# COMPETENCY BASED EXECUTIVE PERFORMANCE ASSESSMENT IN MANUFACTURING UNITS: AN EMPIRICAL ANALYSIS

**THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE**

**Of**

## DOCTOR OF PHILOSOPHY

**In**

**MANAGEMENT**

**By**

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*This thesis is dedicated to my parents for their love and support and all those who have inspired me through this process*


# CERTIFICATE

This is to certify that the thesis entitled, "**Competency Based Executive Performance Assessment in Manufacturing Units: An Empirical Analysis**" being submitted by **Sambedna Jena** for the award of the degree of Doctor of Philosophy (Management) of NIT Rourkela, is a record of bonafide and original research work carried out by her under my supervision and guidance. Ms. Sambedna Jena has worked for more than four years on the above problem at School of Management, National Institute of Technology, Rourkela and this has reached the standard fulfilment of the requirements and the regulations relating to the degree. The contents of this thesis, in part or full, have not been submitted to any other university or institution for the award of any degree or diploma.

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# DECLARATION

The present study entitled "*Competency Based Executive Performance Assessment In Manufacturing Units: An Empirical Analysis*" is based on my original research work carried out in the School of Management, National Institute of Technology, Rourkela, Odisha under the guidance of Dr. Chandan Kumar Sahoo, Associate Professor. The materials used (data, theoretical analysis, figures and text) from other sources have been given due credit by citing them in the text of the thesis and giving their details in the references. This work has not been previously submitted to any other Institution or University for the award of any degree or diploma.

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**(SAMBEDNA JENA)**

# ABSTRACT

Competent people are the key to future success and offer organisations their only sustainable competitive advantage. Therefore, to obtain and develop an effective and competent workforce for superior performance has become a basic necessity for organisations worldwide in order to sustain and retain an edge in the competitive milieu. In recent years executives have become more concerned about personal effectiveness, since career progress is rightfully tied to ability. How well managers are able to accomplish the objectives, for which they are accountable, the degree to which they do so in a cost-effective manner, how their practices affect the willingness and ability of those they manage are related to their effectiveness. It is the responsibility of the lower and middle level executives to identify the core competencies of the enterprise and to ensure that the competencies required by the workforce are adequate and appropriate.

There has been insufficient research reported in the literature on competency mapping requirements of lower and middle level executives. Therefore, this study explores the competencies critical to the success of these executives. The core focus of this study was to carry out an empirical investigation on competency-based executive performance assessment processes in manufacturing units and the relationship between identified competencies towards organisational effectiveness. The basic objectives for conducting this research was; a) to identify competency levels of executives required for threshold and superior performance in an organisational setup, b) to recognise competencies and capabilities of the executives through competency modelling so as to help identifying and placing the right person in the right job, c) to conduct a competency based executive performance survey through questionnaire/ structured schedule using coded competencies, d) to collect empirical data from the industries to illustrate the impact of competency-based executive performance assessment model on organisational performance standard, and e) to find out the impact of developmental inventions as a moderator on the relationship between executive competencies and individual performance.

For the purpose of this research, three manufacturing units were chosen, i.e., Rourkela Steel Plant (RSP), National Aluminium Company Limited (NALCO) and Tata Steel Ferro Alloys Limited (TS Alloys Ltd.) to draw a clear picture of the impact of competency-based

performance management system on the performance of individual executives and the organisation as a whole. A self-designed, pre-tested questionnaire was used for the purpose of the study. A hundred and twenty four items were included in the questionnaire, in view to the extensive combing of existing literature on executive competencies. A total of five hundred and sixteen useful responses was utilised for the study after examining the validity and reliability of the scales to make it statistically adequate. The responses obtained were subjected to analysis using the SPSS 22 and AMOS 22. Exploratory factor analysis was conducted, utilising a principal axis factoring extraction method with a varimax rotated solution, to ensure that the identified variables are suitable for testing the hypothesised model of this study adequately. The identified factor was further used for structural equation modelling; to get an overall fit for the model and to valid the hypotheses formulated. The findings of the study indicate that most of the executive competencies have significant influence on performance. The developmental intervention as a moderator was found to enhance the positive relationship between executive competencies and executive performance. Finally, at the conclusion of this study, practical implications and suggestions were provided for the executives of the manufacturing sector for the improvement of their performance within an organisational set up.

**Keywords:** Executive Competencies, Organisational Culture, Organisational Strategy, Executive Performance, Organisational Performance, Organisational Effectiveness, Developmental Interventions, Manufacturing Units, Descriptive Statistics, Multiple Regression Analysis, Correlation, Exploratory Factor analysis (EFA), Confirmatory Factor Analysis (CFA), Structural Equation Modelling (SEM).

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# CHAPTER I

# INTRODUCTION

# INTRODUCTION

## 1.0 BACKGROUND

The need for a quicker and flexible approach for managerial personnel resulted in the development of competency approaches in the workplace (Garavan and McGuire, 2001; Spangenberg, et al., 1999; Losey, 1999). The competency movement was initially initiated by Taylor (1911) with his functional view of management, which proposed the "one best way" of fulfilling a task, which would improve efficiency and production within an organisation. The importance of competency management became widely acknowledged, since McClelland (1973) advocated the measurement of competence as a substitute for intelligence quotient (IQ) and aptitude testing as a predictor of job performance. According to Hogg (1993), competencies are the characteristics of a manager that lead to the demonstration of skills and abilities, which result in effective performance within an occupational area. In the literature on competency management, some treat competencies within an organisation as a unique system which reinforces fit among the organisations (Prahalad and Hamel, 1990; Gilgeous and Parveen, 2001; Petts 1997). While some other researchers have defined competency as the capability or the ability of the employees which results in effective job performance (Boyatzis, 1982; Burgoyne, 1989; Klemp, 1980; Collin, 1989). The common finding in almost all the studies is the fact that a competency-based approach leads to a significant increase in performance within the organisation. Most of the standard competency approaches identified for the organisation reflects the minuscule levels of performance, depicting accepted behaviour for some definite job positions or tasks. Most of these competency parameters fail to reflect the interrelatedness of various tasks as well as the actual work experience of an employee (Bartlett and Ghoshal, 1997; Ruth, 2006). The various tasks carried out within the organisation are highly influenced by varying situational factors. The situational factors prevailing in a work situation make it difficult to identify the managerial competencies which can imbibe the interrelatedness of tasks and actual work experience of employees (Spencer and Spencer, 1993). This necessitates a stable set of quantifiable qualities which can predict managerial effectiveness in an unstable working environment.

The effective management of distinctive manufacturing competence is essential for the success of manufacturing units since the competence proves to be an important source of

creating sustainable competitive advantage. Globalisation and speedy technological changes are a certainty for companies today. It has changed the manner in which business has been routinely handled and has illustrated the importance of focus and delivery of results in real time. Though the technology is viewed to be of greater importance and as a competitive weapon in the present market, still the management remains the critical element which can make or break an organisation. As such, the executives are expected to effectively blend the technical and non-technical resources of the organisation, so as to facilitate, gain and maintain a competitive advantage. The organisations worldwide have equal access to technology; therefore successful organisations must rely on their valuable human resources to implement innovative organisational strategies in their pursuit towards competitive advantage. In today's competitive organisational environment, the performance of lower and middle level executives tend to play a focal function in determining the effectiveness of an organisation. They are expected to perform as soon as they join the organisation. Owing to the increasing demand in the organisations, executives have very little time to grow and learn.

Competent people are the key to future success and offer organisations their only source of sustainable competitive advantage. The development of an effective executive competency framework and a complimentary performance management programme provides an opportunity for the enterprise and individual growth, as well as in the longer term, can also increase shareholders' value. In recent years executives have become more concerned about personal effectiveness, since career progress is rightfully tied to ability. How well executives are able to accomplish the objectives, for which they are accountable, the degree to which they do so in a cost-effective manner, how their practices affect the willingness and ability of those they manage, are related to their effectiveness. It is the responsibility of the lower and middle level executives to identify the core competencies of the enterprise and to ensure that the competencies required by the workforce are adequate and appropriate. The current and future success of an enterprise is a reflection of the effectiveness of executives and the combined knowledge and skills of the organisation's workforce. This means that the identification of critical executive competencies will enable the enterprise to meet the future demands effectively.

There is limited research reported in the literature for identifying the competencies required by the lower and middle level executives. Therefore, this study explores the

competencies critical to the success of these executives. The core focus of this study is to carry out an empirical investigation on the competency based executive performance assessment in manufacturing units and the relationship between executive competencies and their role towards organisational performance. The competency requirements of lower and middle level executives within the manufacturing units have an immense impact on the overall performance of an organisation. These competencies would allow an organisation to ascertain the critical competencies which are vital for organisational success and survival.

## 1.1 GLOBAL SCENARIO ON COMPETENCY MAPPING

The global business economy in recent time is evidenced by frequent changes in global operations, transitions, paradigm shifts, pressure of competition, wealth creation, shareholder value creation, managing diversity, etc. The imitation ability of products, services and processes by competitors has made it difficult for industries to have a competitive edge in the market. The core element for organisational survival and competitive advantage is linked to employee competencies and capabilities; as the human capital provides the sole source of intangible asset for the organisation which is difficult to imitate. The industries have realised that, the employees need to acquire, retain and develop their competencies accordingly so as to face the future business challenges successfully. The competency mapping process has evolved through various phases such as; in 1980's the employees were judged on their abilities to restructure and delayer their corporations, in the 1990's they were judged on their ability to identify, cultivate and exploit the core competencies which can influence performance, while in recent times they are judged on their functionality and flexibility to accomplish their work successfully even in the face of constant organisational change. Previous studies illustrate that with changing time, the competencies of the employees become obsolete and redundant. Thus, indicating that frequent revision of essential employee competencies has to be made by the organisation to benefit from the competency mapping process.

In a recent survey carried out by McKinsey (2015), illustrates the trend of executive competency mapping in industries worldwide. It was found that organisations are focusing "on a different set of capabilities and different groups of employees to develop" than the ones used earlier such as on-the-job teaching exercise. Though the competency mapping process has gradually evolved along the years, still the executives are facing certain challenges during its

implementation such as; “lack of learning-related metrics and difficulty ensuring the continuous improvement of skills”. The results of the survey indicate that competency mapping process has become strategically important for companies around the globe, as most of the respondents of the study depicted competency mapping as a top three priority in their company. It was especially significant in some parts of Asia, particularly in India and China.

The findings also support the fact that competency mapping has got significant importance in the companies not only due to the benefit of achieving competitive advantage but also for adapting to the customer demands and strategic planning of the organisation successfully, irrespective of the region. Among the top executive competencies identified by the respondents, it was found that leadership competency leads the list. The executives believe that the leadership skills of an individual have significant contribution towards organisational performance. Similarly, they believe that functional competencies are essential for enhancing the performance index of an organisation, which is the next essential competency identified by the respondents of the survey.

The respondents of the survey also indicate that to maintain a systematic competency mapping process, the organisations need to formalise their approaches so as to maintain and improve capabilities of the employees adequately. They believe that the efforts taken towards the competency mapping process would be effective in supporting the learning programmes developed by the organisation; as this practice would reinforce “the importance of skill development and alignment of learning objectives with business needs”. These findings illustrate the need for organisations worldwide; to identify essential executive competencies, taking the individual and organisational needs into perspective, which has positive relevance to the business objective. Similarly the assessment of competencies has to be systematically aligned so that it can assess the skill gaps related to the firm as well as quantify the impact of addressing these competency gaps.

The need for a quantifiable competency mapping system has instigated the need for this research work. Through this study an attempt has made to develop a competency based performance model that can enable the organisation to achieve the optimum level of performance outcomes.

## 1.2 RELEVANCE OF THE STUDY

Competency based performance management systems are extensively used for appraising, developing, rewarding and promoting people in most of the organisations. Previous studies have highlighted the fact that the emphasis on the nurturing of competency can enhance individual performance and thus leads to a superior organisational performance. An executive's success relies upon the extent and quality of an executive's contribution in achieving the goals of the department and that of the organisation as a whole. The performance of an executive depends on the competencies, those they possess or acquire through the process of development. These competencies are meta, business knowledge, skill/functional, social interaction, cognitive, behavioural and motivational in nature, which further helps in demonstrating a set of behaviour in a particular situation. Therefore, there is a demand for effective and competent executives in both public and private organisations.

This study will help the manufacturing units to respond to the upcoming changes and demands of competent executives, as well as in enabling efficiency and effectiveness of the organisation. The competency based executive performance management model developed during the progression of this study will boost up individual executive performance; especially the lower and middle level executives. These competencies will allow the organisation to ascertain the critical and strategic competencies, essential for current and future achievement of an organisation.

## 1.3 RATIONALE OF THE STUDY

The manufacturing sector in India is facing a sluggish growth in recent times. In the FY13, only 3.3% of the country's growth was generated by manufacturing sector, as opposed to 83% contributed by the service sector. To boost the growth rate, Government of India has initiated various remedial policies, including the "Make in India" campaign, which deals with enhanced productivity and efficiency of the sector. To get an overall insight on the competency based performance management processes utilised in the manufacturing sector; three distinct manufacturing units were included in this study. Rourkela Steel Plant was on the verge of oblivion, but is revived into a profit making company. National Aluminium Company Limited is a constantly profit making organisation since its inception and achieved the status of 'Navaratna'. T S Alloys Limited was a loss making company which was acquired by the

flagship company Tata Steel Limited and it is gradually making profit in recent times. In totality a number of issues relating to competency requirement, executive performance, developmental intervention and organisational performance have been identified with respect to the selected organisations as mentioned above. An attempt has been made to find out the relationships between identified and acquired competencies, performance of lower and middle executives and performance of the organisations.

## 1.4 SCOPE OF THE STUDY

This study would enable the lower and middle level executives of the manufacturing industries to increase their performance standards by adopting the competency based executive performance model. Only three manufacturing units like Rourkela Steel Plant (a unit of SAIL), Tata Ferro Alloys Plant (a unit of Tata Steel Ltd.), and National Aluminium Company Limited (NALCO) are selected for the purpose of this study, to draw a clear and concrete picture on the impact of competency based executive performance management system on individual as well as the organisation as a whole. It would also determine a person-job fit by matching the competency profile of an individual executive to a set of competencies required for excellence, which would facilitate the organisation to devise an adequate career and succession planning structure for its executives.

## 1.5 RESEARCH OBJECTIVES

The prime focus of the study was to discuss the background of competency based performance management processes for the development of lower and middle level executives and their capabilities with a view to integrate their personal vision in tandem with the corporate vision. The objectives which are set for the study are listed below:

a) To identify competency levels of executives required for threshold and superior performance in an organisational set up.
b) To recognise competencies and capabilities of the executives through competency modelling so as to facilitate identification and placement of right person in the right job.
c) To find out the moderating effect of developmental interventions on the relationship between acquired competencies and individual performance.

## 1.6 CONTRIBUTIONS OF THE STUDY

The literature on competency based management has acknowledged the importance of competencies and their positive effects on performance outcomes. Consequently, there is much to be gained from the understanding of how executives of an organisation benefits from the appropriate identification of competencies. Despite decades of scientific research on various competency parameters essential for organisational growth, it lacks in developing a competency based executive performance model which can allow an organisation a degree of flexibility to account both for organisational and individual specific elements. There is major concern about the lack of a multilevel conceptualisation of competencies within an organisation, whereas its importance has been acknowledged by various organisational scholars. Through this study, it has been devised a multilevel competency based executive performance model, which can address the issues of identification of executive competencies as well as the interventions to fill the competency gaps. This model also provides the flexibility to introduce organisations and individual specific elements so that there can be lasting implication for the executives and the organisations alike. Some of the major contributions of this thesis are summarised below:

- The executive competency mapping instrument provided in this study would help the HRD department of an organisation to identify the crucial executive competencies that can lead to performance excellence.
- The identification of executive competencies is carried out in respect to the culture and the strategy of the organisation; therefore it takes into consideration the vision and mission of the company that makes it flexible to the organisational need.
- The executive competency model also provides a measure to fill the competency gaps of the executives through developmental intervention. This study also depicts the importance of developmental intervention in the competency mapping process within an organisation periphery.
- The executive competencies mentioned in this study outline the crucial competencies; those are directly related to performance improvement, especially with regard to the manufacturing sector.

## 1.7 THESIS STRUCTURE

The detailed plan and contents of the proposed study will deal with the following chapters such as:

**Chapter – I** **Introduction**

This chapter is the introductory one which contains background, global scenario on competency mapping, relevance, scope, research objectives, contributions of the study, and thesis structure.

**Chapter – II** **Organisation Profile**

This chapter illustrates in detail about the organisations which have been selected for the purpose of this empirical study. The organisations which have been selected for the purpose is; Rourkela Steel Plant, National Aluminium Company and Tata Steel Alloys Limited.

**Chapter – III** **Review of Literature**

This chapter will reflect in detail about theoretical background and historical development concerning the executive competencies. This chapter also illustrates the hypotheses based on the conceptual model of the study.

**Chapter – IV** **Competency Mapping in Global Scenario**

This chapter deals with executive competency mapping practices in global perspective and other theoretical aspects related to it.

**Chapter – V** **Competency Mapping in Indian Context**

This chapter depicts the competency mapping practices those practices by Indian manufacturing firms. This chapter focuses on the real time practical competency mapping models utilised by organisations to enhance the performance measure of the executives within an organisational set up.

**Chapter – VI** **Research Methodology**

This chapter illustrates about the descriptive research design and the multivariate techniques which have been adopted for validation of the study.

**Chapter – VII** **Competency Mapping in Manufacturing Units**

This chapter will provide information about organisational practices toward executive competency mapping in the selected research units for this study. The available information from the secondary source collected from the organisations was also analysed.

**Chapter – VIII** **Data Analysis**

This chapter gives an inclusive picture on executive competency mapping practices in the selected research units, based on opinion surveys of respondents as well as illustrated a detailed analysis to extract the resultant findings.

**Chapter – IX** **Conclusion**

This chapter concludes the study by showcasing the summary of findings, the implications of the study, future directions and limitations related to the study.

# CHAPTER II

# ORGANISATION PROFILE

# ORGANISATION PROFILE

## 2.0 INTRODUCTION

The manufacturing industries are the main focus of study in this thesis; where all the research units taken into consideration belong to the top most manufacturing companies based in India. With respect to India, manufacturing sectors play a pivotal role as the chief wealth generating and growing sector in the economic system. Various technological mechanisms are widely employed by these industries for manufacturing operation management. A huge share of the labour force and production materials is required by this sector, which generates both positive and negative externalities with huge social costs. Since, manufacturing industries have such a huge impact on the national workforce and the economy as a whole, therefore it was considered to be an appropriate sector for conducting this study. Three manufacturing units were chosen to carry out this study elaborately such as; Rourkela Steel Plant, Rourkela; National Aluminium Company Ltd., Bhubaneswar; and Tata Steel Alloys Ltd., Cuttack. Before carrying out the study, an attempt was made to understand the organisational profile of the selected research units in detail. This chapter is subdivided into three sections; the organisational profile of Rourkela Steel Plant (2.1), National Aluminium Company Ltd. (2.2) and Tata Steel Alloys Limited (2.3). The final section (2.4) of this chapter illustrates the concluding summary.

## 2.1 ROURKELA STEEL PLANT (A UNIT OF SAIL)

### 2.1.1 Brief Overview

Steel Authority of India Limited (SAIL) is the leading steel-making company in India. SAIL traces its origin to the formative years of an emerging nation, India. After independence the builders of modern India worked with a vision to set the infrastructure for rapid industrialisation of the nation. It is a fully integrated iron and steel maker, bringing out both basic and special steels for domestic construction, technology, power, railway, automotive and defence industries and for sale in export markets. Ranked amongst the top ten public sector companies in India in terms of turnover, SAIL manufactures and sells a broad range of steel products, including hot and cold rolled sheets and coils, galvanised

sheets, electrical sheets, structural, railway products, plates, bars and rods, stainless steel and other alloy steels. It is among the seven Maharatnas of the country's Central Public Sector Enterprises. SAIL produces iron and steel at five integrated plants and three special steel plants, located principally in the eastern and central regions of India and situated close to domestic sources of raw materials, including the Company's iron ore, limestone and dolomite mines. The company has the distinction of being India's largest producer of iron ore and of having the country's second largest mine network. This gives SAIL a competitive edge in terms of captive availability of iron ore, limestone, and dolomite which are inputs for steel making. SAIL's wide ranges of long and flat steel products are much in demand in the domestic as well as the international market. Besides, it has immensely contributed to the development of technical and managerial expertise. SAIL has a well-equipped Research and Development Centre for Iron and Steel (RDCIS) at Ranchi which helps to produce quality steel and develop new technologies in the steel industry. Besides, SAIL has its own in-house Centre for Engineering and Technology (CET), Management Training Institute (MTI) and Safety Organisation in Ranchi. The captive mines are under the control of the Raw Materials Division in Kolkata. The Environmental Management Division and Growth Division of SAIL operate from their headquarters in Kolkata. Almost all the plants and major units are ISO Certified. It has triggered the secondary and tertiary waves of economic growth by continuously providing the inputs for the consuming industry. In the present context, SAIL has reported Rs. 2,616.48 net profit in 2013-14, up from Rs 2,170.35 crores recorded in the previous fiscal year.

