CHAPTER III
RESEARCH METHODOLOGY
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CHAPTER III
RESEARCH METHODOLOGY

In the process of re-search and to acquire new set of knowledge people follow a systematic procedure, process and pattern of gathering information, resources, materials, data and details. This pattern adopted is to be described in such a manner which will be useful to other fellow scholars, researchers, students, practitioners who can further improve upon it and add value to the field of research. The heart of any research is the description on the methodology adopted for that work which will throw light on various research aspects in to it. Systematic scientific enquiry help bring out a world there are lots of facts and figures that are unique in terms of approach and subject matter under investigation. This research investigation being objective and unbiased has followed a scientific approach in conducting this study. The different phases this study had undergone are presented to the reader in this chapter and other.

3.1. Need for the Study:

The researcher read in the book titled, ‘The New Rules of Engagement’, where in Mike Johnson (2004) wrote ‘the ability to engage employees, to make them work with our business, is going to be one of the greatest organizational battles of the coming 10 years. As rightly mentioned by Mike, employee engagement is a hot topic in the world of management today and it has quickly been absorbed into the HR and Business agenda of organizations. Employee engagement is a key challenge, which is capturing the attention of all corporate executives and professionals alike and, increasingly, the acceptance of academics. Today, it is rare to find any article in the popular HR or management journals without mention of employee engagement. Unfortunately, upto date there is no clear and agreed definition of engagement and many researchers and practitioners describe the term in different ways. Nevertheless, there is an increasing awareness that employee engagement is pivotal to successful commercial and business performance, where engaged employees are the ‘backbone of good working environments where people are industrious, ethical and accountable’.
The researcher found from many literatures that engagement can affect employees’ attitudes, absence and turnover levels and various studies have demonstrated links with productivity, increasingly pointing to a high correlation with individual, group and organizational performance, a success measured through the quality of customer experience and customer loyalty. Organizations with higher engagement levels tend to have lower employee turnover, higher productivity, higher total shareholder returns and better financial performance. Highly engaging organizational cultures may also have an attractive employer brand, being an employer of choice which attracts and retains the best talent. By building a culture that enables employees to engage in their work, organizations may benefit from those staff, who are willing to go the extra mile and achieve better financial performance. Over recent years there has been a significant shift in the employee-employer relationship. With increasingly competitive markets, globalization, a volatile economic climate, demands for constant change and the war for talent, organizations face significant challenges in their pursuit for business success. The psychological contract is now different to what it once was; for many, there is no longer a job for life, and indeed redundancy is a very real possibility. It is also evident that expectations of the present day employers and employees differ from those of the past. In turbulent times engagement may increasingly become the ‘deal-breaker’ for organizations seeking sustainable success. Some employees now seek short-term careers in different organizations with the expectation that they will commit for the short-term and move on from jobs that are not satisfying, or simply use experience gained in one role as a stepping stone to another job.

Based on the researcher’s practical experience in the HR filed as well as from various literature it is found that organizations want people to put in extra effort and generate innovative ideas to improve services and save money. Managers need to recognize this shift and refrain from using an autocratic management style, which is likely to disengage employees who seek more collaborative and empowering management, and inhibit innovation and a willingness to exert extra effort. There are many factors responsible for the varying level of engagement among employees and organization have to understand those factors directly and indirectly contributing to the
existing engagement patterns. This signifies the study on employee engagement to understand and positively impact the employees for improved level of level of engagement. As in the case of many developing countries, India too invests a huge portion of its revenue in strengthening its infrastructure in the areas of transportation, industrialization, power, hospitality and health care. A country’s economy tends to lean on manufacturing industries for faster economic growth. Cement being a fundamental product for any infrastructure development, makes the cement business a visibly significant aspect for the economic growth of any developing country. Hence the employees working in such an important sector needs to be understood for their level of engagement and various factors driving it.

