS, TMS, AS and LOC.

**PART III**

The impact of Cognitive Competencies (CC) on Performance, MAT Score (P₁), Skill Set (P₂), BMS, TMS and AS

The hypotheses being tested under PART III are as follows:

$H_5$: There is a significant relationship between Performance (P), MAT Score (P₁) Skill Set (P₂) and Cognitive Competencies (CC).

$H_6$: There is a significant relationship between BMS, TMS, AS and CC.
4.4 MEASURING INSTRUMENTS

Three questionnaires have been used to collect data. They are:

4.4.1 Skill-Set Test (Developed by the Researcher)

The Skill-Set Test Questionnaire was developed by the researcher based on literature reviewed and inputs got by interviewing placement consultants and Human Resource Managers of companies with respect to skills required at the workplace. The first version of the instrument consisted of 40 questions (Appendix 1).

The questionnaire was administered to forty students. The data was collected and factor analysed. Three groups evolved and were grouped as Basic Managerial Skills, Team Working Skills and Attitudinal Skills.

- **Basic Managerial Skills (BMS):** Include Communication, Managing Information, Using Numbers and Thinking and Problem Solving.

- **Team Management Skills (TMS):** Include skills required to harmoniously work with others.

- **Attitudinal Skills (AS):** Demonstrating positive attitude and behaviors, adaptability, continuous learning and working safely.

The second version (Appendix 2) of the instrument had twenty five questions on a 5 point scale. This questionnaire was pilot tested on one hundred and twenty students from different colleges. The questionnaire was then tested for reliability and validity. The results are as follows:

Instrument test for Reliability and Validity
Internal consistency is estimated by using Cronbach’s alpha. An alpha value of 0.70 or above is considered to be criterion for demonstrating strong internal consistency, alpha value of 0.60 or above is considered to be significant (Cronbach and Meehl 1955). The instrument has Cronbach’s alpha value of .824 and can be considered consistent.

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
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</thead>
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<tr>
<td>Cronbach’s Alpha</td>
</tr>
<tr>
<td>0.824</td>
</tr>
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</table>

The instrument was tested for Content validity, construct validity and face validity which are the major types of validity (Berelson1952).

The results are as follows:

**Content validity and Face Validity**

If the instrument contains a representative sample of the universe, the content validity is good; its determination is mainly judgmental and intuitive (Shadish et al 2002). Face validity relates to whether the test appears to be a good measure (Haynes et al 1995). This judgment is made on the face of the test, thus it can also be judged by the experts in the field. Accordingly, the researcher consulted experts and academic professionals for this purpose and hence ensured that the questionnaire so prepared is measured with sufficient content validity.

**Convergent validity**

By using CFA each item in the scale is checked with the help of coefficient called Bentler- Bonett fit index (NNFI or TLI). A scale with TLI value of 0.9 or above is an indication of strong convergent validity. It has
been observed that TLI values of each construct as well as overall TLI values are more than 0.90 and this indicates strong convergent validity of the instrument. (Siebert and Siebert 2005). The results are given below:

Model fit Indices for CFA

<table>
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<tr>
<th></th>
<th>$\chi^2$</th>
<th>DF</th>
<th>AGFI</th>
<th>NFI</th>
<th>TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommended level</strong></td>
<td></td>
<td></td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
<td>&gt;0.9</td>
</tr>
<tr>
<td><strong>Full model</strong></td>
<td>1002.700</td>
<td>215</td>
<td>0.641</td>
<td>0.715</td>
<td>0.659</td>
</tr>
<tr>
<td><strong>Efa based model</strong></td>
<td>18.509</td>
<td>14</td>
<td>.946</td>
<td>.938</td>
<td>.966</td>
</tr>
</tbody>
</table>

Incremental fit measures (for validity)

- Tuker-Lewis Index (TLI): A recommended value of TLI is 0.09 or greater. The value closer to 1.0 indicates perfect fit. The value for the instrument is .966 and is considered a good fit.