The government of India under the leadership of the then Prime Minister Pt. Jawaharlal Nehru decided to set up large steel plants by the government itself after the general election of 1952. Rourkela and its adjacent areas are rich in iron ores, manganese, dolomite and limestone, the basic materials required for production of steel and iron. Considering Rourkela to be the best place for a steel plant, the survey work was completed in the year 1954. The infrastructure work of the plant was accomplished in between 1955 and 1960. The Republic of Germany extended technical know-how for the construction of the steel plant and the plant was considered a joint venture of the Govt. of India and Germany. The initial production limit of one million tonnes steel per annum was raised to 1.8 million metric tons in the subsequent years. The internationally reputed firms like the Krrups, Dimag, G.H.H. Sag,

Scholomen, Siemens and Voist Eipine, etc. supplied different machines and machined parts to the plant at the beginning stage. The Rourkela Steel Plant took the part of leadership in the process of steel production under L.D. Techniques. It could as well establish itself as one of the premier industries of the globe under the system of the basic oxygen converter. The expansion work of the plant was over by the year 1968. A circular welding pipe plant and special plate plant were set up in the decade of seventies for production of different ready-made materials. To avoid scarcity of power supply, the power plant was set up with a capacity of 120 M.W. The power plant is able to cater the requirement of power supply from the year 1986. Besides, expansion of the capacity of the existing units, new units like Electric Sheet Mill (for Dynamo and Transformer Grade Steel) and Galvanising lines (for corrugated and plain galvanised sheets) were added. Subsequently, a number of units such as: Blast Furnaces, Spiral Welded Pipe Plant, Silicon Steel Mill, Captive Power Plant-II, Mechanical Shop, Structural and Fabrication Shop, Heavy Loco Repair Shop, Slag Granulation Plant and Coke Ovens Battery No. 5 were commissioned to enhance the product quality, productivity and to fulfil market needs.

In the year 1988, a new era was started with modernisation in RSP. This was necessary in order to overcome technological obsolescence and to continue to stay competitive in the market space. The modernisation of the plant was completed in two phases from 1994 to 1999. With this, the output capacity of the steel plant increased to 2 million tons of hot metal and 1.9 million tons of crude steel. Phase-I was completed in the year 1994 which emphasised on improving the quality of raw materials consisting of a new Oxygen Plant, up gradation schemes for Blast Furnaces, Dolomite Brick Plant, Cast House Slag Granulation Plant at Blast Furnace # 4, Raw Material Handling System, Coal Handling Plant in Coke Ovens and Power Generation and Distribution System. The Phase-II consisted of a new Sinter Plant, Basic Oxygen Furnace and Slab Casting shop in Steel Melting Shop-II, except for Hot Strip Mill. Except Hot Strip Mill, which was completed in the year 1999, all other units were completed in the year 1997.

RSP has carved a name for itself as a unique producer of special purpose steels in the flat steel segment. It produces a mix of products such as; Plates, Hot Rolled Coils, Cold Rolled Sheets and Coils, ERW Pipes, Spiral Weld Pipes and Silicon Steel Sheets and Coils. It was the first plant in India to incorporate the LD technology of steel making. It is also the first

steel plant in SAIL and the only one presently, where 100% of the slabs rolled is produced through the cost effective and quality centred continuous casting route. RSP is the only plant in SAIL to produce silicon steels for the power sector, high quality pipes for the oil and gas sector and tin plates for the packaging industry. Another uniqueness of RSP is that it does not produce semis. The use of its plates in ship building and high pressure vessels, silicon steel in the electrical machine manufacturing industries, corrugated galvanised sheets for roofing including industrial roofing, pipes in the oil and gas sectors, tin plates in the packaging industry and special plates in the defence of the nation is well known.

### 2.1.2 Vision, Mission, Credo and Core Values of Rourkela Steel Plant

***Organisational Vision***

"To be a respected world-class corporation and the leader in Indian Steel Business in quality, productivity, profitability and customer satisfaction".

***Mission Statement***

"The future of our Steel Plant lies in our own hands. It is our individual and collective responsibility to rebuild our plant into profitable, harmonious and vibrant organisation. We will do whatever things are necessary which are good for our plant. We shall never do anything that hurts our plant."

***Credo Statement***

- We build lasting relationships with customers based on trust and mutual benefit.
- We uphold highest ethical standards of conduct of our business.
- We create and nurture a culture that supports flexibility, learning and is proactive to change.
- We chart a challenging career for employees with opportunities for advancement and rewards.
- We value the opportunity and responsibility to make a meaningful difference in people's lives.

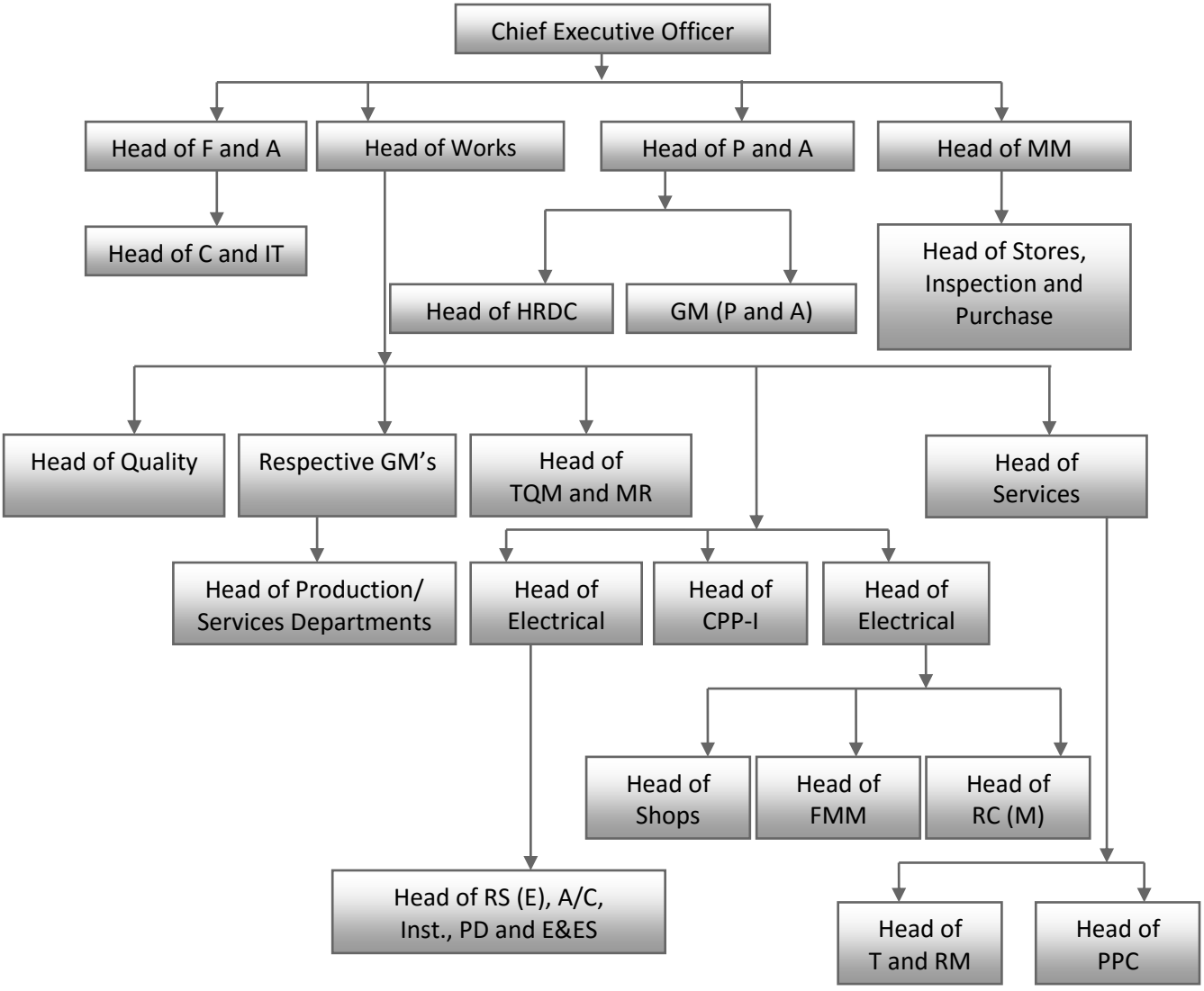
***Core Values***

Consistent with the vision, goals and strategies of the company, four core values were adopted such as;

- Customer Satisfaction
- Concern for People
- Consistent Profitability
- Commitment to Excellence

### 2.1.3 Organisational Structure of Rourkela Steel Plant

**Figure 2.1: Organisational Structure of RSP**




*Source: Rourkela Steel Plant-A Panorama (2010).*

### 2.1.4 Special features of Rourkela Steel Plant

- It is the first plant in Asia to adopt an LD process of steel making.
- It is the only plant producing large diameter ERW/SW Pipes conforming to RSP most rigid standards of API.
- It is the first steel plant in India to adopt external de-sulphurisation of hot metal by calcium carbide injection process.
- It is the only plant in SAIL that produces Cold Rolled Non Oriented (CRNO) Steel sheets for use in the electrical industries with installed capacity of 73,000 Ton/year.
- Rourkela is the first in vacuum degassing metallurgy. This system has been adopted primarily for production of silicon steel for the cold rolled non-oriented sheets. The system consists of vacuum arc refining and vacuum oxygen refining units and a degassing facility.
- It is the first integrated steel plant of SAIL which adopted the cost effective and quality centred, continuous casting route to process 100% of steel produced.
- All the major production departments and some service departments certified to ISO 9001:2008 QMS.
- Silicon Steel Mill, Environmental Engineering Department and Sinter Plant – II, HSM, PM, SPP, ERWPP, SWPP and Township certified to ISO 14001:2004 EMS.

### 2.1.5 Expansion Plans of Rourkela Steel Plant

As a part of SAIL Corporate Plan-2012 to enhance the Hot Metal production capacity of RSP from 2 MTPA to 4.5 MTPA, Crude steel production to 4.2 MTPA and Saleable Steel production to 3.9 MTPA by the year 2012, Expansion projects were approved by the SAIL Board on 21st May, 2007 and was implemented in on 6$^{th}$ August, 2013. Rourkela Steel Plant unveiled the country's largest blast furnace named “DURGA” having a useful volume of 4060 cubic meters with a production capacity of 8000 tons hot metal per day, thus increasing its production capacity from 2.2 MT to 4.5 MT. Project consultancy job for Iron and Steel zone has been awarded to M/s MECON with a role of integrating the entire expansion and that of the Rolling Mill zone to M/s M N Dasturand Co., CET/SAIL is the consultant for CO Battery No.6 and Auxiliaries and M/s RITES for the RAIL Infrastructure Project. The rated

capacity of the plant after the expansion and the major facilities in the expansion is demonstrated in table 2.1 and table 2.2.

**Table 2.1: Rated Capacity (MTPA)**

| S. No. | Details | Present Capacity | Rated Capacity after Expansion |
|---|---|---|---|
| 1 | Hot Metal | 2.0 MTPA | 4.5 MTPA |
| 2 | Crude Steel | 1.9 MTPA | 4.2 MTPA |
| 3 | Saleable Steel | 1.671 MTPA | 4.0 MTPA |

*Source: Rourkela Steel Plant-A Panorama (2010).*

**Table 2.2: Major Facilities in Expansion**

| Sl. No. | Facilities |
|---|---|
| 1 | Augmentation and Modification In OBBP |
| 2 | New 7 mtr Tall Battery No. 6 (1 X 67 Ovens) |
| 3 | New Sinter Plant –III (1 X 360 M2) |
| 4 | New Blast Furnace No. 5 (4060 M3) |
| 5 | Oxygen Plant |
| 6 | SMS-II – 3rd Basic Oxygen Furnace (150 T), RH-OB, 3rd Ladle Heating Furnace and Caster |
| 7 | New Lime and Dolomite Plant (2 X 350 TPD) |
| 8 | New 4.3 M Wide Plate Mill |
| 9 | Auxiliary Packages, Utilities, Logistics for the whole Plant |

*Source: Rourkela Steel Plant-A Panorama (2010).*

### 2.1.6 Product Mix and Application of Products

RSP caters to a diverse number of products, which are applied for various operations for both commercial and personal use of the customers. The list of products and applications are listed in table 2.3.

**Table 2.3: Product Mix and Applications**

| Products | Applications |
|---|---|
| HR Coils | LPG cylinders, automobile, railway wagon chassis and all types of high strength needs. |
| Plates | Pressure vessels, shipbuilding and engineering structures, space programmes. |
| Special Plates | Different defence applications, building of tanks, bullet proof steel etc. |
| Chequered Plates | Flooring and staircases in the industrial sectors and railway platforms etc. |
| CR Sheets and Coils | Steel furniture, white goods like refrigerators, washing |

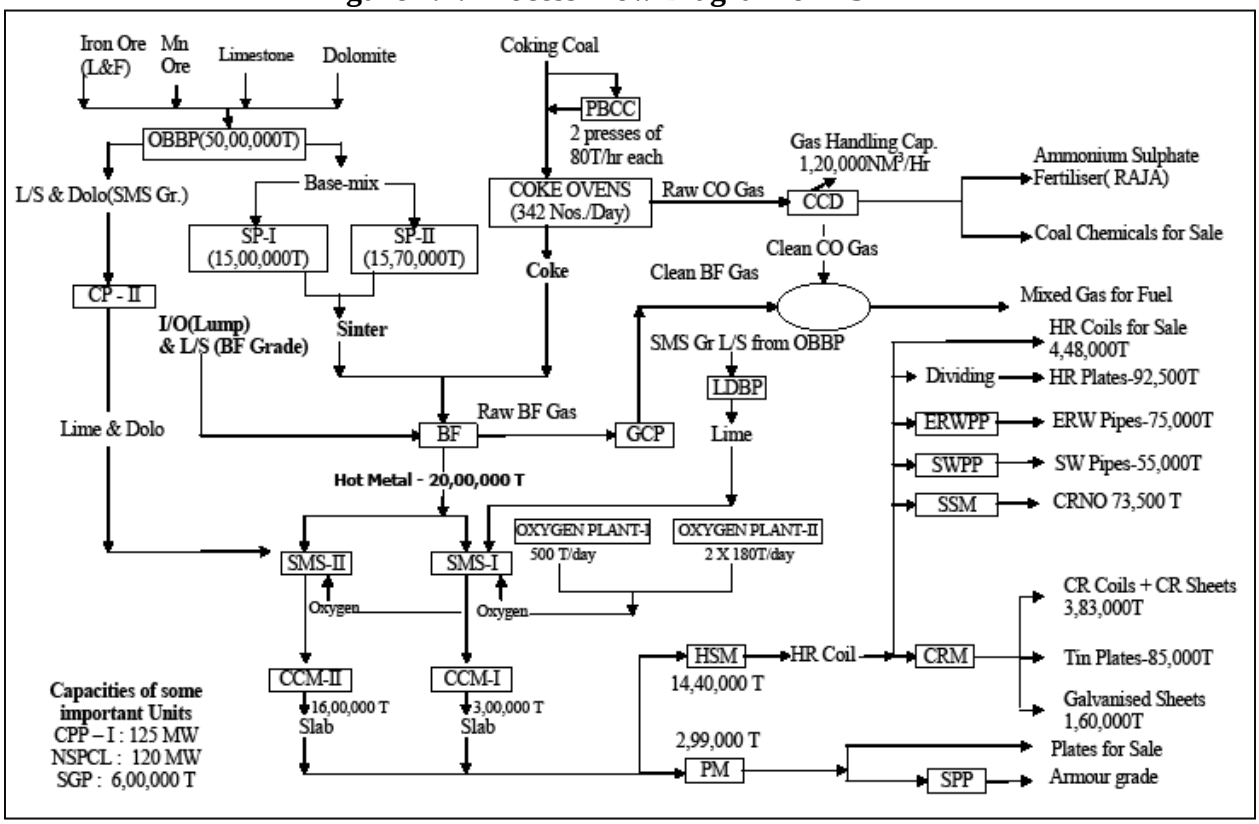
| | |
|---|---|
| | machines, automobile bodies, railway coach panelling, drums, barrels, deep drawing and extra deep drawing etc. |
| Galvanised Sheets | Roofing, panelling, industrial sheeting, air conditioning ducting and structural. |
| Electrolytic Tin Plates | Containers for packaging of various products including edible oils, vegetables and confectionery items. |
| Silicon Steel Sheets and Coils | Small generators, starters for high efficiency rotating equipment and relays etc. |
| SW Pipes | High-pressure transportation of crude oil, natural gas and slurry transportation, water supply, sewage disposals, grain silos, civil engineering pilings etc. |
| ERW Pipes | High pressure transportation of oil and water, sewage disposal, tube wells etc. |

*Source: Rourkela Steel Plant-A Panorama (2010).*

### 2.1.7 Process Flow Diagram of Rourkela Steel Plant

The process flow of Rourkela Steel Plant is demonstrated in the figure 2.2.

**Figure 2.2: Process Flow Diagram of RSP**




*Source: Rourkela Steel Plant - A Panorama (2010).*

### 2.1.8 Main Plant Units

The main plant units of RSP and its facilities are listed in table 2.4 given below;

**Table 2.4: Main Plant Units**

| | |
|---|---|
| Coke Ovens | 3 Batteries of 70 ovens each and 2 Batteries of 80 ovens each. |
| Blast Furnaces | 3 BFs of 1139 M3 useful volumes and 1 BF of 1658 M3 useful volume. |
| Steel Melting Shop I | 2 mixers of 1100 Ton each, 2 LDs of 60/66 Tons/ blow and 1 single strand slab caster of 0.305 MT of slabs per year. |
| Steel Melting Shop II | 2 mixers of 1300 Ton each, 2 LDs of 150 Tons each and 2 single strand slab casters of 1.355 MT of slabs per year. |
| Sinter Plant I | 2 Sinter machines of 1.5 MT per year. |
| Sinter Plant II | 1 Sinter machine of 1.57 MT per year. |
| Hot Strip Mill | • 2 Pusher furnaces of 100 Ton per hour each.<br>• 2 Walking beam furnaces of 225 ton/hour each.<br>• 3 Stand Roughing Mill and 4hi 6 stand Finishing Mill with a capacity of 1.67 MT HR coils per year. |
| Plate Mill | • 1 walking beam furnace of 100 tons/HR.<br>• 3.1 meters wide and 4hi Reversing Mill of 3,40,000 tons of plates per year. |
| Pipe Plants | • ERW Pipe Plant of 75,000 tons per year with high-frequency welding (400 KHz)<br>• SW Pipe Plant of 50,000 tons per year with double submerged arc welding. |
| Cold Rolling Mill | • 2 Pickling lines<br>• 1 Cold Reversing Mill<br>• 1 Five Stand Tandem Mill<br>• Hood Annealing, Continuous Annealing<br>• 2 Skin Pass Mills<br>• Sheet Shearing Line<br>• Continuous Galvanising Line of 1,60,000 tons per year<br>• Continuous Electrolytic Tinning Line of 1,50,000 tons per year |
| Silicon Steel Mill | 4 Hi Reversing Mill of 73,000 tons per year of CRNO |
| Captive Power Plant-I | 5 units to produce 125 MW of power |

*Source: Rourkela Steel Plant-A Panorama (2010).*

Raw Materials play the most vital role in RSP's production of 1.9 million tonnes (MT) of steel per annum. Each year, 2.3 MT of Coking Coal, 1.5 MT of Boiler Coal, 1.8 MT of Iron Ore Lumps, 1.5 MT of Iron Ore Fines, 1.6 MT of fluxes and other materials viz. Tin, Zinc, Aluminium and Ferroalloys constitute RSP's input requirements.

***A) Ore Bedding and Blending Plant***

The Ore Bedding and Blending Plant have a base mix preparation system with on-ground bedding, blending and conveying facilities. Set up under the modernisation programme to provide pre-mix feedstock to Sinter Plant-1 and Sinter Plant-II, the plant has a dispatch capacity of 5,00,000 tons of material per annum. The facilities include major installations like wagon unloading (tipplers and track hoppers), iron ore crushing and screening system, raw material storage yard, rod mills and roll crushers for flux, coke crushing, proportioning bins and elaborate conveying systems.