3.2. Statement of the problem

The researcher found that engagement is a complex phenomenon to understand and it depends on various factors. Number of biographical details has been shown to affect scores in engagement levels. The impact of personal characteristics on engagement is a unique feature to be understood. Factors like gender, age, experience, ethnicity, disability and caring responsibilities are all impacting the engagement level. More so the immediate manager, senior leadership, work content, possibility of work life balance and such other factors also influence the engagement level. Blessing White’s (2008b) survey of over 7,500 individuals and interviews with senior human resource and line managers found that at least a quarter generation of young employees globally were disengaged except India, where all generations had higher engagement levels than other regions. Similar to Blessing White’s findings, Roffey Park Institute’s survey of UK managers as referred by Gemma Robertson, et al. (2009), revealed that younger managers are not as positive about their organizations as their older counterparts. It has to be understood that young employees now a days seek work-life balance, personal development, exciting jobs, motivating managers, and have an overwhelming desire to be fulfilled in their jobs. If these demands are not met, they are likely to leave their organization in search of those aspects elsewhere.

The researcher believes that one can easily understand that people differ in values, in their attitude towards work and their demands are different. If the
organization does not respond to these, then non-engagement or even disengagement may become commonly prevalent. Engagement levels have also been linked to individual attitudes and traits. Engagement has been linked to having a ‘positive affect’, having a proactive and autotelic personality (ie carrying out activities for their own sake rather than reward) and being conscientious. Some individuals may have engagement oriented personality traits that are likely to give them a predilection for being engaged. These traits may also cause the individual to suffer when they are prevented from engaging. Those who are low in neuroticism and high in extraversion, as well as individuals with a temperament that allowed them to adapt and switch between activities, were more likely to be engaged.

The researcher reiterates that organizations need to realize that they are not managing the same world as they were few years ago. The technology, people, and the overall work environment have moved on, meaning that today’s organizations need to be flexible. Employees now define themselves not by the work they do but by the lifestyles they have chosen to lead. Engagement now begins with employees’ lifestyles and what they consider is worth investing themselves in; the choice to engage lies with the employee. It is something that is given, not taken, by the employer. The range of job roles an organization has may well make a big difference to the level of engagement of its employees. For example, Towers Perrin (2003) survey data suggests that, generally, the more senior an individual’s role within an organization, the greater the chance of being engaged and also increased engagement is expected to be an outcome of power and position.

The researcher wants to mention a SHRM( Society for Human Resource Management) new global employee engagement study in 2006 which surveyed employees from around the world and found almost a 52 per cent gap in the yearly performance improvement in operating income between organizations with highly engaged employees and organizations having employees with low engagement scores. It is also to be understood that engagement determines the business unit outcomes of customer satisfaction, profit, productivity, employee turnover and accidents. Engaged employees leads to engaged customers, and this, in turn converts into long term
profitability. Luthans and Peterson (2002), states that Gallup had empirically determined employee engagement to be a significant predictor of desirable organizational outcomes, such as customer satisfaction, retention, productivity and profitability. It was found that employees scoring high on engagement (top 25 per cent) performed better in the areas of sales, customer complaints and turnover in comparison to the employees scoring low on engagement score (bottom 25 per cent).

The researcher further wanted to share that Gallup estimate that in the United Kingdom, unengaged workers cost their companies $64.8 billion a year. In Japan, where only nine per cent of the workforce is engaged, the lost productivity is $232 billion (The Gallup Organization, 2004). Employee engagement has also been found to bring benefits at the individual level. In a recent study it is explored that over the past 6 years, where the level of engagement had increased, absenteeism had decreased among employees (The Gallup Organization, 2004). In a comprehensive review of literature on employee engagement, point out that employee engagement has also been linked with higher employee retention (DDI, 2005), greater employee effort and productivity (Corporate Leadership Council, 2004), increased sales (HayGroup, 2001), greater income and turnover (ISR, 2006), greater profitability and faster business growth and higher likelihood of business success (Hewitt Associates, 2004). Such is the significance of the complex aspect of engagement and more and more systematic researches are required in this field which will enable the organizations to focus on the improvement plans on engagement of their employees and lead to prosperity.