- Normal fit Index (NFI): A recommended value of NFI is 0.09 or greater. The value closer to 1.0 indicates perfect fit. The value for the instrument is .938 and is considered a good fit.

- Adjusted goodness –of –fit index (AGFI): A recommended value of AGFI is 0.09 or greater. The value closer to 1.0 indicates perfect fit. The value for the instrument is .946 and is considered a good fit.

Thus having satisfied the test for reliability and validity, the second version of the instrument was adopted was used for the research.
4.4.2 Locus of Control

The LOC developed by Trice (1985) is a 28 item questionnaire scored on a 5 point with a reliability score of 0.92. Scores on the scale are developed by summing the responses of the externally answered items and the reverse scores of the internally answered items thus arriving at a score expressing a degree of externality with higher scores reflecting a higher external ALOC. Scores can fall in the range of 28 to 140 (Appendix 3).

4.4.3 Emotional and Social Competency Inventory – University Edition, Self-Assessment Questionnaire (ESCI-U)

The ESCI-U is developed by the Hay Group (Appendix 4).

The ESCI-U measures 12 competencies organized into four clusters: Self Awareness; Self-management; Social Awareness; and Relationship Management. In addition it two cognitive competencies: Systems Thinking and Pattern Recognition. These 14 competencies have been found to be important for effectiveness in many occupations.

4.5 SAMPLE DESIGN AND SAMPLING

The universe is the students doing their MBA in Mahatma Gandhi University, Kottayam, Kerala. There are a total of 1500 students (25 colleges). The required sample size for the universe is 115. Two hundred and forty questionnaires were administered to the students. Questionnaires were distributed among the participants and they were assured of confidentiality.

Six colleges were selected at random for administering the instruments from twenty five colleges of Mahatma Gandhi University. Thirty instruments were administered to four colleges where the intake strength is
sixty per batch and sixty instruments to two colleges which have one hundred and twenty intake strength per batch. Two hundred and nine completed instruments were considered for the study.

The sample size was calculated as follows:

Population : 1500 Management Graduates

Sample Frame: List of Business Administration colleges as stated by Mahatma Gandhi University, Kottayam, 2010-11.

Sample determination:

\[
N = 25 \times 60 = 1500
\]
\[
e = 0.03
\]
\[
z = 1.96 \text{ ( at confidence level of 95\%)}
\]
\[
p = 0.03
\]
\[
q = 1 - 0.03 = 0.97
\]
\[
N = 1500
\]
\[
n = \frac{(z^2 \times p \times q \times N)}{(e^2 \times (N-1) + z^2 \times p \times q)}
\]
\[
= 167.616/1.46
\]
\[
= 115
\]

Sample size: 240 questionnaires were given and only 209 were rendered useful. Thus the sample size taken is 209.

4.6 STATISTICAL TOOLS USED IN HYPOTHESES TESTING

- Linear Regression
- ANOVA
• t-Test

The significance level for rejection of the null hypothesis was fixed at $p=0.05$. SPSS software, version 16.0 was used for the statistical calculations.

4.7 LIMITATIONS /DELIMITATIONS

Of a total of 1500 students doing their MBA in Mahatma Gandhi University, Kottayam, Kerala, a sample of 209 students comprising of 45.0% male and 54.5% females was considered for the study. The study is restricted to M.B.A. students studying in the Mahatma Gandhi University, Kottayam, Kerala. The institutions agreed to the research only when they were assured that the efficacy of their training would not be measured or reported whether with anonymity or otherwise. It is also for this reason, the researcher had to limit to the self-reported skill instrument as a surrogate for employability. The students selected for the research were in their first semester of the MBA Program. As such MAT score was taken as the indicator of academic score. As the study is limited to the students of Mahatma Gandhi University, future research along the same lines can be taken up among students across other universities. Another aspect that can be considered for future research is to track the students’ through the entire MBA program and also consider their academic scores instead of limiting it to the MAT Score. As the sample consisted of more number of female graduates, it can be further explored to see if this has any impact on the issue under study.