***B) Coke Oven***

The 4.5-meter tall coke oven batteries produce coke as the input for Blast Furnaces. The coke ovens are equipped with wagon tipplers, automatic handling and conveying facilities, coal blending provisions, coke wharfage crushing together with screening and conveying systems.

***C) Sintering Plant***

RSP's two sinter plants feed sinter to the blast furnaces with a combined capacity of 3.07 million tonnes per annum. Set up as part of the modernisation drive, Sintering Plant-II is operating at more than its rated capacity since the year 2000. This has facilitated the increased usage of sinter bin blast furnace burden.

***D) Blast furnaces***

The four Blast Furnaces of RSP, with a combined capacity of 2 million tonnes per annum, produce hot molten metal for steel production.

***E) Steel Melting Shops***

***1) SMS-I***

Apart from a computerised LD process, which has an enhanced shop capability, the LA Vacuum Metallurgy Technique, has been also adopted for secondary refining of steel. This facilitates production of special steels for application in electrical machines, pipe making, tinplate, boilers and auto chassis members. The shop was originally designed to produce

ingots for conversion to slabs through the slabbing mill route. However, after the discontinuation of the ingot route, the SMS-I produces slabs through casting machine.

***2) SMS-II***

The shop is provided with the latest steel making, secondary refining (ladle furnace and argon rinsing) facilities and two single strand slab casters to produce 1,355,000 tonnes of steel slabs annually. This is the biggest unit set up under the modernisation programme. The shop is provided by automation through three levels of computerised control, LD gas cleaning and recovery, power distribution system, water and utility services.

***F) Plate Mill***

This 3.1 MT wide, 4 high reversing mills are equipped with on-line thickness measurement facilities. Facilities for inspection by customer's nominees, on-line ultrasonic testing and checking to ensure the quality of plates dispatched to the customers. A new walking beam type furnace with a capacity of 100 Tonnes/hour was installed during the modernization programme for slab heating. The mill has a production capacity of 2,99,000 Tonnes per annum.

***G) Hot Strip Mill***

The facilities of the 1.440 million tons per annum mill were augmented during modernisation with the installation of:

• Two new walking beam type reheating furnace (225 TPH).
• Roughing/sizing stand (RO/VO) with full automation.
• Automated coil box.
• Quick roll change system on Roughing Stand-I and finishing mills.
• Coil marking, sampling and conveying systems.

***H) Cold Rolling Mill***

This features a modern 5-stand tandem mill and a 4-high 1700-mm reversing mill. The tandem mill is equipped with automatic gauge control, x-ray gauge, data logging and thyristorisation. It produces about 6,78,000 tonne per annum of cold rolled sheet.

***I) Electrolytic Tinning Line***

The continuous electrolytic tinning line produces a shining tin-coated surface in a variety of coating thickness. The tin plate shearing lines are equipped with sensitive pinhole detectors and an automatic sorting system.

***J) Galvanising Lines***

Two continuous hot-dip galvanising lines are equipped with jet-coating facilities. There are 2 multi-roller-corrugating machines, which produce corrugated sheets.

***K) Silicon Steel Mills***

This unit produces steel in the electrical industry through various operations carried out in sophisticated, continuous/semi-continuous processing lines and a 4-high reduction mill. Advanced process control and product testing facilities ensure product quality.

***L) Pipe Plants***

A highly sophisticated Spiral Welded Pipe Plant (SWPP) is equipped with submerged arc welding process and produces large diameter pipes. Hydrostatic pressure testing, ultrasonic testing and eddy current testing are some of the features, which ensure quality control. The Electric Resistance Weld Pipe Plant (ER WPP) caters to the smaller diameter pipe consumers. This plant has been recently upgraded to enable it to produce API grade pipes.

***M) Traffic and Raw Material***

The Traffic and Raw Material department deal with procurement and supply of raw materials to various user departments, internal movement of in-process and other material from one unit to another and dispatch of finished products to outside parties or SAIL stock yards in railway wagons. The department maintains 350 wagons, 40 locomotives and a network of 240 kilometre rail tracks all over the plant.

***N) Environment Management***

The RSP has invested about Rs. 340 crores on environmental protection measures in 95 schemes, since 1990-91. By formulating and implementing a strategy of 3-R's namely,

Reuse, Recycle and Reduce. RSP is now able to achieve the twin objectives of generating resources as well as controlling pollution. Since its inception, RSP has so far planted 37 lakh saplings in and around the steel city and in 2005 RSP have planted 70,000 saplings in and around Rourkela.

***O) Computerisation***

Rourkela Steel Plant has introduced an online system named as Production Planning and Control System (PPCS), which connects various functional departments of RSP into a single network system. Developed and executed in-house by a team of dedicated professionals of the Information Technology and Production Planning and Control Department with the support of the Works and Projects units.

***P) Human Resource Development Centre (HRDC)***

The Human Resources Development Centre of Rourkela Steel Plant was set up in the late 1950s and it consists of the Management Development Programme wing, auditoriums, well-equipped workshops, skill up gradation shops, lecture halls for act apprentices and a well-equipped library on a plethora of Technical and Managerial subjects.

***Q) Central Power Training Institute (CPTI)***

The Central Power Training Institute (CPTI) has the facilities to impart training in operation and maintenance of power plants and power distribution systems. The Institute conducts training largely for operation and maintenance personnel of SAIL captive power plants and Power Distribution Network departments.

### 2.1.9 Human Resource Management

Management of human capital is an integral part of the job of the managers at all levels. A nodal agency is required to oversee and monitor the multitude of human process that is carried out within an organisation, to optimise the available human resources. The Personnel Department of RSP is primarily responsible for overseeing the human resource related issues such as, meet the present and future manpower needs, making strategic personnel planning to ensure induction of competent personnel in the organisation, analyse the requirement of

manpower, evaluating existing profile on a continuous basis leading to a systematic deployment plan that comprises of both redeployment from within and recruitment for ensuring right man on the right job. The composition manpower at RSP is illustrated below.

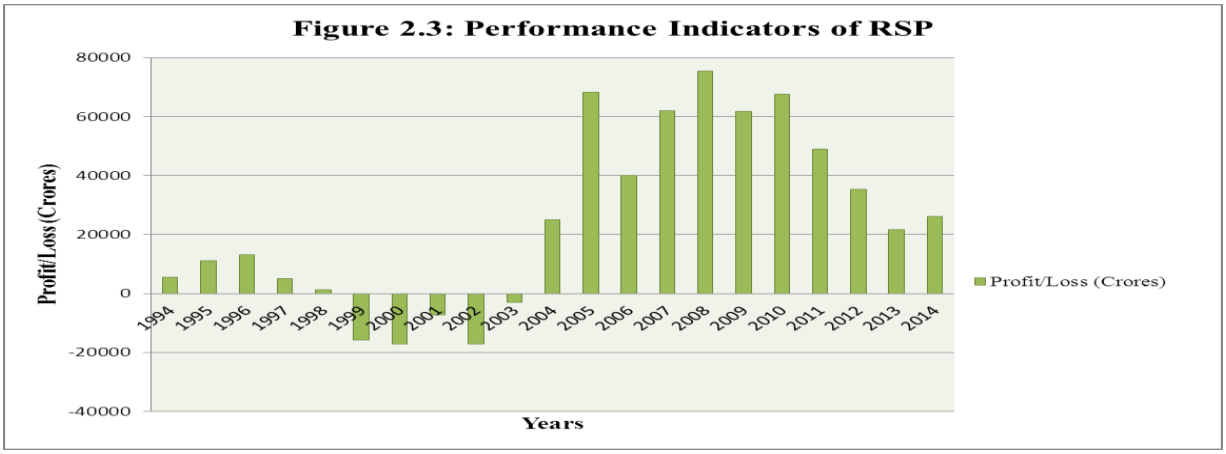
**Table 2.5: Year-wise Manpower Status in RSP**

| Year | Executive | Non-Executive | Total |
|---|---|---|---|
| 2004-05 | 2230 | 21619 | 23849 |
| 2005-06 | 2085 | 20906 | 22991 |
| 2006-07 | 2296 | 20001 | 22297 |
| 2007-08 | 2201 | 19470 | 21680 |
| 2008-09 | 2197 | 18926 | 21105 |
| 2009-10 | 2107 | 18085 | 20192 |
| 2010-11 | 2204 | 17251 | 19455 |
| 2011-12 | 2306 | 16516 | 18822 |
| 2012-13 | 2221 | 15964 | 18185 |
| 2013-14 | 2224 | 16055 | 18279 |

*Source: P & A Department, RSP*

### 2.1.10 Performance Highlights

Rourkela Steel Plant (RSP), is said to have recorded its best ever April-July production performance in key areas in fiscal 2013-14. It has produced 7,79,842 tonnes of hot metal, 7,32,901 tonnes of crude steel and 7,13,080 tonnes of saleable steel, thereby scripting its best ever performance in these three vital areas for any April-July since its inception. The figure 2.3 illustrates the overall financial performance of the company since its inception to its present context. Though the company had a term of performance recession during the period 1999-2003, it has managed to turn around the situation successfully by utilising proactive strategies.




*Source: Annual Statistics 2014-2015, RSP*.

Rourkela Steel Plant is gearing up for a substantial role in the economic growth of the nation. The company is giving significant emphasis on the integration of people and technology to secure its spot in top steel making companies globally. To cater the increasing demand of steel with cost effective features, the company is going through a massive expansion and modernisation plan; which would assist in up gradation of technologies and machineries in different parts of the system. Strategic initiatives taken up aside the company have been raising the company's productivity, quality, yields and energy efficiency through the age. The company's people-centric policies encourage creativity, innovation, empowerment and continuous self-development, harnessing the need for individual and organisational excellence.

## 2.2 NATIONAL ALUMINUM COMPANY LIMITED (NALCO)

### 2.2.1 Brief Overview

Major discoveries of Bauxite in the East Coast region were made in 1975 and this coincided with the interest shown by Iran and USSR in the development of these deposits to produce Alumina for export to their country. In July 1976, Govt. of India nominated BALCO as the Agency responsible for the East Coast Bauxite operations from Bauxite to Alumina. Subsequently, BALCO was advised to develop detailed reports for the Alumina Plant, production of Aluminium and setting up of a power plant for the project.

Based on various deliberations and discussions M/s Aluminium Pechiney, France (AP) was awarded the work for preparation of a feasibility report for an Integrated Aluminium

Complex on February 1978 for Orissa Aluminium Complex. M/s AP has submitted the feasibility in February 1979, based on which Govt. of India took a decision to implement the project and NALCO was incorporated in 1981. National Aluminium Company (NALCO) was incorporated in the year 1981 as a public sector enterprise under the Ministry of Mines, Govt. of India, to implement an integrated but multi-locational Bauxite-Alumina-Aluminium-Power project in the State of Orissa.The technologies for mining, alumina refining and smelting were provided by Aluminium Pechiney of France. These projects located in underdeveloped areas, were completed under several problems relating to logistics of project management without time and cost overruns at a capital cost of Rs.2408 crores. The Company went into commercial operations in 1987-88 and started exporting in the same year.

**Table 2.6: The Initial Capacities and the Capital Costs Involved**

| Segment | Capacity | Capital Cost (Rs. Crs.) |
|---|---|---|
| Bauxite Mines, Panchpatmali | 24, 00,000 TPY | 88.00 |
| Alumina Plant, Damanjodi | 8,00,000 TPY | 754.00 |
| Aluminium Plant, Angul | 2,18,000 TPY | 723.00 |
| Captive Power Plant, Angul | 600 MW | 812.00 |
| Port Facilities, Vizag | For export of alumina and import of caustic soda | 31.00 |

*Source: NALCO - The Company You Keep (2010).*

NALCO, through these years gives birth not only led to the self-sufficiency of the country in aluminium, but also afforded the country the technology edge in bringing out this strategic metal on world standards. As a testimony of honest men, money, machinery, materials, and management, NALCO have been a profit making organisation since its origin. The reorganisation of NALCO's ability to perform and develop into a substantial contributor to the economic development of India having a growth of 13.66% in profit since last decade, its competitive advantage and capability to turn into a global colossus, the Government of India has accorded "Navaratana" status of the troupe in the twelfth month 2008. With a consistent track record in capacity utilisation, technology absorption, quality assurance, export performance and posting of profits, NALCO is a shining example of India's industrial capability.

### 2.2.2 Capacity Utilisation

The company has reached above 100% capacity utilisation in alumina refining and metal smelting. The capacity utilisation figures for last seven years (2000-01 to 2007-08) are presented in table 2.7 and table 2.8 below for Bauxite, Alumina, Aluminium and Captive Power Plant. The capacity utilisation of bauxite mine and power generation are influenced by the requirements of alumina refining and smelter respectively.

**Table 2.7: Bauxite and Alumina Segment (Figures are in Million MT)**

| Year | Bauxite | | | Alumina | | |
|---|---|---|---|---|---|---|
| | **Capacity** | **Production** | **Utilisation** | **Capacity** | **Production** | **Utilisation** |
| 2000-01 | 4.800 | 2.834 | 59.04% | 0.800 | 0.939 | 117.37% |
| 2001-02 | 4.800 | 3.522 | 73.37% | 1.031 | 1.113 | 107.95% |
| 2002-03 | 4.800 | 4.777 | 99.52% | 1.575 | 1.481 | 94% |
| 2003-04 | 4.800 | 4.817 | 100.34% | 1.575 | 1.550 | 98.41% |
| 2004-05 | 4.800 | 4.852 | 101.07% | 1.575 | 1.576 | 100% |
| 2005-06 | 4.800 | 4.854 | 101.13% | 1.575 | 1.590 | 100.95% |
| 2006-07 | 4.800 | 4.623 | 96.31% | 1.575 | 1.475 | 93.65% |
| 2007-08 | 4.800 | 4.685 | 97.6% | 1.575 | 1.575 | 100% |
| Pipeline | 6.300 by December 2009-10 | – | – | 2.100 by December 2009-10 | – | – |

**Table 2.8: Smelter and Power Segment (Figures are in Million MT)**

| Year | Aluminium | | | Power | | |
|---|---|---|---|---|---|---|
| | **Capacity** | **Production** | **Utilisation** | **Capacity** | **Generation** | **PLF%** |
| 2000-01 | 0.230 | 0.231 | 100.22% | 6X120 MW | 3,833 (MU) | 67.912 |
| 2001-02 | 0.230 | 0.232 | 100.7% | 6X120 MW | 3,970 (MU) | 70.062 |
| 2002-03 | 0.230# | 0.245 | 106.39% | 7x120 MW | 4,291 (MU) | 75.15 |
| 2003-04 | 0.345 | 0.298* | 86.43% | 7x120 MW | 5,122 (MU) | 76.465 |
| 2004-05 | 0.345 | 0.338* | 98.11% | 8x120 MW | 5,617 (MU) | 74.765 |
| 2005-06 | 0.345 | 0.359 | 104.06% | 8x120 MW | 5,679 (MU) | 75.67 |
| 2006-07 | 0.345 | 0.359 | 104.06% | 8x120 MW | 5,968 (MU) | 79.32 |
| 2007-08 | 0.3485 | 0.360 | 103.29% | 8x120 MW | 5,609 (MU) | 74.31 |
| Pipeline | 0.460 by 2009-10 | – | – | 10x120MW by 2009-10 | – | – |

*Note: The reduction in capacity utilisation is because of the delay in commissioning of the 120 Pots of the 3rd Pot Line. # the addition of pots under 1st phase expansion commenced during the year.

*Source: NALCO - The Company You Keep (2010).*

### 2.2.3 Management

NALCO is a Government of India Enterprise under the administrative control of the Ministry of Mines. The Company is managed by a Board of Directors appointed by the President of India. The Board consists of maximum 16 Directors, including the Chairman-cum-Managing Director of the Company. Apart from CMD, there are 5 functional or full time Directors heading Project and Technical, Personnel and Administration, Commerce, Finance and Production disciplines. There are 2 senior government officials nominated to the Board as Directors by the Government of India. Besides, there are 8 non-official Directors on the Board.

Therefore, the board of the company is a syndicate of extremely experienced and outstanding professionals drawn from diverse areas of specialisation. The board enjoys maximum possible operational autonomy, consistent with the overall corporate objectives, basic policies and programmes with a view to achieving optimum use of its resources. Subject to the provisions of the Indian Companies Act, the Memorandum and Articles of Association, Memorandum of Understanding signed with the regime and also subject to policies developed by the Board of Directors, from time to time, the Chairman-cum-Managing Director has wide powers to sanction expenditure or to trade with other topics for effective operation of the society.

The management control system is based on delegation of federal authority and individual accountability for results. The responsibility and authority to submit decisions on various issues are delegated by the Chairman-cum-Managing Director to different stages in the management hierarchy. For personnel matters such as appointments, confirmations, promotions, discipline, transfer, grant of various benefits, leave, etc. powers have been delegated to different levels of executives, in conformity with the principles and policies of the management. The schedule of delegation of powers is a published document available for reference, which is submitted to review from time to time, to incorporate necessary changes.

### 2.2.4 Special Features

- A first largest power station having ISO 9002 and 14001 certification in India.
- Consistent track record in reliable operation and optimal level of production, achieving highest PLF of 78.85 and an availability factor of 86.70%.

- Maintained high plant load factor even with more number of smaller size units (8*120MW)
- Maintained very low unit cost of generation of Rs.1.05 (2003-04) per unit.
- Available infrastructure for further expansion of the plant.
- Process monitoring through Distributed Acoustic Sensing (DAS)
- Automatic turbine runs up system.
- An Islanding scheme to isolate form grid during disturbances
- Engineered Sound Processor (ESP) with microprocessor controllers
- Ash pond overflow recycling System.

### 2.2.5 Technical Features

1. *Steam Turbine:* Three cylinders, Extracting Reheat, Condensing Type.
2. *Generator:* 141.5MVA,120MW,10.5KV, 3000 RPM, Hydrogen Cooled (#7 and #8 Air Cooled) and brush less Excitation System.
3. *Boiler:* Water Tube, Vertical Natural circulation, Single drum, Tilting and Tangential Corner Fired, Balanced Draught, Reheat Type, Dry bottom, Direct pulverised Coal Fired. Capacity, (MCR-U#1 to #6: 430/HR)

### 2.3.6 Future Business Plans of the Organisation

I. Second Phase Expansion:

- Mines 63 lakhs MT
- Alumina Refinery 21 lakhs MT
- Smelter Plant 4.6 lakhs MT
- Captive Power Plant 1200 MW

II. Specially Unique Products

III. Market tie-up for special product with primary producers

IV. Techno - marketing

V. Creation of separate R and D centre

VI. Third Phase Expansion scheduled to be commissioned in 2014-15:

- Mines capacity to 89,25,000 tpa

- Refinery capacity to 29,75,000 tpa
- Smelter capacity to 6,40,000 tpa
- Captive Power Plant 1700 MW

### 2.2.7 Vision, Mission, and Objectives

***Organisational Vision***

"To be a company of global repute in aluminium".

***Mission Statement***

"To achieve growth in business with a global competitive edge in providing satisfaction to the customers, employees, shareholders and the community at large".

***Organisational Objectives***

- To maximise capacity utilisation.
- To optimise operational efficiency and productivity.
- To maintain highest international standards of excellence in product quality, cost efficiency and customer service.
- To provide a steady growth in business by technology up gradation, expansion and diversification.
- To have global presence and earn foreign exchange.
- To maintain leadership in the domestic market.
- To instil financial discipline at all levels for achieving cost and budgetary controls, optimise utilisation of working capital and effective cash flow management.
- To maximise return on investment.
- To develop a strong R&D base and increase business development activities.
- To promote a result oriented organisational ethos and work culture that empowers employees and helps realisation of individual and organisational goals.
- To maximise internal customer satisfaction.
- To foster high standards of health, safety and environment friendly products.
- To participate in peripheral development of the local area.

***HR Vision***

"To attain organisational excellence through trust, openness, commitment, creativity, innovation and providing opportunities for growth, well-being and professional enrichment".

***HR Mission***

"To create a learning and knowledge based organisation through continuous innovation, evaluation and realignment HR practices with the business strategies, and to attract, nurture and retain talent. To inculcate a spirit of creativity, quest for learning, to create a responsive and competent workforce and inspiring and motivational organisational climate".

***HR Philosophy***

- To attract competent personnel with growth potential and develop their skills and capabilities in a congenial work and social environment through opportunities for training, recognition, career advancement and other incentives.
- To grow and nurture favourable attitudes among the employees and do hold their best contributions to the organisation by offering stable employment, safe working conditions, job satisfaction, quick redressal of grievances and through good pay and welfare amenities commensurate with the Company's capacity to expand and the Government's guidelines.
- To foster fellowship and a sense of belongingness among all sections of employees through closer association of employees with the management and by encouraging healthy trade union practices.