While working for this research work it gave a fairly good idea to the researcher that now a days the senior management, line managers, HR practitioners are seriously working on understanding and improving the engagement levels of their employees, as it is not sufficient that an employee is satisfied and committed but they must be engaged to a great extent. Engagement levels depend on various factors in any organization. Based on various literatures in the field, engagement greatly depends on values, culture, reputation, vision, senior leadership, decision making style, immediate manager, policies and practices of the organization, quality of people services, work content, resources provided to perform, information flow, people around, fairness in
treating employees, creating worth feeling in the minds of employees, learning opportunities, growth opportunities, how talents are managed, performance measure, compensation system, rewards and recognition, work life balance, welfare schemes and work environment provided and so on.

A wide reading of various source information on engagement make the researcher to understand that each geographical location, each manufacturing facility, each organization, each department, each age group, each experience level, each person may differ in their engagement level and on the factors that keep them engaged. Hence there is a significant need to collect facts and figures, analyze, understand and act upon improving the engagement level in organizations which will facilitate prosperity. Keeping these facts in mind, the present study goes in depth into the dimensions, factors and driver statements of engagement concentrating on cement manufacturing organization which may be a model for other manufacturing sectors especially involved in the infrastructure development in India.

3.3. Pilot study:

An attempt was made by the researcher to conduct the observation and feasibility study of the organization where in the study proposal to be carried out. This study helped the researcher to know about the organization and gain the support of the officials and the respondents to conduct the research. The personal interview with the executives gave lot of information on the existing employee engagement aspects. This pilot study helped developing the in-depth work on the employee engagement aspects which are used in the present study. Pilot study gave a good experience to the researcher to understand the setting where the research had to be carried out in a better manner on all aspects like general nature of the respondents, their background and how they respond. It was very useful to the researcher while doing the actual study.

3.4. Aims and objectives of the study:

The present study bases its search for facts on employee engagement among the respondents and to fulfill this focus the following aims and objectives were framed:
1. To understand the overall employee engagement level in the organization under study
2. To study the employee engagement in the organization in terms of dimensions and factors of employee engagement
3. To understand the perception of employees on factors of employee engagement and self strive of the employees to improve engagement
4. To know the engagement of employees based on socio-demographic variables
5. To study the employee engagement based on organizational variables
6. To suggest suitable measures to improve the present level of employee engagement based on findings of the research
7. To evolve a tool for measuring employee engagement for the use of industries and for future researches.

3.5. Research hypothesis for the study:

The researcher has taken 18 hypotheses relating to organizational variables and employee engagement. The idea behind this is that the outcome of the hypothesis testing will give direct input to the management on the organizational variables. Unlike the socio-demographic variables, the organizational variables can be directly monitored by the management and necessary actions on each factor can also be taken by the senior team. Hence the hypotheses taken for the present study are action oriented and will give direct input to the user community. Each hypothesis covers all the 24 factors of employee engagement namely values and culture, reputation, vision, senior leadership, decisions, immediate manager, policies, practices, people service, work, resources, information, peers, fair treatment, worth feeling, learning, growth, talent management, performance management, compensation, rewards, work life balance, welfare and work environment as well as overall employee engagement. For the reader’s convenience the factors are not repeated in the hypothesis statement but mentioned as ‘various factors’. For each factor as well as overall engagement statistical test is applied and the results are presented in the tables in chapter IV.
1. Employee engagement factors are correlated with each other factor as well as with overall engagement

2. There is significant difference between respondents of plant one and plant two with regard to various factors of employee engagement as well as overall employee engagement.

3. There is significant difference between number of bosses of the respondents with regard to various factors of employee engagement as well as overall employee engagement.

4. There is significant difference among respondents of different management levels with regard to various factors of employee engagement as well as overall employee engagement.

5. There is significant difference among respondents who intent different proposed years of service with regard to various factors of employee engagement as well as overall employee engagement.

6. There is significant difference among respondents having different number of reporting subordinates with regard to various factors of employee engagement as well as overall employee engagement.

7. There is significant difference among various performance management ratings of the respondents with regard to various factors of employee engagement as well as overall employee engagement.

8. There is significant difference among various range of performance pay received by the respondents with regard to various factors of employee engagement as well as overall employee engagement.

9. There is significant difference among different grades (job category) of the respondents with regard to various factors of employee engagement as well as overall employee engagement.

10. There is significant difference among different departments of the respondents with regard to various factors of employee engagement as well as overall employee engagement.
11. There is significant association between span of service of the respondents in the present organization and various factors of employee engagement as well as overall employee engagement

12. There is significant association between respondents’ number of years of stay in the same grade and various factors of employee engagement as well as overall employee engagement

13. There is significant association between annual income of the respondents and various factors of employee engagement as well as overall employee engagement

14. There is a relationship between number of training programs attended by the respondents and various factors of employee engagement as well as overall employee engagement

15. There is significant difference among respondents of different management levels with regard to perception on overall employee engagement

16. There is significant difference among respondents of different management levels with regard to self strive on overall employee engagement

17. There is significant difference among various range of performance pay received by the respondents with regard to perception on overall employee engagement

18. There is significant difference among various range of performance pay received by the respondents with regard to self strive on overall employee engagement

3.6. Research design of the study:

In the present study, the researcher aimed at formulating objectives of the study defining the population and designed method of data collection and analyzed the data to arrive at findings. According to Saravanavel P,(2010) descriptive study aims at portraying accurately the characteristics of a particular group or situation. The researcher as per reading the book of John W. Creswell (2011), found that descriptive design is the most appropriate one for the present study. The researcher made an
attempt to describe the employee engagement in manufacturing plants and formulated objectives of the study, designed the method of data collection, selected appropriate sample, collected and analyzed data and presented the findings. Hence the research design is descriptive in nature.

As employee engagement is a recently emerging field there are limited tools available for measuring the engagement level. Present surveys are done mostly by leading consulting firms who designed online questionnaire on the objective. The researcher carefully gathered, read and understood various factors and drivers of engagement among employees and used for present study. The researcher developed a questionnaire which is framed covering socio-demographic details, dimensions and factors of engagement captured through driver statements. The statements were presented in a five point likert type scale. The researcher collected response from two manufacturing plants of the organization under study and covered all employees to get more authentic results. The researcher had framed set of hypotheses to support the broad objectives of the research work and applied statistical tools to for testing.

3.7. Universe of the study:

The universe of the study consists of executive population of Dalmia Cement (B) Limited, one of India’s oldest and most respected business houses. The organization established in 1935, the conglomerate has business interests in 4 major sectors: cement, sugar, power and refractory. Over the last 7 decades, the company has earned the trust of its employees by consistently delivering on their expectations. As a reflection of this, the company got recognized in Hewitt’s Best Employer Survey 2009 where it ranked among the top ten companies in the manufacturing industry. The company has charted out an ambitious growth plan, which is being executed by a professional management team under the guidance of well experienced promoters of the group. The company is head quartered in New Delhi with employee strength of more than 3500 and total income of INR 2194 crores in financial year 2010. The cement operations are present in southern India and in Tamilnadu the plants are located in Dalmiapuram and Thamaraikulam having its registered office at Dalmiapuram,
Tiruchirappalli District, Tamil Nadu, India (South). The installed capacity is 9 million tons per annum.

The company is a multi spectrum cement player with double digit market share and a pioneer in super specialty cements like Oil well, Railway sleeper and Air strip cement. This study is confined to the two cement plants of this group manufacturing cement located in Tamil Nadu and covers 10 different departments and all the executives constitute the population of the study. This study does not include the workmen category both on permanent rolls and contract roll, as the engagement practices are not institutionalized and practiced for them. All the engagement practices and interventions at present centers around executive population only. Hence the researcher had confined the study to executive population of the two plants of Dalmia Cement.