***Core Values***

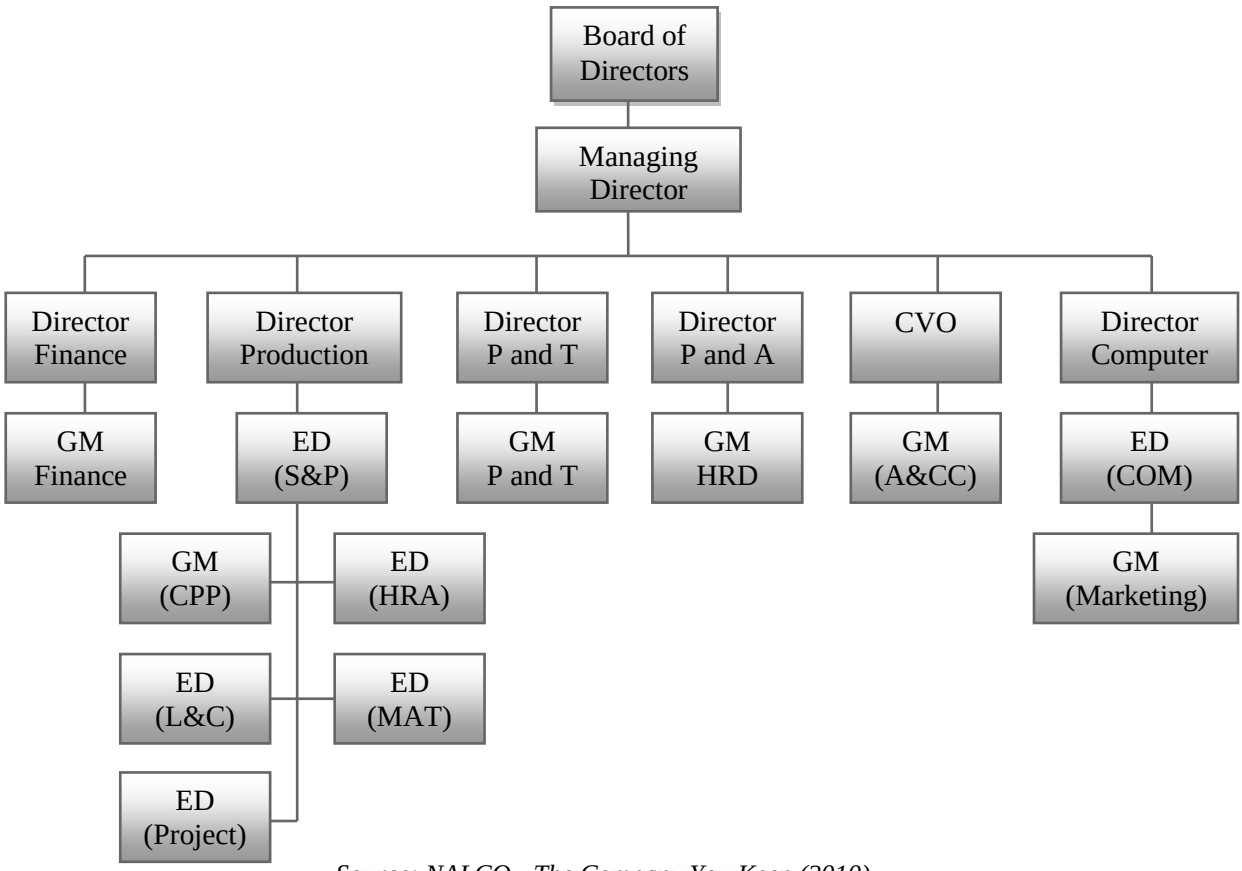
- Continuous innovation
- Work along with others
- High degree of discipline
- Excellent results in every operation.

### 2.2.8 Organisational Structure of NALCO

The system is multi-layered and is managed through stipulated systems of reporting relationships and delegation of powers. There 20 scales of pay in the patterns of various PSUs. Also, there are 34 cadres or compartments at junior executive levels, which is shortened to 12 cadres at senior levels. Non – executive employees are grouped into 6 cadres.

This scenario often makes mobility between cadres as well as multi-skilling exercises difficult. The top organisation structure follows traditional models with Finance, HR, Production, Project and Technology functions represented at the Board level. The commercial functions including marketing, which practiced to be mapped by the Directors from other disciplines, now have a Director (since August, 2002). The strategic functions like Business Development and Corporate Planning, R&D, etc. are looked after by the Board level executives, i.e. Executive Directors or General Managers.

**Figure 2.4: Organisational Structure of NALCO**




*Source: NALCO - The Company You Keep (2010).*

### 2.2.9 Product Mix

NALCO produces a diverse range of products as illustrated in table 2.9. These products are used for both commercial and private consumption of its customers.

**Table 2.9: Product Mix**

| Alumina | Aluminium Metal |
|---|---|
| Calcined Alumina | Standard Ingots (each approx. 20 kgs.) |
| Alumina Hydrate | Sow Ingots (each maximum 750 kgs) |
| Speciality Alumina and Hydrates | Wire Rods (in coil form 9.5 mm diameter weight approx. 2 mt) |
| Detergent Grade Zeolite | Alloy Ingots (each approx. 10 kgs) |
| | Billets (in four sizes 127 mm, 152 mm, 78 m, 203 mm diameter) |
| | Cast Stripes (in 1600 mm width max. nominal gauge 6.35 mm) |
| | Cold Rolled Sheets |

*Source: NALCO - The Company You Keep (2010).*

### 2.2.10 Resource Generation and Application

The initial total capital cost of Rs. 2408 crores of NALCO was financed by Rs. 1119 crores equivalent Euro-Dollar commercial loan raised through a consortium of international banks and Rs. 1289 crores coming from the Government of India Plan Funds, which included Rs. 156 crores equivalent French credit on plants and equipment purchased from France. The company, with its profitable operations, generated internal surpluses and had also proposed expansion of its basic production capacities in 1991. As the expansion projects were not materialising, the company judiciously used the funds to pay off its overseas loans, which had become Rs. 2652 crores in 1991-92 in rupee terms, by resorting to pre-payments in most cases. This protected the company against exchange rate variations and interest payment to significant extents. NALCO reached zero debt status in 1998. The huge equity base of Rs. 1288.62 crores, which was affecting financial ratios and limiting dividend decision had also created the company unattractive in the fund marketplace. Accordingly the equity capital was restructured in March 1999 by converting 50% of the equity into interest bearing debt instruments. The dividend payment improved from 10% in 1997-98 to 60% in 2002-03. However, keeping the fund requirement for the expansion projects in view, the dividend has been paid at the rate of 40% for the year 2002-03 and 2003-04. The dividend has been increased to 60% in 2007-08. The company also managed a number of capital intensive projects out of internal accruals in the direction of higher power generation, de-bottlenecking and value-addition. Between 1992 and 1998, the following projects were carried out at a total price of Rs. 445 crores.

- Expansion of Captive Power Plant from 600 MW to 720 MW.
- De-bottlenecking of the Smelter Plant, thereby raising the metal production capacity from 2,18,000 to 2,30,000.
- Creation of 26,000 TPY Billet Casting Facilities.
- Creation of 26,000 TPY Strip Casting Facilities.

### 2.2.11 Technology and Patents

NALCO's smelter plant is based on 180 KA cell technology of Pechiney and the Alumina Refinery uses the Bayer process technology of atmospheric pressure digestion at low temperature, also supplied by Pechiney. Through various technical assistance agreements with Pechiney and in-house efforts, a large number of modifications and up gradations have been implemented over the years to achieve better quality and economy. NALCO has got exclusive rights on the above acquired technologies for its usage in India. NALCO's R&D centres at the alumina refinery and the smelter plant are recognised by the DSIR; Govt. of India. The company also has got collaborations with RRLs, IITs, IISc, and other specialised centres for various research projects.

These efforts have resulted in the following patents granted in favour of the company.

i. Process of precipitation of alumina hydrate with superior purity and fineness.
ii. Preparation of Low Soda, High Alpha, Thermally Reactive Alumina.

Also based on the R&D efforts Patent applications also have been filed for the following processes and products in India and abroad.

i. Process for manufacturing of Zeolite –A (filed in India and abroad)
ii. Process for production of Light Alumina Hydrate.
iii. Process for Alumino-Silicate Zeolite type Na-P.
iv. Process for production of wear resistant ceramics using fly ash and alumina.
v. An aluminium conductor alloy with improved conductivity.
vi. Removal of aluminium 10Ns from condensates and 10N exchange methods

vii. The Company has acquired patent rights on "Extraction of Nickel from Chromite overburden of Sukinda mines of Orissa" from Hindustan Zinc Limited. The process was developed by CSIR.

### 2.2.12 Infrastructure Engineering

Process technologies apart, more or less of the infrastructure engineering features of Nalco have largely facilitated smooth and cost effective operations of NALCO. Some of these features are outlined below:

i. Transportation of bauxite ore to the alumina refinery across the hills through a 14.6 km long single flight multi-curve cable belt conveyor of 1800 tph capacity.
ii. Co-generation of power from the process steam using 3x18.5 MW back pressure turbines in the alumina refinery, which accounts for 70% of the entire power demand of the refinery.
iii. Pit head located Captive Power Plant in the vicinity of the smelter with a dedicated rail system for continuous delivery of coal from a mine.
iv. Rolling stock of 12 locomotives and 880 broad gauge wagons with private sidings and exchange yards facilitating smooth transportation of raw material and finished goods.
v. Captive berth in the inner harbour of Vishakhapatnam Port with automatic alumina loading system and caustic soda unloading system for export of Alumina and Import of Caustic Soda.

### 2.2.13 Human Resource Management

Starting the commercial operations with payroll manpower of 4518 in 1988, the Company has manpower of 7555 (July, 2013). The broad composition of the manpower is indicated below.

**Table 2.10: Composition of Manpower of NALCO**

| Year | Executive | Non-Executive | Total |
|---|---|---|---|
| 2002-03 | 1607 | 5047 | 6654 |
| 2003-04 | 1702 | 5000 | 6702 |
| 2004-05 | 1745 | 5340 | 7085 |
| 2005-06 | 1770 | 5636 | 7406 |
| 2006-07 | 1827 | 5598 | 7426 |
| 2007-08 | 1786 | 5596 | 7382 |
| 2008-09 | 1839 | 5622 | 7461 |
| 2009-10 | 1829 | 5638 | 7467 |
| 2010-11 | 1884 | 5830 | 7714 |
| 2011-12 | 1851 | 5854 | 7705 |
| 2012-13 | 1799 | 5756 | 7555 |

*Source: Dept. of HR and Administration (2013).*

The Company sources its non-executives from the local areas and the executives on all India basis mostly through recruitment of Graduate Engineers. The staff function departments like Marketing, Materials, HRD, Administration, etc. have executives, mostly drawn for line departments or inducted through promotion of non-executives. On few occasions small numbers of management trainees have been recruited to staff functional departments. There are total 27 registered Trade Unions functioning at different Units/Offices of the Company with affiliation from various Central Trade Union Organisations. The growth in number of Unions has resulted in acute inter-union rivalry; the Management has been taking proactive steps in averting industrial unrest. In all strategic business units, the company recognised the unions having the majority of polls in the process of secret voting. Regular and structured interactions with these recognised unions are being undertaken in resolving the common subjects at different level i.e. at Unit, Complex and Corporate.

Multiplicity of unions, politicisation, pressure tactics and militancy amongst the employees in any area are prevalent in the organisation. Work culture in the organisation needs improvement. The situation; even so, seems to be changing for the better in recent times. Due to lack of emphasis on office automation in the earlier years in that respect has been high built up of 689 non-executives (13.78% of the men) in the clerical part of the company. This excludes as many as 110 executives working in HRD and Administration Depts. However of late, there have been hardly any indications under this category. A great deal of training activities has been taking place in functional and behavioural areas. A total

figure of 273 employees has been exposed specialised training and professional conferences abroad during the final five years. Over the past 10 years a total figure of 435 employees left the company, mostly on account of death, retirement and voluntary retirement. The overall turnover rate is as low as 0.7 per cent. As per IR policy, one union at each unit is being recognised through secret ballot. The company believes in participative management. Several statutory and non-statutory joint committees as per local rules are functioning in the organisation.

### 2.2.14 HR Policies

***1. Conduct and Discipline***

i. The details of conduct as per the term employment are regulated as per the conduct, discipline appeal rules for executives and certify standard orders (as per Industrial Employment Standing Orders Act) in respect to non-executives. These regulations specify the misconduct and the process, including the authorities for imposing penalties.

ii. The grievance of the employees is dealt with a three-tier grievance handling system for executives and non-executives. In case of non-executives a grievance committee at each unit are constituted comprising equal representatives from the employee's union and management besides; the informal scheme of grievance handling was also introduced in the name of the employees assistance scheme for early and effective redressal of the complaints.

***2. Performance Appraisal and Career Growth***

The key performance areas of executives are defined at the beginning of the year with mutual discussion between the employee concerned and his reporting officers. The key performance areas of each executive to be named in relation to the organisational KPA target. The periodic assessment of the functioning is practiced before the final annual assessment was held out for the individual executive. In respect of non-executives the performance appraisal is done based on various skill and personality traits by the reporting officer. Different elements of personality traits are fixed for unskilled, skilled and supervisory personnel.

### *3. Wages, Salary, Other Perks and Benefits*

i. The pay scales and other benefits for administrators are fixed as per the Government guidelines on the subject and comparable on the same with other leading PSUs. In respect of non-executives it is caused in the process of collective bargaining with unions.

ii. Linked with AICP as applicable for central industrial workers, the following benefits are offered to the employees:

- House Rent Allowance
- City Compensatory Allowance
- Leased Accommodation
- Company Quarters
- Reimbursement of Water and Electricity charges
- Conveyance Allowance
- Night shift Allowance
- Split shifts Allowance
- Cash handling Allowance
- Kit allowance

iii. The other benefits, facilities extended to the employees are as under:

- Holidays: 10 cleared holidays and 02 restricted holidays at the plant locations as well as 16 closed holidays and 02 restricted holidays for corporate and other offices.
- Leave Facility: The eligibility for both executives and non-executives for different kinds of leave are as under;
    - Casual Leave
    - Earned Leave
    - Sick Leave half pay Leave
    - Special Disability leaves
    - Extraordinary Leave
    - Quarantine Leave
    - Maternity Leave as per the act
    - Paternity Leave
    - Special casual Leave

- Leave Travel Concession: All employees, both executives and non-executives are entitled to 6 family members.
- Motivational schemes followed by the company are as follows;
  - Productivity Linked Incentive Scheme: Based on the production performance and the factor productivity index and absenteeism index.
  - Incentive for Acquiring Professional Qualification: A lump sum amount ranging from Rs 3000 to Rs 5000 is allowed once in the service tenure for acquiring professional qualification as prescribed in the schema. Further reimbursement of membership fees up to one professional body of national repute is also permitted.
  - Advancement of Small Family Norms: Employees are given a cash lump sum and other benefits like increment special casual leave, concession rate of interest in HRA, etc. as per the scheme for promoting small family norms.
  - Employee Suggestion Scheme: Employees are encouraged for more number of suggestions either individually or in groups and rewarded suitably as per the scheme. The maximum prize amount varies from Rs. 5000 in case of individual and Rs. 25000 in case of groups.

***4. Retirement Benefits/Social Security***

i. The Contributory Provident Fund: The company has a trust which has got due relaxation from the Government scheme.

ii. Pension Scheme: A pension scheme with the contribution of the employees is created as per the 3rd LTWS and is effective from 01.04.1995.

iii. Group Gratuity Life Assurance Scheme: An Insurance policy with Life Insurance Corporation of India with annual premium has been worked up to take charge of the gratuity liability of employees.

iv. Scheme for Post-Retirement Medical Facility: A scheme provides medical benefit to the employees and their spouses subsequent to their retirement.

v. Voluntary Retirement Scheme: Employees completing 10 years of services on attaining 40 years of age can seek voluntary retirement.

### 2.2.15 Environmental Policies

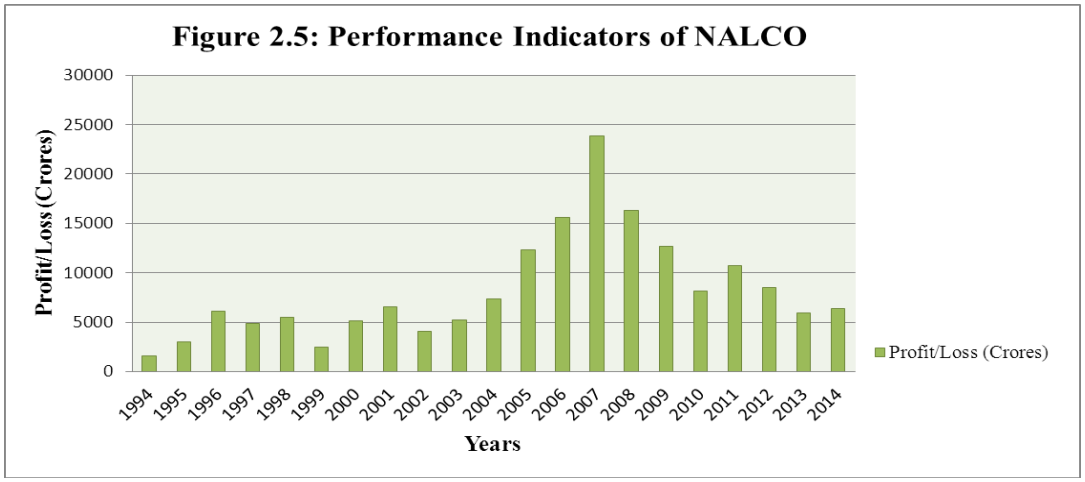
In recognition of the interest of the society in securing sustainable industrial growth, compatible with a wholesome environment, NALCO affirms that it assigns high importance to the promotion and maintenance of a pollution free environment in all its activities. Keeping the above in view, NALCO has set the following objectives:

- To use non-polluting and environment-friendly technology in all industrial actions.
- To monitor regularly air, water, soil, noise and other environmental conditions and pollutant fallouts.
- To always improve upon the standards of pollution control provides a leadership in environmental management.
- To develop among the employees an awareness of environmental duties and their attachment to sound environmental practices.
- To work closely with government and local authorities to prevent and minimise the adverse consequences of the industrial activities of the environment.
- To comply with all applicable laws governing environmental protection through appropriate mechanism.

### 2.2.16 Performance Highlights

- The total metal sale during 2013-14 was 3.20 lakhs MT compared to 4.03 lakhs MT sold during 2012-13. Total metal sales consist of domestic sale of 2.19 lakhs MT and export sale of 1.01 lakhs MT during 2013-14. The domestic sale includes 87,969 MT of wire rod, which is the highest ever sale made since inception; surpassing the previous best of 79,752 MT achieved during 2012-13.
- NALCO has sold highest ever quantity of 13.43 lakhs MT of chemicals in 2013-14 as compared to 9.85 lakhs MT sold during 2012-13. This includes highest ever Calcined Alumina Export of 13.09 lakhs MT made during 2013-14 as compared to 9.44 lakhs MT export made during 2012-13.
- The figure 2.5 illustrates the overall fiscal performance of NALCO, after the new economic reform in 1991. The data indicate that NALCO has always enjoyed a stable increase of net profit after tax with minor variation in between. The highest net profit

was gained by the company in 2007, due to increased prices in alumina which enhanced the operating margin for the company.




*Source: Annual Statistics 2014-2015, NALCO.*

At present NALCO is one of the progressive and prosperous organisations in the nation and the third largest aluminium maker in India. The company has been providing stable employment and safe working conditions for its employees over the years for which it has earned numerous prestigious awards for its enterprise. The sensitivity of the company towards its employee's is reflected through its progressive management practices and policies. High performance work culture is promoted by nurturing the talent of its employees through constructive training and development programmes and effective employee engagement initiatives. For timely redressal of employee grievances a systematic employee grievance mechanism is installed. Dynamic expansion, modernisation and career growth plans have been brought into consideration in order to raise the overall productivity of the employees and the company alike.

## 2.3 TATA STEEL ALLOYS LIMITED (TS ALLOYS LTD.)

### 2.3.1 Brief Overview

Tata Steel Limited is the 10$^{th}$ largest steel company and second most geographically diversified steel producer in the world. The company in concert with its subsidiaries has made its presence in almost 26 countries of the world, mainly operating in India, Europe and

South East Asia. It is involved in prospecting, finding, and mining iron ore, coal, ferro alloys and other minerals. It is also involved with projecting and manufacturing plants and equipment for steel, oil and natural gasoline, energy and power, mining, railroads, ports, air power and space industries.