3.8. Census method:

Dalmia Cement which has its registered office in Dalmiapuram, Tiruchirappalli District has two factories. These two plants are producing cement and consist of various departments like production and process, mining, quality assurance, mechanical, electrical, power plant, instrumentation, finance, commercial, human resources and management services. The plant one is in Dalmiapuram in which is employing 189 executives the plant two which is situated in Thamaraikulam employs 145 executives. The total executives in both plants amount to 334. The researcher decided to study all the executives and collected data from all 334 executives who are working in these factories. The researcher adopted Census method and all hundred percentage of the population of the executives are covered in the present study.

3.8.1. Inclusion and exclusion criteria:

There are about 10 departments and each department is represented by all its executives as it is a census study. The inclusion criterion is that all the executives are covered under the present study. As the engagement practices are yet to be started for the workmen category, this study does not cover the workmen employed in these plants.
Respondents covered in the present study in each department

<table>
<thead>
<tr>
<th>Serial Number</th>
<th>Department</th>
<th>Number of Respondents (n=334)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Production and Process</td>
<td>44</td>
<td>13.20</td>
</tr>
<tr>
<td>2</td>
<td>Mining</td>
<td>30</td>
<td>9.00</td>
</tr>
<tr>
<td>3</td>
<td>Quality Assurance</td>
<td>13</td>
<td>3.90</td>
</tr>
<tr>
<td>4</td>
<td>Mechanical</td>
<td>53</td>
<td>15.90</td>
</tr>
<tr>
<td>5</td>
<td>Electrical and Power Plant</td>
<td>39</td>
<td>11.70</td>
</tr>
<tr>
<td>6</td>
<td>Instrumentation</td>
<td>31</td>
<td>9.30</td>
</tr>
<tr>
<td>7</td>
<td>Finance</td>
<td>29</td>
<td>8.70</td>
</tr>
<tr>
<td>8</td>
<td>Commercial</td>
<td>31</td>
<td>9.30</td>
</tr>
<tr>
<td>9</td>
<td>Human Resources</td>
<td>25</td>
<td>7.50</td>
</tr>
<tr>
<td>10</td>
<td>Management Services</td>
<td>39</td>
<td>11.70</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>334</td>
<td>100.00</td>
</tr>
</tbody>
</table>

3.9. Tool for data Collection:

As stated earlier the research scholar did intensive study on the employee engagement and did various mini studies, had detailed discussion with more than 20 academicians who are in teaching and research and formulated the present tool. Based on the literatures and discussion he had with various leading academic professors and practicing HR Consultants in the field of employee engagement, the research scholar firmly conceived that there are about 8 dimensions relating to employee engagement which are further split to 24 factors which again at next level converted to 72 identified micro elements termed as “drivers” of employee engagement. These drivers are used for framing the questionnaire in the form of statements along with perceptual and self strive statements attributing to each of the 24 factors of employee engagement. The researcher believes that the perception of the employees is an essential aspect in employee engagement and the level of engagement depends on the self strive of the employees in promoting the factors with dedication and self initiative. Based on this ideology, the researcher prepared 20 draft copies of the tool and discussed with
academicians as well as practitioners and finalized 120 statements to be used in the questionnaire for data collection.

The researcher listed relevant socio-demographic variables as well as organizational variables in the framework and used in the research for analyzing their impact on the engagement. The questionnaire is designed as a five point Likert scale type. A sample questionnaire is given in the appendix of this report. The options and construct of 5 point Likert scale used for the present study are as follows:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The researcher named the tool as “Scale for Measuring Industrial employees’ Level of Engagement-SMILE”. The researcher has future plan to have this tool published as a copy right material and also to go for software program on this tool (SMILE) for the use of industries. This tool in future can be used by Industries for measuring the employee engagement level on line and the decision makers can take reports instantaneously. The construct of the tool is illustrated for easy understanding of the reader in the table given in the subsequent page.

There are 120 statements in the tool out of which 72 statements are relating to the various drivers of employee engagement which are relevant to the 24 factors and 8 dimensions of the employee engagement which the researcher conceived. There are another 24 statements relating to the perception of the employees on each factor of employee engagement and the other 24 statements are relating to the self strive of the employees in improving the factors.
Construct of SMILE questionnaire for measuring employee engagement

<table>
<thead>
<tr>
<th>Dimension Number</th>
<th>8 Dimension Pillars of SMILE</th>
<th>Factor Number</th>
<th>24 Factors</th>
<th>72 Driver statements /24 perception and 24 self strife statements and their numbers in the tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Organization Culture</td>
<td>F1</td>
<td>Values and Culture</td>
<td>S1,S2,S3- Drivers/S4-Perception on factor/S5-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F2</td>
<td>Reputation</td>
<td>S6,S7,S8- Drivers/S9- Perception on factor/S10-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F3</td>
<td>Vision</td>
<td>S11,S12,S13- Drivers/S14-Perception on factor/S15-Self strive on factor</td>
</tr>
<tr>
<td>D2</td>
<td>Management Practices</td>
<td>F4</td>
<td>Senior Leadership</td>
<td>S16,S17,S18- Drivers/S19-Perception on factor/S20-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F5</td>
<td>Decisions</td>
<td>S21,S22,S23- Drivers/S24-Perception on factor/S25-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F6</td>
<td>Immediate Manager</td>
<td>S26,S27,S28- Drivers/S29-Perception on factor/S30-Self strive on factor</td>
</tr>
<tr>
<td>D3</td>
<td>Policies and Practices</td>
<td>F7</td>
<td>Policies</td>
<td>S31,S32,S33- Drivers/S34-Perception on factor/S35-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F8</td>
<td>Practices</td>
<td>S36,S37,S38- Drivers/S39-Perception on factor/S40-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F9</td>
<td>People Services</td>
<td>S41,S42,S43- Drivers/S44-Perception on factor/S45-Self strive on factor</td>
</tr>
<tr>
<td>D4</td>
<td>Work and Resources</td>
<td>F10</td>
<td>Work</td>
<td>S46,S47,S48- Drivers/S49-Perception on factor/S50-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F11</td>
<td>Resources</td>
<td>S51,S52,S53- Drivers/S54-Perception on factor/S55-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F12</td>
<td>Information</td>
<td>S56,S57,S58- Drivers/S59-Perception on factor/S60-Self strive on factor</td>
</tr>
<tr>
<td>D5</td>
<td>People</td>
<td>F13</td>
<td>People</td>
<td>S61,S62,S63- Drivers/S64-Perception on factor/S65-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F14</td>
<td>Fair Treatment</td>
<td>S66,S67,S68- Drivers/S69-Perception on factor/S70-Self strive on factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>F15</td>
<td>Worth feeling</td>
<td>S71,S72,S73- Drivers/S74-Perception on factor/S75-Self strive on factor</td>
</tr>
</tbody>
</table>
### Opportunities

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>F16</td>
<td>Learning</td>
<td>S76,S77,S78- Drivers/S79- Perception on factor/S80- Self strive on factor</td>
</tr>
<tr>
<td>F17</td>
<td>Growth</td>
<td>S81,S82,S83- Drivers/S84- Perception on factor/S85- Self strive on factor</td>
</tr>
<tr>
<td>F18</td>
<td>Talent Management</td>
<td>S86,S87,S88- Drivers/S89- Perception on factor/S90- Self strive on factor</td>
</tr>
</tbody>
</table>

### Compensation Management

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>F19</td>
<td>Performance Management</td>
<td>S91,S92,S93- Drivers/S94- Perception on factor/S95- Self strive on factor</td>
</tr>
<tr>
<td>F20</td>
<td>Compensation</td>
<td>S96,S97,S98- Drivers/S99- Perception on factor/S100- Self strive on factor</td>
</tr>
<tr>
<td>F21</td>
<td>Rewards</td>
<td>S101,S102,S103- Drivers/S104 Perception on factor/S105- Self strive on factor</td>
</tr>
</tbody>
</table>