The Tata Steel's Ferro Alloys and Minerals Division (FAMD) are a market leader for producing chrome alloys and manganese alloys in India. The FAMD has retained the core strengths of Tata Steel to build itself as a strategic business unit, with a domestic market share of 25% and global market share of 5%. It produces and supplies charge chrome, high carbon ferro chrome, high carbon silico manganese, high carbon manganese, chrome concentrate, pyroxenite and dolomite; having the largest chromites mines and reserves of high grade manganese ore in India. This division is comprised of ferrous alloy plants in Bamnipal, Joda and Attagarh, Cuttack (as a wholly owned subsidiary, TS Alloys Ltd.) besides rendering marketing services for Tata Steel Kwa Zulu Natal Pty Ltd. (TSKZN – a subsidiary of TSL in Richards Bay, South Africa). In financial year 2011-12, FAMD achieved year-on-year increase of 17% in Ferro Alloys sales. In future there are plans of augmenting the production of ferrous alloys with 55,000K tonnes of plant in Gopalpur and Silico Manganese plant in Nayagarh by 2014. The association of FAMD with the state of Odisha started in September 1991, when Tata Steel took over the Ferro Alloy Plant in Bamnipal, the then "sick" unit for Rs. 156 crores from erstwhile OMC Alloys. The plant has now surpassed its installed capacity of 50,000 TPA of charge chrome/ferro-chrome. It is considered as first successful disinvestment by the company in the state. Later, its 100 per cent of equity stake in Rawmet Industries Private Limited, which had a ferro alloy plant near Cuttack. On June 16$^{th}$, 2008, the company and their wholly owned subsidiary, Rawmet Ferrous Industries Limited entered into an agreement with Jasper Industries Private Limited to set up a coal based power plant of 2X67.5 MW capacity in Odisha. The preliminary work on the 6 mtpa greenfield steel plant at Kalinganagar, Odisha is in progress. This further strengthened the hundred-year relationship between the State and the Company.

Tata Steel Alloys Limited (T S Alloys Ltd.) is a 100% subsidiary of Tata Steel Limited, which was acquired in 2007. It was once known as Rawmet Ferrous Industries, which was a newly built Ferro Chrome company with indigenous technology having its registered office at Kolkata, before Tata Steel took it at an enterprise value of Rs 101 crores. To take this plant

Tata Steel had signed an agreement with IMR Metallurgical Resources AG who were almost 66.46 percent stakeholder of Rawmet Ferrous Limited, Rawmet Commodities owning a 12.48 percent share and other equity holders based in Bhubaneswar. Rawmet was restructured as a TS Alloys Limited in August 2010, has a 52,000 ton capacity ferro alloy plant at Attagarh, Cuttack has grown in leaps and bounds and is running successfully in a short time since inception. It is strategically located just 31 kms from the rail head of Cuttack and 120 kms from the deep sea port of Paradip. The troupe has created nearly 1000 direct and more than 2000 indirect employment opportunities for the local people of which more than 95% of the company's workforce comes from the local public. The major customers of the TS Alloys Limited include POSCO, Nippon Yakiokgyo Co. Ltd., JFE, DAIDO, Bhilai Steel Plant, Rathi Steel and Power Ltd., Viraj Profiles Ltd. and others. By upholding the Tata brand, the promise and trust of its customers and stakeholder with high level of ethical values make the TS Alloys Ltd. a preferred unit of business.

### 2.3.3 Vision, Mission and Core Values of TS Alloys Ltd.

***Organisational Vision***

"We aspire to be the global steel industry benchmark for value creation and corporate citizenship".

***Organisational Mission***

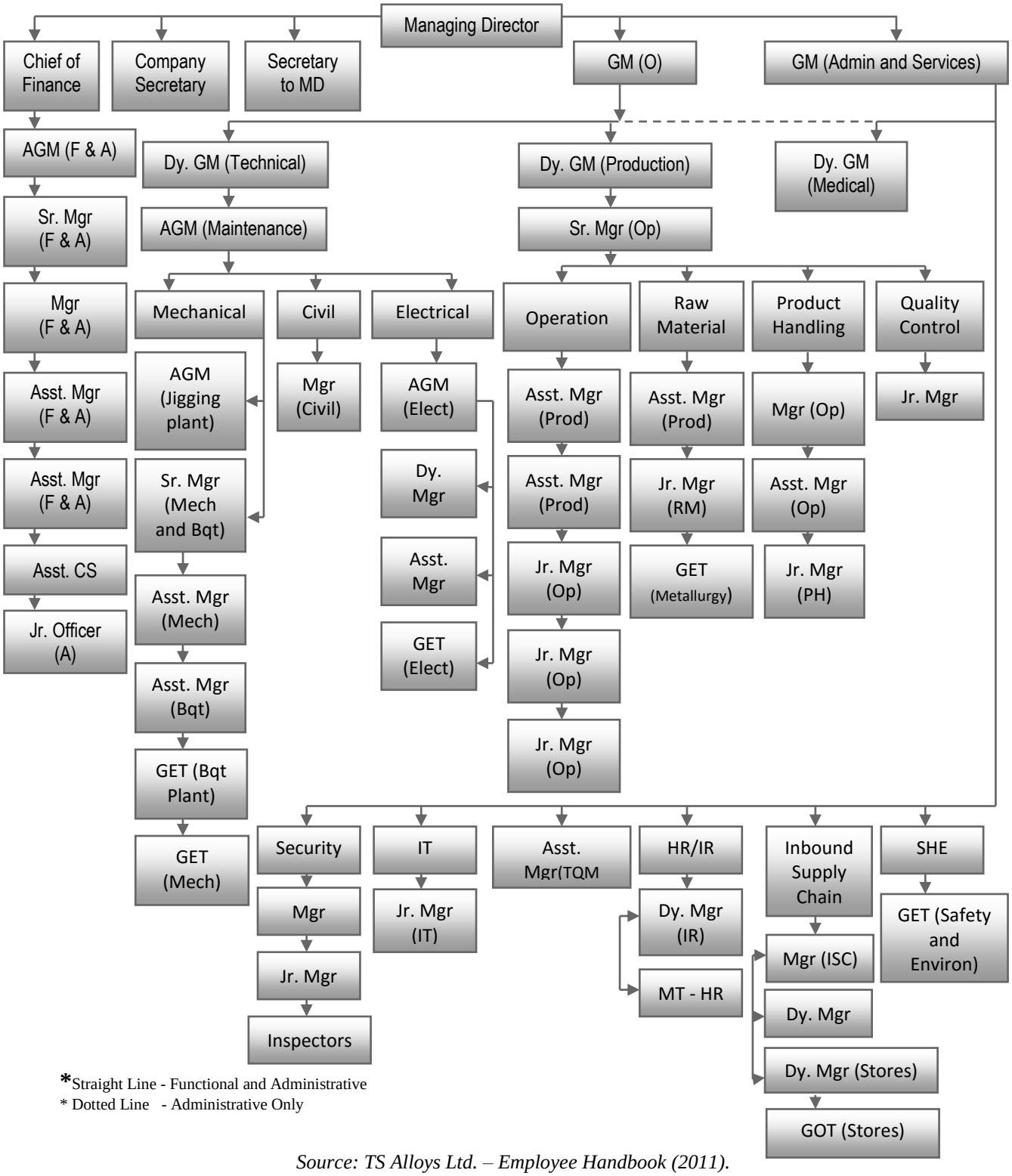
"Consistent with the vision and values of the founder Jamsetji Tata, Tata Steel strives to strengthen India's industrial base through the effective utilisation of staff and materials. The means envisaged to achieve this are high technology and productivity, consistent with modern management practices. Tata Steel recognises that while honesty and integrity are the essential ingredients of a strong and stable enterprise, the profitability provides the main spark for economic activity. Overall, the Company seeks to scale the heights of excellence in all that it does in an atmosphere free from fear, and thereby reaffirms its faith in democratic values".

***Core Values***

- Trusteeship: Encourage and ensure allocation of resources for the betterment of society.
- Credibility: Fulfilling commitments and consistency in action, compliance with all applicable statutes.
- Excellence: Personal involvement in process and system development and betterment.
- Integrity: Adhering to code of conduct.
- Sustainability: Empowerment and success for everyone.
- Respect for Individual: Open door policy and access to all levels. Value and respect employee's opinion. Humility in behaviour.

### 2.3.4 Organisational Structure

**Figure 2.6: Organisational Structure of T S Alloys Ltd.**




*Source: TS Alloys Ltd. – Employee Handbook (2011).*

### 2.3.5 Product Mix

Ferro Alloy Plant at Cuttack in Orissa, India currently makes Manganese and Chrome Alloys (50,000 tape, 2x16.5 MVA semi-closed furnaces) 300 km from the nearest port, located at the rail head with provision for both full rake and CONCOR (containerised) rake loads and road (truck) transport. Tata Steel's Ferro Alloys and Minerals Division (FAMD) is the market leader in Ferro Chrome in India and is among the top six chrome alloy producers in the world.

**Table 2.11: Product Mix at T S Alloys Ltd.**

| Alloys | Products |
|---|---|
| Chrome Alloys | Ferro Chrome<br>Charge Chrome |
| Manganese Alloys | Ferro Manganese<br>Silico Manganese |

*Source: TS Alloys Ltd. - Employee Handbook (2011).*

### 2.3.6 Special products

- Low Phosphorus HC Ferro Chrome with Phos content ranging from 0.018% max upwards
- Low Manganese Ferro Chrome with Mn levels below 0.35%
- Low Titanium Ferro Chrome, with Ti levels below 0.20% for seamless tubes
- Low Silica Ferro Manganese with Si content below 1.5% and below 1% can be made.
- Low Phos Ferro Manganese with Phos levels below 0.25% and 0.20% can be made

### 2.3.7 Successful Operations

- March 2007 new management acquires 100% equity stake in Rawmet Ferrous Industries Private Limited
- April 2007, 30MW additional power supplied to the plant
- Chrome ore in the form of briquettes produced
- Ferro chrome plant bottlenecks identified
- Pollution control measures implemented
- Safety measures implemented in all aspects of the plant operations

- Aug 2010 the name was changed from Rawmet Ferrous Industries Ltd. to T S Alloys Ltd (TSAL)

### 2.3.8 Future Growth Plans

- TSAL plans to double the production capacity to 1,10,000 mtpa around 2015.
- Construction of the captive power plant to meet future power requirements.
- Fresh recruitment and providing training for newcomers to meet growth plans.
- Railway siding for smooth transportation of raw materials and finished goods, to meet future logistic requirements for bulk movement.
- Implementation of SAP for smooth business operation.

### 2.3.9 Statutory Compliances and Returns

TSAL has adhered to following statutory compliances and returns for smooth operation and carry through the legal obligations created by the general assembly as illustrated in table 2.12.

**Table 2.12: Statutory Compliances and Returns**

| Sl. No. | Name of Statute | Nature of Requirement | Statutory Authority | Frequency |
|---|---|---|---|---|
| 1 | Water (Prevention and Control of Pollution) Cess Act, 1977 as amended till date | To submit a return in Form I for water consumption before 5th of every month. | OSPCB | Monthly |
| 2 | The Water (Prevention and Control of Pollution) Cess Act, 1977 amended till date | Pay cess as per the demand notice raised by OSPCB. | OSPCB | Monthly |
| 3 | Air (Prevention and Control Of Pollution) Act 1981 as amended till date And Water (Prevention and Control of Pollution) Act 1974 as amended till date | Submit Environment Monitoring Report as per the condition given in Consent to Operate. | OSPCB | Monthly |
| 4 | EP Act, 1986 amended till date | Submission of Environment audit report in Form V to SPCB on or before 30th September every year. | OSPCB | Yearly |
| 5 | The Environment (Protection) Act, 1986 and Hazardous waste (Management, Handling and Transboundary Movement) Rules 2008 | Submission of annual return in Form 4 (generation, handling, storage and disposal) in Form-4 to SPCB on or before 30$^{th}$ June of each financial year. | OSPCB | Yearly |

| | | | | |
|---|---|---|---|---|
| 6 | The Environment (Protection) Act, 1986 and Hazardous waste (Management, Handling and Transboundary Movement) Rules 2008 amended till date | Maintain records of hazardous waste generation for verification by SPCB in Form -3 | OSPCB | Ongoing |
| 7 | Batteries (Management and Handling) Rules, 2001 as amended up to 2010 | Half -yearly return in form No-VIII (For the period April-September and October-March) | OSPCB | Half-yearly |
| 8 | E- Waste Rule 2011 | Maintaining Records in Form-2. For verification by SPCB Disposal of E- waste through authorised and registered recyclers. | The rule is implemented from 01-05-2012 | Monthly |

*Source: TS Alloys Ltd. – Adwitiya Prayas (2011).*

### 2.3.10 HR Policies

The main purpose of these policies is to set guidelines for manpower planning, maintenance and accuracy of personnel records, employee occurrence, absence and tardiness.

***1. Code of Conduct***

i. The company's management practices and business conduct shall benefit the state, localities and communities in which it operates, to the extent possible and affordable, and shall be in conformity with the laws of the state. In the track of its business activities, shall observe the culture, customs and traditions of each country and region in which it works. It shall conform to trade procedures, including licensing, certification and other necessary formalities, as applicable.

ii. The company shall develop and keep up its accounts fairly and accurately, and in accordance with the accounting and financial reporting standards which represent the generally accepted guidelines, rules, standards, laws and rules of the State in which the company takes its business affairs.

iii. The company shall fully support the growth and operation of competitive, open markets and shall promote the liberalisation of trade and investment in each nation and market in which it works. Specifically, no employee of this group shall engage in restrictive trade practices, abuse of market dominance or similar unfair trade activities.

iv. The company shall provide equal opportunities to all its employees and all qualified applicants for employment without regard to their race, caste, religion, colour,

ancestry, marital status, gender, sexual orientation, age, nationality, ethnic origin or disability.

v. The system and its employees shall neither receive nor offer or induce, directly or indirectly, any illegal payments, remunerations, gifts, donations or comparable benefits that are intended, or perceived, to obtain uncompetitive favours for the conduct of its business. The company shall cooperate with governmental agencies in efforts to get rid of all forms of bribery, fraud and corruption.

vi. A Tata company and its employees shall not, unless mandated under applicable laws, offer or give any company funds or property as donation to any government agency or its representative, directly or through intermediaries, in lodge to get any favourable performance of prescribed responsibilities. A Tata company shall comply with government procurement regulations and shall be transparent in all its relations with government offices.

vii. The company shall be committed to and support the constitution and governance systems of the country in which it operates.

viii. The company shall strive to provide a safe, healthy, clean and ergonomic working environment for its people. It shall follow with all health, safety and environmental regulations in the jurisdiction in which it works. A Tata company shall be committed to best practices in the health and safety of employees. It shall prevent the wasteful usage of innate resources and be committed to improving the environment, especially with respect to the emission of greenhouse gases, and shall strive to offset the issue of mood change in all areas of its actions.

ix. A Tata company shall be entrusted to furnish goods and services of world class quality standards, backed by after-sales services consistent with the demands of its clients, while striving for their full satisfaction. The quality standards of the company's goods and services shall conform to applicable national and international measures.

x. A Tata company shall be devoted to sound corporate citizenship, not merely in the compliance with all relevant laws and rules, but also by actively assisting in the betterment of quality of liveliness of the masses in the communities in which it

works. The company shall encourage volunteering by its employees and collaboration with community groups.

xi. A Tata company shall cooperate with other Tata companies, including applicable joint ventures, by sharing knowledge and physical, human and management resources, and by making efforts to resolve disputes amicably, as long as this does not adversely affect its business interests and shareholder value.

xii. The Tata Group honours the information requirements of the public and its stakeholders. In all its public appearances, with respect to disclosing company and occupation information to public constituencies such as the media, the financial community, employees, stockholders, agents, franchises, dealers, distributors and importers, a Tata company or the Tata Group shall be mapped only by specifically authorised directors and employees. It shall be the solitary obligation of these authorised representatives to reveal information about the organisation or the Group.

xiii. Every employee of a Tata company, including full-time directors and the chief executive, shall exhibit culturally appropriate behaviour in the countries they operate in, and deal on behalf of the company with professionalism, honesty and integrity, while conforming to high moral and ethical standards. Such conduct shall be fair and transparent and be perceived to be so by third parties.

xiv. A Tata company shall be committed to enhancing shareholder value and complying with all regulations and laws that govern shareholder rights. The board of directors of a Tata company shall duly and fairly inform its shareholders about all relevant aspects of the company's business, and disclose such information in accordance with relevant regulations and agreements.

xv. The assets of a Tata company shall not be misused; they shall be employed primarily and judiciously for the purpose of conducting the business for which they are duly authorised. These include tangible assets such as equipment and machinery, systems, facilities, materials and resources, as well as intangible assets such as information technology and systems, proprietary data, intellectual attribute, and relationships with clients and providers.

## *2. Attendance Policies*

i. Manager (HR) is responsible for implementation of this operation. All the employees are issued with an RFID card. RFID card is utilised each time employee enters/ leaves the Office in presence of authorised guard. Every employee, whether on the shop floor or administrative office, is required to show the card before RFID device and put his signature in the attendance register only at the time of entry. In case of new employees, the manual attendance register is required to be filled till employee records are finalised and the RFID card is issued.

ii. All employees on business tour and those working out of office fills in the "Outdoor duty Form" (or "Full / Part Day Leave Form") or may send their attendance via email to their respective HODs for approvals, which is forwarded to the Manager, HR and IR for updating attendance records. If details of "Outdoor duty" doesn't receive from employees within five working days of return of trip, they are marked as absent for those particular days.

iii. Excessive absenteeism is defined as regularly taking leaves counting up to a minimum of 4 days per month or 2 days randomly in a week. Employees found to be excessively absent will be subject to disciplinary action which is up to the discretion of the Management and HR.

iv. Unauthorised leave of absence will be considered as absconding. Absconding is not encouraged and will be dealt with as per management decision.

## *3. Employee Rewards and Compensation*

i. Proper recognition and reward to employees for exemplary individual and team behaviour.

ii. The attributes to be recognised and rewarded are: safety and environment, quality, efficiency and work, discipline, concern for fellow employees and team members, and change initiatives and creativity.

iii. The DGM/HOD/Shift Officer may nominate the employee/team to the Recognition Team for Shabashi reward. The Recognition Team comprising DGM/Head of the department, Manager, HR/IR and one line executive (by rotation) will review the nomination and shortlist the employee/team for the Shabashi reward. Rewards, based on the decision of

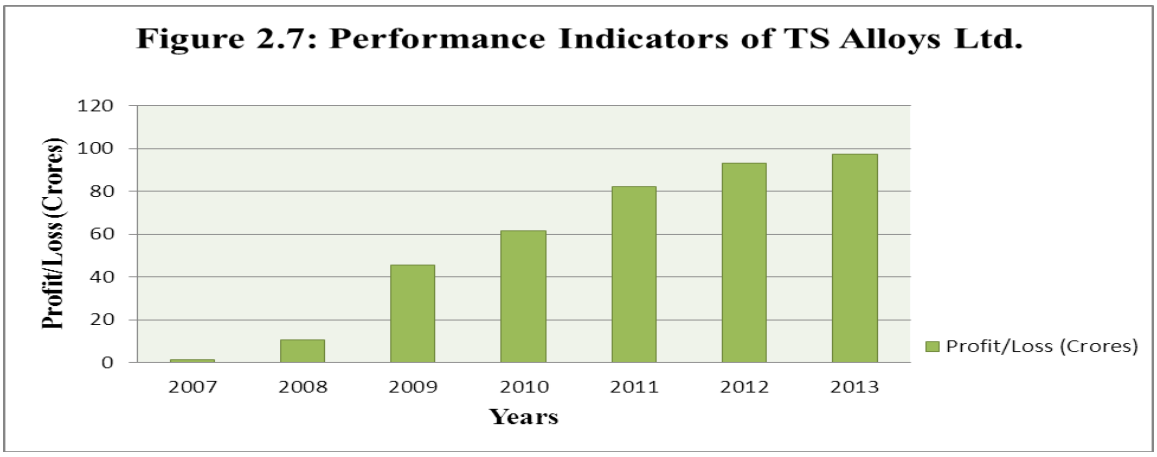
the Recognition Team, will be presented by the Heads of the Plant. These rewards may be presented at a function on the Shabashi Diwas, the 1st Saturday of every month.

***4. Leave Policies***

The policy is designed to make all the employees aware about the leave entitlements. It is an attempt to assure mutual agreement between the management and employees to leverage interest among them. TS Alloys Limited reserves the right to modify this policy as per business requirements, but with strict adherence to Standing Order. The different types of leaves given under the policy are; casual leave, sick leave, paid leave, maternity leave, loss of pay and accident leave.

### 2.3.11 Performance Highlights

- TS Alloys Limited (TSAL) achieved its highest ever HC Ferro Chrome production of 56542 MT in 2012-13 against 55936 MT in 2011-12; as well as attained more than 100% rated capacity furnace 54000 MT.
- The company managed a highest ever sales offering of 56858 MT against best ever of 55936 MT in 2011-12 along with highest ever dispatch of 56589 MT against best ever of 57662 MT in the year 2011-12.
- TSAL has successfully rolled out 5S implementation journeys on 20th September 2012; as well as successfully held a public hearing for the proposed expansion project of the company on 30th March, 2013.
- The figure 2.7 illustrates the overall financial performance of TSAL after its acquisition of Rawmet Ferrous Industries in 2007. The data indicate that the growth of the company is steady and increasing gradually.




*Source: Annual Statistics 2014-2015, TS Alloys Ltd.*

T S Alloys Limited is a subsidiary of Tata Steel Limited which is gradually building its presence in the state. Since the society is under the trade name of "Tata Group" therefore it receives access to the progressive techniques and initiatives carried out by the group. The mission, vision, privileges and policies of Tata Steel stay strong in this company. The society has employed progressive employee development and safety induced plans which have facilitated them to see their pre-determined targets successfully. In the recent years the company has achieved higher performance ratings in terms of production and sales. The incidence of accidents has been subsequently lower than in the preceding years. The company is still in its developing stage, which is growing steadily with time.

## 2.4 CONCLUSION

This chapter elaborates the organisational profile of the three research units taken up in this study. The various measures, policies, accomplishments, etc. carried out by the units over the years, current plans and future endeavours are illustrated in detail. The information about the companies mentioned in this chapter is secondary in nature and have been collected with prior approval of the company and used for academic the purposes. This chapter has been included in the thesis to demonstrate the strategies that are being implemented by the research units and an attempt has been made to understand how this present study will benefit the practicing managers, researchers and academic fraternity in the present context, which would be elucidated in the subsequent chapters.

# CHAPTER III

# REVIEW OF LITERATURE

# REVIEW OF LITERATURE

## 3.0 INTRODUCTION

A managerial competency is a characteristic of an individual that underlies effective job performance of the individuals (Shaw et al., 1995: 145). In today's competitive world, it is becoming highly important for the organisations to emphasise considerable effort into building competency models, so as to help them identify the key competencies needed to become more competitive and successful in the future endeavours (Singh and Vohra, 2005). As noted by Dubious and Rothwell, "competencies are characteristics that individuals have and use in appropriate, consistent ways in order to achieve desired performance. These characteristics include knowledge, skills, aspects of self-image, social motives, traits, thought patterns, mindsets, and ways of thinking, feeling, and acting" (2004: 16). Competition has become a ubiquitous part of the organisation which instigates the executives to either occupy a competitive position in the market or to coexist with the competitors in the existing market (Marchington and Wilkinson, 2005; Rowley and Harry, 2011). This increases the occurrence of imitation within the organisation. Competencies that are located in employees, physical systems are inherently easier to imitate than competencies residing in managerial systems or organisational culture (King et al., 2001: 97). Given the ubiquity of competition within the organisations, an important question for researchers and practitioners alike is how to develop more competent and efficient executive class in the face of future challenges.

The purpose of this study is to explore the ways through the organisational perspective, with a particular focus on how the competencies of the executives influence the overall performance of the organisation so as to lead the competition in the market. In recent years, researchers have displaced a growing interest in the development and nurturing the competency indicators so as to enhance executive and organisational performance and capabilities (Dragoni, et al., 2009; Barriocanal et al., 2012; Tutu and Constantin, 2012; Kim and Kim, 2013). Though competency based approach to manage and develop the executive class has gained enormous importance within the organisation, it is faced with rigorous difficulties in differentiating the competencies conceptually and real competencies essential for the overall development of the organisation. Nonetheless, there have been a lot of research on defining and identifying competencies both theoretically and empirically.

Researchers have classified competencies into various categories such as soft and hard competencies, threshold and performance competencies, and hierarchical wise classification (Janjua, et al., 2012). The analytical and organisational competencies are considered as hard competencies whereas creativity, interpersonal, and behavioural skills are soft competencies (Woodruffe, 1993; Rainsbury et al., 2002). The threshold competencies are defined as the basic minimum requirement needed to perform efficiently while performance competencies are defined as the skills and competencies that actually differentiate among the average and excellent performers (Boyatzis, 1982; Srivastava and Lee, 2008). The hierarchical wise classification refers to the establishment of a generic list of management competencies which can aid the managers to carry out varied responsibilities more efficiently (Stuart and Lindsay, 1997). Research that does examine competency based perspective have sometimes have exclusively focused on either the role played by the organisational strategy or organisational culture in the acquisition of managerial competencies or the developmental initiatives that can help in filling up the gaps. But no attempt has been made to understand the interrelation between all these parameters as a whole system and their consequences on executive and organisational performance, particularly in an organisational setting where the dynamic nature of the employee behaviour is of significant concern.

In this thesis, an attempt has been made to move forward for the establishment of a linkage between organisational culture and strategy in the identification of competencies which can lead to enhanced executive performance within the organisation, thus contributing to the performance of the organisation as a whole. This has been started with the assumption that to enhance the overall performance of the organisation, it is necessary to create a balance among the core organisational competencies with that of executive competencies (Prahalad and Hamel, 1990). To identify the core organisational competencies, it is essential to understand the organisational culture and strategy as they form the foundation base of the organisation. After distinguishing the core organisational competencies, emphasis was given on the executive competencies; those contribute to the enhancement of executive performance. Further, systematic attempt has made to find the gaps between core organisational competencies with that of executive competencies. Drawing from an organisational perspective, the introduction of the developmental initiatives that will help in filling up the competency gaps found during the analysis, as well as its effect on individual

and organisational performance. To extend on these assumptions, a hypothesised model "Competency Based Executive Performance Management System" was proposed, which would contribute in identifying, reviewing and retaining the executive competencies in relation to the organisational needs and requirements. With the help of this model, it can be predicted about the three key contributions to the organisation. Firstly, this model will help the organisation to identify the essential executive competencies needed to increase the capabilities of the executives to perform more effectively and efficiently. Secondly, it would enable the organisation to fill the gaps in executive competencies through developmental interventions and continuous monitoring and reviews. Finally, it can contribute in examining the consequences of identifying competencies on managerial and organisational performance.

## 3.1 COMPETENCY BASED MANAGEMENT: CONCEPTUAL FOUNDATION

Social scientists have adapted several concepts in order to define the term competency, alternatively characterising the construct as a combination of knowledge, skills, ability and behaviour used to improve performance of an individual. In recent years, researchers have begun to coalesce around the conceptualisation of competency as a phenomenon which includes elements of emotional intelligence, influence and negotiation, leadership and learning, and knowledge processing (Bolden and Gosling, 2006; Boyatzis et al., 2008; Crawford and Nahmias, 2010; Lopez and Alegre, 2012). The evolution of competency based management models over a period of time has revealed that the executive's workplace reality is faced with multitude complexities. The importance of managerial skills was comprehended during the first quarter of the century, which stressed on the managerial responsibilities and their role in enhancing the productivity and efficiency of the organisation through human relationships (Taylor, 1911; White, 1959). The significance of competency management became widely accredited, with the works of McClelland (1973), which advocated the measurement of competence as a substitute for intelligence quotient (IQ) and aptitude testing to predict the job performance within an organisation. He suggested that although intelligence influences performance, personal characteristics, such as an individual's motivation and self-image, differentiate successful from unsuccessful performance and can be noted in a number of life roles that include job roles (Dubious and Rothwell, 2004). It was further popularised by Boyatzis in his book "The Competent Manager – A Model for

Effective Performance" as "an underlying characteristic of a person which results in effective and or superior performance in a job" (1982: 21). In the following years, various key researchers have defined and refined the term competency and its related constructs to improve the state-of-the-practice within the organisation. Spencer and Spencer described, a competency as "an underlying characteristic of an individual that is causally related to criterion-referenced effective and/or superior performance in a job or situation" (1993: 9). There are five competency characteristics included through this definition, such as motives, traits, self-concept, knowledge, and skill. Similarly, Parry defined competency as "a cluster of related knowledge, skills, and attitudes that affect a major part of one's job (a role or responsibility), that correlates with performance on the job, that can be measured against well-accepted standards, and can be improved via training and development (1996: 50). The combination of characteristics, tasks and roles were developed into managerial competency models that differentiated superior from normal performance. These performance-based competencies were assessed through observing behaviours (Chong, 2013). According to Verle, et al., "as almost every task requires cooperation with others, regardless of the organisational type or level of an individual's role in an organisation's hierarchy; managerial competencies are a basic requirement for performing most types of work tasks and for this reason the managerial competencies are included among the key competencies.Whereas a few years ago, managers had to prove themselves with an intelligence quotient and afterwards also with an emotional quotient, the present day manager has to excel also on a high action coefficient" (2014: 924). Decades of research on the field of competency management have devised that the behaviour of employees can be improved through a set of desirable behaviour that can lead to outstanding performance (Winter et al., 1981; Hubble et al., 1999; Morrow et al., 1997). In order to understand the managerial competency models with respect to organisational perspective as well as to identify the gaps in the existing literature, a structured review of the literature was carried out.

### 3.2 STRUCTURED REVIEW OF LITERATURE

In order to formulate a structured review of literature, some major electronic databases (Emerald, Science direct, Sage, Academy of Management, etc.) as well as subject oriented books were explored to gather an extensive base of background literature on managerial

competencies. The literature survey was carried out to cover all the research works during the period 1973 to 2014. The research works collected, consists of the earliest published research work on managerial competencies by McClelland (1973) to the most recent research work till the year 2014; thus mapping the overall evolution of managerial competencies till date. The effort has been made to collect all the major publications that have majorly contributed towards the development of competency based management studies. The various constructs of managerial competencies have been explored that could enhance the managerial performance within an organisation significantly. Some of the thrust areas of the research conducted earlier to explore managerial competencies are illustrated briefly in the table 3.1.

**Table 3.1: Brief Literature Review (1973-2014)**

| Sl. No. | Author | Year | Thrust of the Study |
|---|---|---|---|
| 1 | McClelland, D.C. | 1973 | To determine the perceptions of managers about managerial competencies and effective managerial performance that is likely to drive competitive performance in the future. |
| 2 | Preziosi, R.C. | 1986 | This study analyses the importance of productivity management competencies for managerial performance in an organisation. |
| 3 | Prahlad, C. K. and Hamel, G. | 1990 | To identify and build on the core competence of an organisation to create competitive advantage. |
| 4 | Kilcourse, T. | 1994 | This study questions the value of academic qualifications in developing managers for a turbulent future in the workplace. |
| 5 | Gilgeous, V. and Parveen, K. | 1999 | In this study a postal survey of manufacturing managers in six different industry sectors was conducted to ascertain their views on core competencies. |
| 6 | Bourne, M. and Neely, A. | 2003 | This paper reviews the different performance measurement system design processes published in the literature and creates a framework for comparing alternative approaches. |
| 7 | Le Deist, F.D. and Winterton, J. | 2005 | This paper explores the definitions and usage of competence, especially in the context of training and development initiatives in the USA, UK, France and Germany, seeking to clarify the concept by incorporating knowledge, skills and competences within a holistic competence typology. |
| 8 | Yang, et al. | 2006 | This study establishes a model integrating the related theories in strategic management and competency in the field of HRM and has developed a systematic tool that can help an organisation to quickly and precisely identify its core competency. |
| 9 | Vakola, et al. | 2007 | This paper seeks to analyse and discuss a forward-looking, dynamic and proactive approach to competency modelling explicitly aligned with strategic business needs and oriented to |

| | | | |
|---|---|---|---|
| | | | long-term future success. |
| 10 | Boyatzis, R.E. | 2008 | The purpose of this paper is to show that development of competencies needed to be effective managers and leaders requires program design and teaching methods focused on learning. |
| 11 | Ogrean, et al. | 2009 | This paper is focused on two major shifts that need to take place, in the form of the resource based management to competency-based management and from cultural specific competencies to global competencies within firms. |
| 12 | Chye, et al. | 2010 | This study attempts to examine the moderating effect of managerial competencies on the relationship between innovativeness and SME performance. |
| 13 | Dubey, R. and Ali, S.S. | 2011 | In this research article the authors conducted an empirical survey among manufacturing firms to understand how manufacturing competency effect the firm performance. |
| 14 | Araujo, S.V.A. and Taylor, S.N. | 2012 | The purpose of this paper is to determine the influence of emotional and social competence on job performance by considering self-ratings and the ratings of others using a multi-source feedback assessment tool. |
| 15 | Alban-Metcalfe, J. and Alimo-Metcalfe, B. | 2013 | This study provides a diagnostic tool for assessing both competent and engaging leadership behaviours among managers and professionals. |
| 16 | Semeijn, et al. | 2014 | This study examined the predictive value of multi-source ratings of managerial competencies for managerial and organisational effectiveness. |

### 3.3 OVERVIEW OF THE FACTORS AND CONSTRUCTS

The competency based performance management literature relates numerous instances which enables the organisation to empower its workforce, so as to enhance its competitive advantage, innovation and effectiveness (McKenna, 2002; Draganidis and Mentzas, 2006; Day et al., 2009; Rao and Palo, 2011). The skills and abilities needed for several roles within the organisations are varied in importance and mastery, likely the competency requirement of the individuals also varies. This literature reveals that the assessment of competency based executive performance acts as a catalyst in identification of skills, knowledge, behaviours and capabilities of executives, which is needed to supplement current and future job requirements aligned with organisational priorities and strategies. It also implies on individual and group development initiatives to eliminate executive competency gaps, needed for effective performance of job role. Based on the various literature reviews, a

theoretical model has been formulated for the conduct of this study. This model offers an explanation of the executive competency parameters which in ideal conditions is supposed to enhance the capabilities of the executives to perform effectively, both in individual and organisational perspective. It also comprises of developmental interventions, which would help in filling up the competency gaps prevalent among the executives in an organisational set up as reflected in the hypothesised model figure 2.1. This model consists of three phases: inception phase, recognition phase and action phase, which are discussed and given below.

### 3.3.1 Inception Phase: Identification of Competencies

Thomas Gilbert defined competence as the "function of worthy performance, which is a function of the ratio of valuable accomplishments to costly behaviour" (1996: 18). This defines competency as an achievement of results that contribute to business goals, as worthy performance relates to behaviour producing accomplishments that generate more value than they cost the company to produce (Teodorescu and Binder, 2004: 8). The competencies of employees are mostly defined as a group of related knowledge, skills, and abilities that affect a major part of work activities carried out within the organisation (Hoffmann, 1999; Buford and Lindner, 2002). To become a high performing organisation, it is essential not only to identify individuals with the required skill set to perform a job, but also to have skills that would help in enhancing the successful performance of the work. It is vital in today's competitive environment that the executives possess skills with necessary knowledge and attitudes which enables an individual to apply the right skills for any work situation that may arise while having the right attitudes will motivate them to put in their best efforts (Chong, 2000). Information on competencies enable the organisation to develop training curriculum for employees, performance appraisal to evaluate training needs and work performance, recruitment of efficient employees and last but not the least in succession planning of employees. To identify these vital competencies various 'models of performance' have been introduced in the literature, but none of the models define work performance or its process accurately rather they project the approximation of the performance within an organisation. It has been found that competency models based on job description have been unable to analyse work performance appropriately as job descriptions merely contains the responsibilities needed to finish the task effectively but not efficiently. It is therefore more critical to know

what produces the outcome than what the outcome it should be. The technique of comparing superior performers to other performers is more objective, as it is based on observation. Still, such comparisons are not necessarily complete or accurate, because the observation itself is not based on a performance model. Rather, the comparison is merely a series of observations (Langdon and Marrelli, 2002: 17). As noted by Leung, it is difficult to identify a range of competencies that truly cover work roles in their broadest sense and to represent adequately the types of knowledge relevant to the competency identified. The assessment of competencies is by no means value free, and people who use it to shape its meaning. The competency approach is based primarily on the behaviourist framework, which attempts to break down work roles into small discrete tasks. It ignores the connections between individual tasks and the meaning underlying each task. It therefore cannot represent the complex nature of situations in the real world (2002: 694). Therefore, developing executive competencies in support of the company's mission, vision, strategy and values will ensure that high quality organisational learning, development and performance. Taking this statement into account, it is essential to identify and structure, competencies on the basis of actual modelling purpose as well as the current setting within the organisation. To identify the unique competencies essential for executive and organisational performance within an organisation, it has been taken into account the role of organisation strategy and culture, which form the foundation of any organisation.

#### *3.3.1.1 Organisational Strategy*

An organisational strategy is a key feature of any firm as it is the source of all the intended actions needed to be taken to achieve long term goals. These intended actions are the combination of a firm's mission, vision and objective statements which makes up a company's core competency and later on forms the future strategic plan of an organisation. In an organisation, it is mostly found that the organisational strategy is planned by the top level management, which is adopted and fulfilled by the middle and lower level executives in a step by step procedure. According to Gupta et al., (1997: 400), "more than one strategy can be successful in a given environment, but it is imperative for a firm to be organised appropriately and to plan and implement strategies relevant to a particular strategy type". As noted by Andrews, the strategy of a firm matches the environmental opportunities by its core

or distinctive competencies. He illustrated four vital elements of organisational strategy: market opportunity; corporate competence and resources; personal values and aspirations; and acknowledged the obligations to segments of society other than stakeholders (1971: 19). Thus, it defines what could be done (opportunities), what can be done (resources), what one considers worth doing (goals), and what should be done (responsibilities) within an organisation (Mele and Guillen, 2006: 3). Research conducted by Hamel and Prahalad (1989) demonstrates that the core competencies of a firm involve collective knowledge, learning and skills in the acquisition of multiple streams of technology integrated with a firm's strategic intent which help in attaining a sustainable competitive advantage across a broad range of end-products. The organisation's strategic vision, core competencies and level of competition should therefore be carefully examined to translate it into appropriate competencies needed for escalated executive performance (Lee and Yu, 2004; Cardy and Selvarajan, 2006; Manikutty, 2010). Thus, it can be proposed as:

*Hypothesis$_{1:}$ Organisational strategy is imperative to the identification of competencies that has a positive impact on organisational performance.*

#### *3.3.1.2 Organisational Culture*

Culture is defined as the shared values, visions, norms, working language, systems, symbols, traditions, beliefs, customs, history, folklore, and institutions of a group of people. Ravasi and Schultz (2006) defined organisational culture as a set of shared mental assumptions that guides interpretation and action within organisations as well as sets the appropriate behaviour for various situations within a firm. The behaviour exhibited by employees due to cultural differences is mostly manifested through varied personality. Hofstede and McCrae (2004) in their study correlated the Big Five personality traits with learning, cultural dimensions which exhibited that, the culture-personality differences are balanced by the similarities found in the commonly held human values and behavioural norms existing within the organisation. This commonly held human values and behaviour norms within the organisation assists in the transmission of managerial experience and competencies across cultures (Smith et al., 2001). In a follow-up study conducted by Gordon and DiTomaso (1992), it was found that strong organisational culture was extrapolated

towards short-term organisational performance. The cultural orientations of an organisation can either facilitate or inhibit specific management competencies among executives which have significant impact on the enhancement of individual and organisational competence (Triandis, 2004; Biswas, Giri and Srivastava, 2006). As noted by Chong, "managerial competencies reflect behaviours that are associated with these innate human values which are embedded within cultural dimensions. Therefore, one will expect broad similarities in the selection of managerial competencies required for the job performance of incumbents working in different cultural environments" (2013: 346). The organisational culture personates a decisive role in identification of appropriate competencies that replicates performance excellence for a firm (Camerer and Vepsalainen, 1988; Cameron and Quinn, 1999; Stock et al., 2007; Marquis and Tilcsik, 2013). Based on the above facts, it can be proposed that the organisation culture has tremendous impact on the identification of executive competencies required for performance excellence.

*Hypothesis$_{2:}$ Organisational culture facilitates the classification of executive competencies that ensures long-term organisational performance.*

### 3.3.2 Recognition Phase: Distinctive Executive Competency Parameters

The central assumption of competency based executive performance management literature was the effective and the optimum utilisation of executive competencies within an organisation can enhance the overall executive and organisational performance, as they exhibit a consistent cross - level effect on the executive work based behaviour. Competency development has become a crucial strategic management tool in today's work environment, as it plays a vital role in aligning human capital assets with that of business strategy to create value for the organisation and creating a strategic competitive advantage over their competitors (Scholarios, et al., 2008; Baum et al., 2011). An essential feature of competency management is that it encompasses all the activities carried out by the organisation and the employee to maintain or enhance the employee's functional, learning and career competencies (Forrier et al., 2009). An organisation's focuses on competency based performance management initiatives for its executives for two main reasons. The first includes those responsibilities that are directed towards the management of performance and

success of the team they are guiding, and the second includes those responsibilities that are directed towards management of their own performance and success. In addition, strong competency based performance management initiatives would help in creating higher levels of clarity regarding individual and organisational goals; detection of professional strengths and weaknesses that promote as well as hinder performance; awareness of appropriate action plans that would generate positive results congruent with the acknowledged individual and organisational goals. The performance aided clarity would assist the executives to develop initiatives that would help them in instilling a higher level of competency and performance among themselves as well as their teams. Through extensive literature review, several executive competencies have been identified and these will be required for successful individual performance. Such competencies are grouped under nine distinctive competency parameters and can play a vital role, such as: entrepreneurial competencies, meta competencies, functional competencies, interpersonal competencies, intellectual competencies, personal competencies, leadership competencies, result oriented and ethical competencies. Each of these competency parameters in the recognition phase is focused on enhancing an individual's ability to self - manage and to direct their level of performance as a means of achieving individual success and the success of the business at large.