### Quality of Life

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<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>F22</td>
<td>Work life balance</td>
<td>S106,S107,S108- Drivers/S109- Perception on factor/S110- Self strive on factor</td>
</tr>
<tr>
<td>F23</td>
<td>Welfare</td>
<td>S111,S112,S113- Drivers/S114- Perception on factor/S115- Self strive on factor</td>
</tr>
<tr>
<td>F24</td>
<td>Work Environment</td>
<td>S116,S117,S118- Drivers/S119- Perception on factor/S120- Self strive on factor</td>
</tr>
</tbody>
</table>

#### 3.10. Testing the tool for reliability and validity:

A pre-test was carried out in the factories among 40 respondents to ensure the reliability of the questionnaire. On the basis of the outputs and findings, suitable modifications were incorporated in the questionnaire to check the shortfalls. The researcher gave the copy of the questionnaire to professionals including 11 with academic background, 3 HR practitioners, 3 consultants and 3 behavioural science professionals for validating the questionnaire. The researcher followed with all these professionals and personally got their input on each statement given in the tool and made corrections. Again the questionnaires were shared with the said professionals after correction and once all of them cleared for the validity part, the researcher finalized the tool. To further ascertain reliability, the split half Guttmann method and odd and even method of Spearman Brown were used. The results of correlation coefficient of tests are 0.9189 and 0.9209 respectively. Hence it is evident that the tool used for the present study is highly reliable and valid.
3.11. Process of data collection:
The study uses both primary and secondary data. The primary data were collected from the respondents using SMILE, a well-structured questionnaire. Sufficient care has been devoted to draft the questionnaire to enable the respondents to express their opinion freely and accurately. The sources of secondary data were official documents, previous research studies, websites, books, journals and working papers. The study was conducted from January 2009 onwards and the data collection was pertaining to the period 2010 and 2011.

3.12. Operational definition of the terms:
The researcher had taken eight dimensions, 24 factors and 72 driver statements for the present study and it is worth to explain this construct before operational definition. The eight dimensions are acting at the apex level in engagement process and each dimension is having three factors which are in nature and character goes together. In turn each factor is having three driver statements which on the ground influence the engagement or disengagement in any organization. Each driver statement, when act positive, will lead to positive engagement in that factor and in turn will result in positive engagement in that dimension. The researcher has defined various terms used in this study for the readers and users clarity for keeping uniform understanding of the various terms. The operational definitions are given as follows:
1. **Dimension**: Dimension is a macro-level employee engagement governor consisting of defined factors of similar nature, group and characteristics, which are directly or indirectly influencing engagement or disengagement of employees in organizations, like organization culture, management practices, policies and practices, work and resources, people, opportunities, compensation management and quality of life.

2. **Factor**: Factor is a micro-level employee engagement sub-governor consisting of defined drivers of similar nature, group and characteristics, which are directly or indirectly influencing engagement or disengagement among employees in organizations, like values and culture, reputation, vision, senior leadership, decision, immediate manager, policies, practices, people service, work, resources, information, people, fair treatment, worth feeling, learning, growth, talent management, performance management, compensation, rewards, work life balance, welfare and work environment.

3. **Driver**: Driver is a minute force in the form of procedures, practices, systems adopted by the organization or feelings, emotions, perception of people which forms part of the factors of engagement and a leading element in deciding engagement or disengagement of employees in an organization”. For example, some drivers are, ‘leaders are committed’, ‘targets are realistic’, ‘growth path is shared’, ‘managers show concern’, ‘peers are friendly’, ‘salary and benefits are good’ and so on.

4. **Perception**: Perception is the view or thought or belief of the employees on a particular concept or idea or practice relating to engagement in the present context

5. **Self strive**: Self strive is the initiatives taken by the employee by himself on voluntary basis to improve the present state of engagement

6. **Organization culture**: organization culture is a dimension consisting and combining employee engagement factors namely, values and culture, reputation and vision of the organization.
7. **Management practices:** Management practices is a dimension consisting and combining of employee engagement factors namely senior leadership, style of decisions and immediate manager.