#### *3.3.2.1 Entrepreneurial Competencies*

First among the executive competency parameters that facilitate enhanced individual ability for superior performance are entrepreneurial competencies. Therefore, entrepreneurial competency can be defined as *a cluster of related knowledge, attitudes, and skills which an entrepreneur must acquire through managerial training and development towards outstanding performance, maximisation of profit and exploitation of the market opportunities in the face of ever-changing socio-political environment while managing a business venture or an enterprise* (Donald and Hodgetts, 2007; Inyang and Enuoh, 2009). The publication of Peter F. Drucker's "The Practice of Management" in 1954 was a turning point in the development of the entrepreneurial competencies in the discipline of management. He illustrated that entrepreneurial activities do not happen by chance and have to be carefully planned, organised, and integrated. He believes that a manager is wholly responsible for developing and integrating different functions within an organisation in

which entrepreneurial competencies plays a vital role. Through entrepreneurship, there can be appropriate capitalisation of the unique resources, skills and opportunities that exist within individual units of an organisation (Drucker, 1985; Birkinshaw, 1997; Kotter, 2001). From an organisational perspective, entrepreneurial orientation is a firm-level construct closely linked to the strategic decision-making process that can boost up the propensity of a firm to sponsor initiatives that reconfigure and renew its resource base (Lumpkin and Dess, 1996; Richard et al., 2004).

It is believed that when the orientation of entrepreneurial competencies is encouraged within an organisation, then enhanced firm performance can be expected (Ireland et al., 2009). To instil entrepreneurial competencies among the executives of an organisation, it is elemental to establish it through three steps such as; entrepreneurial vision, mindset and action. Entrepreneurial vision is directed toward long-term organisational goal expectations, which are desired end-states, rather than means of conduct, although both ends and means can be intentional (Churchill and Lewis, 1983). Mostly, it is found that the establishment of entrepreneurial vision is inhibited by patterns of competition occurring within the firm and with the rival competitors. In this competitive market environment the entrepreneurial vision is therefore needed to be widely dispersed among employees of the organisation, as top level executives don't have access to all of the information needed for pursuing environmental opportunities essential for the innovation of a firm. This creates collective entrepreneurship in which the whole of the effort exceeds the sum of the individual's contributions, thereby creating a base for implementing entrepreneurial competencies among the employees of a firm (Reich, 1987; Kuratko et al., 2001). The second step to implement entrepreneurial competencies is an entrepreneurial mindset, which refers to a way of thinking about one's business that captures the benefits of uncertainty with an intention of creating new future business ventures. When an opportunity is registered by an entrepreneur, a disciplined focus must be established by identifying and prioritising target areas and allocating resources to those targeted opportunities (McGrath and MacMillan, 2000). Entrepreneurial mindset is characterised by scanning and interpreting information as well as changing them into opportunities, in contrast to others who might ignore them or interpret them as threats. With scanning for opportunities they use social cognitive interpretations in selecting, analysing, and pursuing alternatives which help with application of entrepreneurial competencies among

the employees of the organisation (Busenitz and Lan, 1996; Puffer and McCarthy, 2001). The last and the crucial step to implement entrepreneurial competencies, is to establish an entrepreneurial action plan within the organisation. Entrepreneurial action is widely acknowledged as an essential driver of industrial growth, in which the fundamental behaviour of the firms is to move into new markets, explore new customers and combine existing resources in new ways which defies the rigorous systematisation that is the hallmark of the discipline (Smith and De Gregorio, 2000). As noted by Schumpeter in his entrepreneurial action study, "What has been done already has the sharp - edged reality of all things which we have seen and experienced; the new is only the figment of our imagination. Carrying out a new plan and acting according to a customary one are things as different as making a road and walking along it. How different a thing this becomes clearer if one bears in mind the impossibility of surveying exhaustively all the effects and counter - effects of the projected enterprise. Even as many of them as could in theory, are ascertained if one had unlimited time and the means must practically remain in the dark" (1961: 85). The combination of all the three steps can encourage executives across organisations to imbibe entrepreneurial competency as a vital mechanism to enhance individual performance and industrial growth.

By exploring the processes associated with entrepreneurial activity, the multidimensional nature of entrepreneurial behaviour will help in clarifying the relationship between entrepreneurial orientation and organisational performance (Lumpkin and Dess, 1996). Research in the field of entrepreneurial competencies suggests that by understanding the competency requirement of the changing role of the entrepreneur through the different phases of business development will support individual competence which would consequently lead towards successful business growth (Hayton, 2006; Mitchelmore, 2010; Mascarell et al., 2013). Entrepreneurial competencies emphasise on twelve competency areas which are required for organisational success, such as; starting a business, planning and budgeting, management, marketing/selling, advertising and sale, promotion, merchandising, financing and accounting, personnel relations, purchasing, production, facilities and equipment, and controlling risk (Huck, 1991). All in all, existing theory and research suggest that entrepreneurial competencies are more about how people behave and about helping people to learn to behave in certain ways which can foster individual and organisational performance. The derived hypothesis on the basis of above facts mentioned below:

*Hypothesis$_{3a:}$ Entrepreneurial competencies have guided executives significantly and ensure the firm's long-term performance.*

### *3.3.2.2 Meta Competencies*

The second executive competency parameters that facilitate enhanced individual ability for superior performance is meta competencies. Meta competencies are indicating *a higher-order ability to learn, adapt, anticipate, acquire, utilise and create competencies appropriate for different work situations occurring within the organisation* (Brown, 1993; Winterton, 1999). In the complex work situations in today's competitive environment, employees are becoming aware about their own intellectual strengths and weakness, their capabilities in utilising available skills and knowledge to carry out a variety of tasks assigned to them, to acquire missing competencies and analysing their success rate in solving complex tasks. They don't only estimate their own performance possibilities and prerequisites, but also use these subjective judgements to guide their actions within an organisational set up. This subjective knowledge and the ability to judge the availability, utility, compensation and learning ability of personal competencies are known as the meta competence (Nelson and Narens, 1990). To enable better managerial and organisational performance by the executives of a firm, meta competency is crucial. It is found that employees who know more about themselves and able to put this knowledge to practical use are likely to perform better than others when solving difficult tasks and problems within an organisation. The metacognitive knowledge combined with the subjective consciousness of actions allows goal-directed behavioural control, leading towards the development of procedural meta competencies, which includes conscious skills in planning, initiating, monitoring and evaluating one's own cognitive processes and task-specific actions. To apply one's own knowledge requires mastering and incorporating of a variety of diverse experiences, acquiring different strategies, operations and problem solving heuristics (Nuthall, 1999).

Research in the field of meta competencies is believed to reinforce other managerial competencies such as creativity, openness to diverse ideas, mental agility, self-knowledge and balanced learning skill (Reynolds, 1988; Cheetham, 1996). Creativity, by definition, involves the development of new and useful ideas, and creativity in applied settings is not so

much about idea generation unbound by practical concerns but about the generation of ideas that serve goal-directed needs. When employees are overly focused on learning as opposed to the pragmatics of goal pursuit, they may overlook workable solutions and favour elegance and novelty over practicality (Hirst et al., 2009). For organisational innovation and competitive advantage, employee creativity plays a vital role, in which employees develop novel and useful solutions to challenges and problems encountered in goal pursuit as well as seek to attain favourable judgements for augmented performance (Oldham and Cummings, 1996; Zhou, 2003; Hirst et al., 2009). With the incidence of such responses, the employees would be able to improve their personal job performance as well as encourage the other employees of the firm take up novel ideas and apply it in their own work, leading to overall performance improvement of the firm (Shalley et al., 2004; Gong et al., 2006; Asumeng, 2014). Managing diversity enhances organisational flexibility . . .as policies and procedures are broadened and operating methods become less standardised; the organisation becomes more fluid and adaptable . . .lead to greater openness to new ideas in general (Cox and Blake, 1991: 52). Capitalising on the potential benefits of diversity in work groups, the employees of the organisations can gain competitive advantage in creativity, problem solving and flexible adaptation to organisational change and enhance their ability for improved performance.

*Hypothesis$_{3b:}$ Meta-competencies would enable the performers towards superior performance results.*

#### *3.3.2.3 Functional Competencies*

The third executive competency parameter is functional competency, which can be defined as *job specific competencies that are technical and operational in nature and enable an organisation to endow its services with unique functionality that would lead to quality results, competitive advantage and superior performance* (Reed and Defillippi, 1990; Hill and Jones, 2001). From an organisational viewpoint, a firm with superior functional competencies can differentiate its products and lower its cost in respect to its competitors, thus achieving superior efficiency, quality, innovation, customer responsiveness and competitive advantage. The core competencies of functional areas through the fusion of

resources and capabilities are the main source of strategic competitive advantage as they improve the effectiveness of basic operations within the organisation (Droge et al., 1994; Akimova, 2000; Li, 2000). Several researchers have deployed multi-item instruments to measure the functional competency construct with lower levels of measurement errors to improve organisational performance. In a study of large industrial firms, Hitt and Ireland, 1985 tried to measure the functional competencies of a firm by developing an instrument that measured 55 functional activities and their relationship to the organisation performance. The individual activities were grouped into eight functional activities and were rated on a seven point scale ranging from "greatest strategic significance" to "completely strategically insignificant" in respect to performance in each functional area. Similarly Acar, 1993 while analysing the Turkish casting and machinery manufacturing firm employed a 14-item scale to measure the relationship between the functional competencies with that of organisational performance.

Taking into account an individual's perspective on functional competencies, it can be stated that specific functional competency in performing a particular job helps an individual to focus on essential competencies that can drive high-performance and quality results for a given position within a firm (Hansson, 2001). An extensive literature on the functional competencies illustrates that; competencies at functional-level can be a source of superior managerial and organisational performance through continuous innovation. Such innovation represents the application of a change which is "new to an organisation and to the relevant environment" (Knight, 1967: 478). It is viewed that innovation is a generation, acceptance and implementation of new processes, products, or services for the first time incorporating something new within any given organisation that can represent a strategic effort for that organisation, regardless of whether other industries or organisations have already proceeded through that process (Thompson, 1965; Shepard, 1967; Haase, 2005; Walsh and Linton, 2010). When an organisation encourages all its employees to adopt innovation initiatives consistently then there is successful implementation effort and enhanced organisational performance in comparison of organisations were only some targeted employees utilise innovation. Reinforcement of innovation, values among the managerial personnel enhances the overall organisation performance and encourages individual development. Based on the above facts the hypothesis can be derived as:

*Hypothesis$_{3c:}$ Well-defined functional competencies for managerial personnel within the organisation encourage them to perform more effectively and efficiently.*

#### *3.3.2.4 Social Competencies*

The fourth executive competency parameter is social or interpersonal competencies. Social competencies can be defined *as an ability to establish, maintain and develop constructive social relationships with other people, which consists of social, emotional and behavioural skills that form a foundation upon which expectations for future interaction with others is built and upon which individuals develop perceptions of their own behaviour* (Salovey and Mayer, 1990; Semrud-Clikeman, 2007). The concept of social competencies evolved around early 20$^{th}$ century and by mid-century, it was used in terms of problem-solving skills and strategies in social situations for effective social functioning and information processing. Research in the field of social competencies has evolved a series of social competency models to improve the managerial social interaction skills within the organisation. Fundamentally, these social competency models emphasise on (1) receiving or "decoding" of messages sent by others as well as an accurate analysis of social situations, (2) the processing of the received information, the generation of response options and the selection of the appropriate response, and (3) the sending of the chosen response (Greene and Burleson, 2003; Riggio and Lee, 2007).

Socialisation is viewed as the acquisition of knowledge about performance standards, important people in an organisation, organisational goals and values, and organisational jargon (Lankau and Scandura, 2002: 779). The employees learn a great deal through their interactions with others, especially those with different backgrounds, expertise and seniority in their organisations. They primarily seek three types of information related constructs such as, technical (about how to perform tasks); referent (about what others expect of them); and normative (about expected behaviours and attitudes) which can be beneficial for adjustment in their respective job role, continuous learning experience and their growth within the organisation (Morrison, 1993; Hayes and Allinson, 1998). According to social network theory, managers with better interpersonal connections tend to earn more income, get more

frequent promotions, and have better careers (Peng and Luo, 2000: 487). It is found that when the executives of the firm have good relationships with executives at competitor firms, then it facilitates minimal uncertainties and strengthens inter-firm collaboration and implicit knowledge thus leading towards significant competitive advantage for the organisation (Tsang, 1998). Most of the leadership theories recognise the importance of social competencies in leadership development and in building trusting relationships within the firm (Avolio, 2005; Bass and Riggio, 2006; Carter and Yeo, 2014). Social competencies, therefore emerge as an essential executive competency that can foster interpersonal understanding, persuasiveness, empathy and sensitivity among the employees of a firm.

*Hypothesis$_{3d:}$ Social competencies have a positive impact on individual performance through interpersonal understanding and professional relationship building.*

#### *3.3.2.5 Intellectual Competencies*

The fifth executive competency parameter is intellectual or cognitive competencies, which can be defined as, *an intellectual ability of an individual, such as industry knowledge, background and expertise so as to learn new things and solve novel problems supporting enhanced work performance* (Spencer and Spencer, 1993; Chamorro-Premuzic and Furnham, 2005). An intellectual competency is essential for employees as it is related to the actual of complexity of the jobs they hold and the complexity that they desire in their work (Farkas and Vicknair, 1996; Ganzagh, 1998). The intelligence of an employee is positively related to desired job complexity; it is demonstrated by Wilk et al., 1995, through the gravitation process of intelligence, in which people are inclined towards the job commensurate with their abilities. Similarly, Holland in his study on intelligence viewed that, "within a given class of occupations, the level of occupational choice is a function of intelligence" (1959: 58).

Several researchers in the field of intellectual competencies have derived that intellectual competence results from the product of intelligence (self-perceived and actual) and personality traits of an individual, which comprises of cognitive and non-cognitive traits, based on the identification of empirically observable individual differences leading to differences in future achievement (Ackerman, 1997; Premuzic and Furnham, 2005). In an organisation set up the team members with higher relative cognitive ability are more

effective at developing effective systems for interaction in comparison to another team in the organisation. Studies illustrate that there is a consistent positive relationship between team member's cognitive ability and team performance which further leads to improved individual and organisational performance (Hollenbeck, et al., 1996; Bell, 2007; Summers et al., 2012). Thus, the hypothetical framework can be stated as:

*Hypothesis$_{3e:}$ Intellectual competencies carried by the executives have a positive effect on individual performance outcome within an organisation.*

### *3.3.2.6 Personal Competencies*

The sixth executive competency parameter is personal competencies. Personal competencies can be stated *as a set of personality traits underlying a person's capability, behaviour, motives, traits, attitudes, and self-concepts that enable them to manage the work situations independently and to perform effectively*. Personal competencies are also illustrated as a cluster of related knowledge, attitudes, skills, and other personal characteristics that affect a major part of one's job, correlates with performance on the job, can be measured against well-accepted standards, can be improved through training and development and can be broken down into dimensions of competencies (Parry, 1996; Gharehbaghi, 2003). In response to overwhelming environmental change, individuals are required to strive for the development of higher-level mental models, which instigates the importance of "learning to learn" by involving and formulating new ways of understanding, interacting processes with others and self-perception which would lead towards personal development (Kegan, 1994; Rawson, 2000; Stevenson and Starkweather, 2010; Othman and Jaafar, 2013). Such development invokes a greater understanding of oneself "as increasingly connected to others" (Kram, 1996: 140). These personal skill developments would enable better working relationship and performance for an individual within an organisation. To increase in role ambiguity, knowledge and personal learning skill of individuals helps them in resolving and processing the ambiguous information present in their work environments.

In a study conducted by Singh, to analyse the relationship between emotional intelligence and personal competencies, four main categories were formed for personal competencies such as, person's success, task success, system success and self-success. The person's

success competency involves understanding behaviour in an interpersonal context, where people refer to connecting and building bridges with others in attaining and maximising common goals. The task success competency refers to the ability of an individual to focus on the current task in hand and try to do it with utmost efficiency and accuracy. This will also involve the use of creative thoughts and innovative principles in handling the tasks more effectively. The system success competency is focused on the organisational issues and the act of doing things together in the organisational context. Finally, self-success competency consists of self-awareness, which is the basic foundation on which emotionally intelligent behaviour develops and refers to the ability to read one's own emotions and recognising the impact to take decisions. It is necessary for the individuals having an accurate self-assessment by knowing their own strengths and limitations (2010: 34). When these competencies are reinforced and acquired within an organisation properly, then it can be effectively converted into developing an empowered workforce. Therefore, an individual needs to upgrade their personal competencies periodically so as to enhance their organisational performance.

*Hypothesis$_{3f:}$ Individual executive performance is highly dependent on acquiring of personal competencies.*

#### *3.3.2.7 Leadership Competencies*

Leadership competencies the seventh executive competency parameter can be defined as *delivering results through management excellence by maximising organisational effectiveness and sustainability, mobilising and influencing people, organisation and partners through strategic thinking process consisting of innovated ideas and analysis by serving with integrity and respect so as to accomplish team and organisational goals*. The concept of leadership has been a prominent matter of discussion in management literature since 1930s, which includes traits, style, contingency and transformational approaches. While traits approach of leadership is focused on identifying the personal characteristics of successful leaders, the leadership style approach focuses on leadership behaviours, and contingency or situational leadership approach focuses on the variables acting within an organisation which can moderate the effectiveness of different leadership behaviours in an

organisation. In addition, the transformational model of leadership illustrates on the visionary approach of leaders who guide their followers in, such as way that their aspirations unionises, thus becoming a popular approach for successful top level managers within the firm (Stogdill, 1974; Shamir et al., 1993; Waldman and Yammarino, 1999). The various forms of leadership research exhibit a leader's influence within an organisation, in order to achieve specified goals. Research in the field of leadership competencies suggests that the performance of an organisation can be enhanced by a leader, influencing the organisational processes that determine performance, the overall performance of an organisation can be improved.

As noted by Gibb's, "leadership is probably best conceived as a group quality, as a set of functions which must be carried out by the group" (1954: 884). The distributed leadership takes on the notion that, the team members of an organisation will voluntarily support shared goals when they are actively involved in the influential decision-making process thereby increasing the commitment and involvement of team members within the organisation. It has been rightly stated that, "those organisations in which influential acts are widely shared are most effective" (Katz and Kahn, 1978: 332). Recent studies on shared leadership illustrate that interaction among team members has a significant improvement in the team and organisational performance, which encourages adoption of leadership competencies among the team and instigates an organisation towards competitive advantage and effectiveness. As stated by Carson et al., "teams with high levels of shared leadership may also shift and/or rotate leadership over time, in such a way that different members provide leadership at different points in the team's life cycle and development" (2007: 1220). According to Quintana et al., "leadership is a functional process that can be applied to any human activity involving more than one person. While leadership has traditionally been conceptualised as an individual-level behaviour, the leadership process itself is conceived as a complex interaction between the individual who leads, the human team, the organisational objectives to be reached and the social, economic and organisational settings" (2014: 516).

Most recently a new leadership construct, "ethical leadership" has found prominence within the organisations today (Brown et al., 2005). Ethical leadership is mostly focused on three key paradigms; "being an ethical example, treating people fairly, and actively managing morality" (Mayer et al., 2012: 151). The various studies on ethical leadership exemplifies

that the internalisation of moral identity among the leaders would enable them to become a source of motivation for the followers to imbibe the ethical traits such as; honesty, compassion, caring as projected by the leader within the organisation (Reed et al., 2007; Reynolds and Ceranic, 2007; Aquino et al., 2009; Aitken and Treuer, 2014). According to the ethical leadership study of Mayer et al.,"leaders set the ethical tone of an organisation and are instrumental in encouraging ethical behaviour and reducing interpersonal conflict from their subordinates (2012: 167). Companies that can hire and/or train ethical leaders are more likely to create ethical and harmonious work environments as the drivers of improved individual performance.