8. **Policies and practices:** Policies and practices is a dimension consisting and combining employee engagement factors namely policies, practices and people services of the organization.

9. **Work and resources:** Work and resources is a dimension consisting and combining employee engagement factors namely work, resources and information provided to the people by the organization.

10. **People:** A dimension consisting and combining employee engagement factors namely, people working in the organization, fair treatment and worth feeling created in the people’s mind by the organization.

11. **Opportunities:** Opportunities is a dimension consisting and combining employee engagement factors namely, learning opportunity, growth opportunity and talent management practices adopted by the organization.

12. **Compensation Management:** Compensation management is a dimension consisting and combining employee engagement factors namely performance management system, compensation and rewards system and practices adopted by the organization.

13. **Quality of life:** Quality of life is a dimension consisting and combining of employee engagement factors namely work life balance provided for people working, welfare measures adopted by the organization and work environment provided by the organization for the people.

3.13. **Statistical analysis of data**

The data collected from the respondents were tabulated and analyzed using simple statistical tools such as percentages, averages, and standard deviation. The collected data were coded, edited, consolidated, and entered into a master table; sub tables were prepared from the master table. For the purpose of analysis and interpretation of data, the statistical software namely SPSS was used. For testing the
hypothesis, the researcher used the following test: 1) Mean 2) Standard deviation 3) Correlation 4) Chi-square test 5) Z-test 6) One way ANOVA test. The researcher applied the statistical tool for all the 24 factors of employee engagement and tabulated the results in a combined table for each variable for the convenience of reader. The researcher used percentages for discussing the high or low level of engagement as well as mean value. In the case of mean value the maximum score for each factor possible is 25 and for the overall engagement the maximum possible mean value is 600.

3.14. Limitations of the study:

The researcher feels it is worth to mention some of the limitations of the present study which may be a scope for future studies. The researcher focused on employee engagement study in two manufacturing plants in cement sector. The tool which the researcher had developed is suitable for all factories in manufacturing sector. As the present study is confined only to cement manufacturing plants, there is scope for future researches covering factories or industries of other manufacturing sector. There is also another limitation that the impact of engagement on the financial results is not part of the present study. There is a scope for analyzing the inter-link between the engagement level in each department and their productivity, attrition rate and morality and such other factors that are not covered. These are some of the scope for future researchers in the area of employee engagement.

3.15. Problems encountered by the researcher:

While doing the present research, the researcher faced challenges and problems which he could overcome through persistent approach and continuous follow up. The challenge started from framing the questionnaire for the present study where in the researcher sent the draft copy of the questionnaire and the fixing of various dimensions and factors for the study to various academicians and professionals. The reply and response from them took a longer time and demanded very close and frequent follow up. The study covers executive population and each one of the respondents were very busy in their routine and meeting them and getting the questionnaire filled by them itself was a big challenge and all the 334 personnel were covered with lot of perseverance and follow up. To quote an example the filled in questionnaire from 23
executives delayed the work of the researcher for about 5 months time and required at least 35 visits to them to get the completed questionnaire. The management of the organization wanted the researcher to go for a sample study and wanted to restrict the questionnaire only to limited number of respondents. But the researcher explained in detail about the study and convinced the senior management and got permission to cover all the 334 executives for the present study which also delayed the work of the researcher. Further as employee engagement is a new filed, there is no much study reports of previous years available in Indian scenario and the researcher had to visit several universities for collecting relevant literatures. The other challenge was to collect the review of previous studies. Being a new area of research the researcher found it difficult to collect the relevant details of previous studies and he put lot of effort.

Thus in this chapter III, the researcher had discussed various key aspects of the research work like need for the study, statement of the problem, pilot study, objectives and hypotheses for the research work, samples and tool for data collection, operational definitions and problems encountered by the researcher. Now the researcher move to present the Chapter IV where in the data analysis is done and outcome is presented in the form of tables, graphs, diagrams. The researcher applied statistical tests like F Test, Z test, Correlation for testing the hypotheses and the findings are presented in Chapter IV.