*Hypothesis$_{3g:}$ Executives are highly capable enough to influence people towards a common goal due to possession of relevant leadership competencies.*

#### *3.3.2.8 Result Oriented Competencies*

The eighth executive competency parameter is result oriented competencies, which can be described as *an alignment of personal identities in relation to results achieved with the process of value reaction, in order to maximise the use of resources available and to deliver consistent desired results, so as to achieve competitive advantage and overall organisational excellence.* The result oriented competencies empowers the employees in gaining specific qualities and work policies which can induce valuable results and increase overall performance of the organisation. The result oriented competencies helps in creating own measures of excellence by execution of specific methods which fetches additional degree of superiority against established standards of excellence and organisational commitment among the employees (Zingheim, 1996; Singh, Bhagat and Mohanty, 2011). By improving certain work methods, processes and skills, it induces an enhanced performance among the individuals, work units and organisation, while demonstrating an understanding of all the factors affecting the improvement of the results within the organisation as well as minimising the risks attached.

There are limited empirical studies in the field of result oriented competencies. Most of the research has associated result oriented competencies with organisational change processes. According to Pettigrew et al., linking of performance outcomes with change

processes or result oriented constructs has various advantages, "First, the outcome provides a focal point, and for the whole investigation . . . the process involves the collection and analysis of a long time series. Second, there is the possibility of exploring how and why variations in context and process shape variability in the observed performance outcomes across a comparative investigation" (2001: 701). In the book "Built to Last" by Collins and Porras (1995), the linkage between firm's performance and result oriented processes is described elaborately with "strong analysis of the factors that built and sustained the visionary elements, commendable use of survey data and historical investigation; however, it stops short of explicitly linking change with financial performance" (Pettigrew et al., 2001: 701). Additionally, in some of the studies the result oriented competencies are considered as vital for establishing successful core and leadership competencies among the employees of an organisation to achieve superior organisational performance (Abraham et al., 2001; Becker, 2001; Sanghi, 2007).

*Hypothesis$_{3h:}$ Identification of result oriented competencies for managerial positions would enable the individuals to become an actor for the high performing entity.*

#### *3.3.2.9 Ethical Competencies*

The last executive competency parameter is ethical competency and this can be defined as "*the ability of an individual to perform tasks with moral awareness, to take decisions with moral sensibilities with an intent, motivation to do what is right and to uphold the moral values of conducting business as specified by the ethical code of conduct in an organisation*" (Rest, 1986; Kavathatzopoulos, 2002). According to Preston, ethics describe "what is right, fair, just or good; about what we ought to do, not just what is the case or what is most acceptable or expedient" (2007:16). The concepts of ethical competencies can be divided into two categories of frameworks, such as normative and contextual. The normative framework describes on, how individuals "ought" to behave, given normative standards and justifications of morality. It consists of moral principles of justice, organisation's moral agency, corporate responsibility, individual's moral reasoning, etc., thus distinguishing between the ethical and unethical behaviour of an organisation and its employees. The contextual framework focuses on the circumstances that influence the ethical and unethical

behaviour within an organisation. It consists of organisational climate, organisational hierarchical and bureaucratic properties, work group segmentation, values, etc., thus relating to the conditions that structurally and procedurally encourages and maintains ethical and unethical behaviour within the organisation (Velasquez, 1988; Victor and Cullen, 1988; Orme and Ashton, 2003).

Kahn has described four driving forces or images of ethical concepts such as conversation, history, vision, and community which serve as a way to link the conduct and content of future research. The image of conversations emphasises the importance of dialogues in creating a theory of ethical behaviour. The image of ethics as history emphasises that ethics evolve over time. A third image is about ethics as vision, and this vision can also be understood as clarity and imagination, that helps the individuals to reflect on their doings while giving them another dimension on it so as to behave differently. The fourth image of business ethics is of involving communities that focus on the potential of organisations to sustain moral behaviour by the force of norms which consists of thought and language that sanction action (Kahn, 1990). The issue of ethical competency and ethical decision-making process has been on the rise in the field of management of late. Additionally, it is found that ethical issues crept up in the workplace, where the interests, values and laws are vague and unclear. It requires the utilisation of ethical competencies among the individual so as to support positive social consequences in the sphere of welfare and conflict resolution among the consumers, employees and the community at large (Trevino, 1986; Bowman et al., 2004; Ismail, 2014). Based on the above facts, it can be proposed as:

*Hypothesis$_{3i:}$ Infusion of ethical apt decision-making process among the executives enhances the goodwill of the organisation and motivates to achieve the predetermined organisational goals, thereby enhancing individual performance.*

### 3.3.3 Action Phase: Development Interventions and Performance Excellence

Following the identification of the distinctive executive competency parameters, an important question remains: whether the identified executive competencies can improve the performance of the firm and how to bridge the gaps in competencies among the executives? It, basically, questions on the lasting effects and consequences of executive competencies for

the individual and organisational performance and how to utilise to get a lasting competitive advantage. To analyse the developmental quality of the executive competencies within the organisation, it is crucial to monitor the executive's on a regular basis so that the gaps can be identified and supplementary developmental or training initiatives can be introduced to fill those gaps. The goal is to advance some mechanisms through which the advantages of the competencies identified those can exert a lasting impact on the organisational outcomes through enhanced individual and team performance. Consistent with the strategic approach reflected in the proposed research model, emphasis has paid on the developmental interventions which are neatly lined up with bringing in performance excellence.

Through developmental intervention, it is possible to positively determine the job performance of the executives within the system (Welbourne, Johnson and Erez, 1997). There's increasing evidence that suggests that executive's learn and adopt essential competencies through work experience while working on the respective job assignments. Most of the organisations are trying to groom their executive's through job assignments with higher potential for leadership role and career development (McCauley, 2001; Day, 2007; Ellinger and Ellinger, 2014). Homer (2001) has noted in his research paper that "the capability to determine skills gaps enable organisations to implement more cost-effective and meaningful training and development practices, determine changes in individual and team performance". According to the study of Dragoni et al., "unfamiliar responsibilities are developmental because they force managers to initiate new ways of coping with problems, reveal when existing approaches are inadequate, and frequently require managers to perform in front of new sets of peers, subordinates, and superiors, thereby providing challenge and motivating learning and adaptability" (2009: 732). In addition, it fosters adaptation of essential competencies and to improve individual and organisational performance. In an organisation employees need to work in a team to achieve a common goal. Recent research illustrates that through team tasks, competencies and knowledge of the teammates is increased as well it creates a flexible gamut of skill sets within the team which leads to optimal performance. Developmental and training inventions can be arranged taking in the specificity of the team and its individual members, as for a new work assignment a database of essential competencies and training tools can be developed in context to the nature of the assignment. The specificity of developmental initiatives helps to detect the competency gaps

among the individuals and remedial measures are implemented, which will underpin effective task performance (Cianni and Wnuck, 1997; Kim et al., 2013).

*Hypothesis$_{4:}$ Continuous monitoring and frequently updated training and development interventions aligned with the organisational objectives would enhance the level of individual performance.*

The prevalent dynamic business environment has necessitated the measurement of organisational performance to retain and sustain competitive edge in the global market. The model proposed by Sink and Tuttle (1989) in their study illustrates that, the performance of an organisation can be improved through application of six performance criteria such as; effectiveness, efficiency, quality, productivity, innovation and profitability. The desired organisational performance cannot be achieved without the individual contribution of the executives, as the performance index of the individual executives is highly related to the overall performance of the organisation. The study by Allen during the 90's demonstrated that "employee's organisational commitment and loyalty has serious and potential effects on the organisation's performance and can be an important predictor of organisational effectiveness; therefore, ignoring it is damaging to organisation and may impose extra costs" (Kashefi et al., 2013: 503). According to Rolstadas (1998), the adoption of innovation and striving for organisational excellence while managing the day to day operations is a key element in sustaining and improving organisational performance. The sense of ownership and belongingness among the executives can stimulate accepted organisational behaviour that can guide them to perform within the organisation more effectively (Avey et al., 2009). Palmer and Wiseman (1999) found that performance of the executives engaged in risk taking behaviour has direct implications on the firm performance. Both extrinsic and intrinsic incentives are essential for enhancing the performance of individual employees. A study conducted by Khan, Zarif and Khan (2011) explicate that applying a combination of intrinsic and extrinsic incentives such as employee recognition and appreciation as well as cash rewards for achieving results can enhance the employee morale and can motivate them to achieve the optimum level of performance excellence for the organisation. The continuous

enhancement in individual executive's performance can therefore help in improving the overall organisational performance.

*Hypothesis$_{5:}$ Individual executive performance level has a positive impact on the organisation's overall performance.*

From the existing literature it can be depicted that executive competencies have got a significant relationship with the performance of individual executives and the organisation as a whole; which is incorporated by the proposed hypotheses of this study. The parameters of executive competencies have been identified through extensive literature reviews on executive competencies, which are projected to assist an organisation in achieving performance excellence. The hypothesised framework for performance improvement of executive's through executive competencies is illustrated in Figure 3.1.

## 3.4 CRITICAL ANALYSIS OF RESEARCH GAPS

In this present seamless business scenario, where an organisation needs to compete with domestic and global competitors alike to achieve competitive advantage, constant changes are a common occurrence. To be at par with the upcoming changes, the organisation needs to constantly upgrade the capabilities and the skill sets of its employees since they are the implementers of every activity within the organisation periphery. Considerable research has been carried out by researchers worldwide to deduce competencies for the individual and organisational well-being, but still there are some research gaps which need to be filled up. Some of the research gaps that have been identified in this study are as follows:

- The literature review illustrates that there is a lack of research on the essential executive competencies needed by the middle and lower level executives for enhanced performance, while the focus has been more on the senior level executives of a firm especially in the manufacturing sector.
- In the previous research, entrepreneurial competencies were only associated with the functional strategy, business strategy, understanding competitors, knowing market opportunities, pro-activeness, competition aggressiveness and knowing the drivers of the market. In order to supplement the entrepreneurial competencies another aspect has been

identified, such as “vision and mission statement”. The vision and mission statement of an organisation provides a framework for the executives to implement their entrepreneurial vision and action according to the preconceived organisational goal.

- Meta competencies are mostly associated variables such as; creativity, mental agility, balanced learning skills, self-knowledge and openness to new and diverse ideas. In this study two more variables have been added “forecasting and anticipating change” and “exploration”. The occurrence of frequent changes in the manufacturing sector has initiated the need for the executive’s to imbibe the competency that would aid them to explore, forecast and anticipate impending changes. Most of the upcoming changes in the business environment are subtle in nature, therefore it is mandatory for the executives to explore and forecast changes in time so that they can adapt appropriate means effectively.
- Most of the research on the functional competencies focuses on the innovative capability, decision-making skills, knowledge management, customer orientation, business sense, stress management, professionalism and taking responsibility for their actions. But, effective delegation and cross functional perspective is also essential to effective performance, which has been added in this work. The most important function of an executive is delegation of authority to their subordinates is vital and they inculcate this skill to upgrade their individual performance. Similarly, cross functional perspective is essential for an executive to take up assignment from different functionalities of a firm as well as for individual development.
- Most of the researchers have integrated the attributes of social and personal competencies under a single parameter. In this research work, social and personal competency has been examined separately. In case of social competence, it is directed mostly with the attributes such as; creating impact, persuasiveness, sensitivity, flexibility, empathy, negotiation, interpersonal understanding, relationship building, and coordination. In addition to these attributes “attitude and pleasant personality” and “emotional resilience” has been included in this study. The executives of a firm are needed to interact with people day in and day out, which helps them to increase their networking skills; but to achieve this they need to be approachable in which pleasing personality and attitude has got immense importance. Besides this emotional resilience also plays a vital role in the

functioning of the executives in a social setup; for they are needed to handle stressful situations at work on a daily basis.

- Research on intellectual competence relate to certain characteristics, i.e. information collection, problem analysis, judgement, planning, learning orientation, technical expertise and troubleshooting activities. There are certain other variables which influence the intellectual competence of an executive within an organisation. In order to use the numerical data effectively, numerical interpretation skills are required. Organisational awareness and external awareness help in information generation and knowledge enhancement, which can aid in the development of an executive within a firm. The present technology driven economy makes it essential for the executives to be computer literate and technology savvy. Taking these factors into consideration; numerical interpretation, organisational awareness, external awareness and IT and computer literacy have been included in this study.
- Inculcating personal competencies among the executives are important for their individual growth and development within the firm. Personal competencies are linked to certain traits by the previous researchers such as; knowledge, skills and ability, independence, adaptability, integrity, self-management, goal seeking, self-confidence, achievement orientation and self-improvement. In this study some additional traits have been included which are supposed to strengthen personal competencies of executives in a firm, i.e. stress tolerance, resilience, change orientation and self-efficacy. In the stressful and ever changing environment in a manufacturing unit these traits are believed to be highly essential to being productive.
- Previous research on competency management highly focused on leadership competency, which manifests its importance in the organisational environment. Leadership competencies are mostly depicted through some features such as; organising, empowering and participation, appraising, leading, motivating others, developing others, team building, resolving group conflict and communication. Besides these features, in this study one more feature has been added “developing the sense of shared leadership” which can elevate the executive’s leadership competence within a work setting. Since executives need to work with and within a team; leadership attributes needs to be shared

among all the team members in a mutual development process thus reflecting its importance in performance enhancement on an executive.

- Every activity in an organisation is to achieve maximum result and to reach its set of predetermined objectives successfully. Taking this factor into consideration, it has become essential that executives in a firm are result-oriented in their approach. There has been considerably less focus on result oriented competencies in previous research. Research on result- oriented competence have been mostly portrayed along certain elements such as; risk taking, decisiveness, concern for excellence, goal clarity, strategic thinking, problem solving and organisational commitment. In this study, some new elements have been incorporated for instance; openness, energy, building trust and commitment, time management, sense of ownership and acknowledging feedbacks. These elements are believed to have considerable worth in enhancing the result-oriented competence among the executives in a manufacturing set up.
- Ethical competence is evolving as a major area of competence for the executive of a firm. With new regulations and policies coming up on ethical working practices and procedures, it is vital to incorporate this competence in sustainable development. Research on ethical competence involves certain characteristics such as: linked to aligning with company values, adhere to codes of conduct and rewards right behaviour. Beside these some other characteristics have been included in the study, which includes proper law enforcement and safety consciousness which is deemed to enhance the ethical behaviour of an executive within a manufacturing set up.

## 3.5 CONCLUSION

The literature on competency based management has acknowledged the importance of competencies and their positive effects on the performance of the organisation. Consequently, there is much to be gained from the understanding of how executives of an organisation benefits for appropriate identification of competencies. Despite decades of scientific research on various competency parameters essential for organisational growth, it lacks in developing a competency based executive performance model which can allow an organisation a degree of flexibility to account both the organisational and individual specific elements. There is major concern about the lack of a multilevel conceptualisation of

competencies within an organisation, whereas its importance has been acknowledged by various scholars. In this study, a multilevel competency based executive performance model has devised which can address the issues on identification of competencies, significant executive competency parameters as well as the interventions to fill the competency gaps. This model also provides the flexibility to introduce organisational and individual specific elements so that there can be lasting implication for the executives and their organisations. Based on the existing literature reviews, a hypothetical conceptual model has been formulated (Figure 3.1). The Competency Based Executive Performance Management System (CBEPMS) has been conceptualised, with an intention that this model will provide sufficient explanation of the executive competency parameters which in ideal conditions is supposed to enhance the capabilities of the executives to perform effectively, both in individual and organisational perspective. This CBEPMS model consists of three phases; inception phase, recognition phase and an action phase. The inception phase of the model illustrates the process through which the essential executive competencies can be identified. The organisational culture and strategy of an organisation plays a vital role in the identification of these competencies. The recognition phase of this model demonstrates the essential executive competencies that are proposed to enhance the performance outcome. The identified competencies consist of entrepreneurial competencies, meta competencies, functional competencies, social/interpersonal competencies, intellectual/cognitive competencies, personal competencies, leadership competencies, result-oriented competencies and ethical/value based competencies. Finally the action phase of this model showcases the process to achieve enhanced managerial and organisation performance. The developmental interventions have been included in this stage of the model; which would help in filling up the competency gaps prevalent among the executives, will address the research problem to some extent. Thus, before concluding this chapter, a summary of identifying competency areas has been illustrated in table 3.2, which are to be empirically tested and validated in order to draw a clear picture on competency requirements.

*Figure 3.1: Competency Based Executive Performance Management System (CBEPMS)*

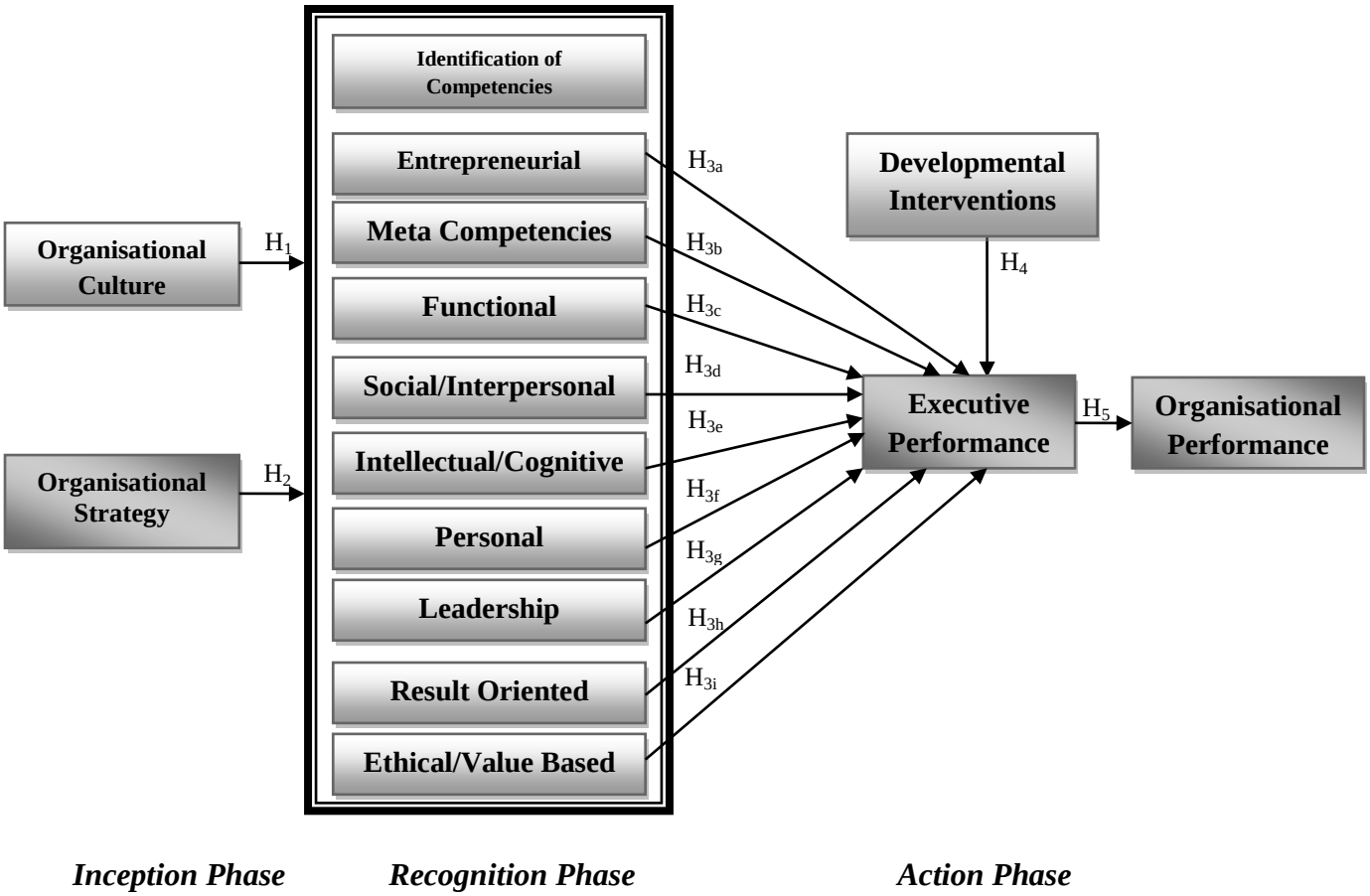



**Table 3.2: Identification of Competency Areas**

| Competency Areas | Identified Variables |
|---|---|
| ***1. Entrepreneurial*** | • Vision and Mission Statement<br>• Business Strategy<br>• Functional Strategy<br>• Understanding Competitors<br>• Knowing The Drivers of the Market<br>• Market Opportunities<br>• Pro-activeness<br>• Competition Aggressiveness |
| ***2. Meta*** | • Creativity<br>• Mental Agility<br>• Balanced Learning Habits And Skills<br>• Self-knowledge<br>• Forecasting And Anticipating Change<br>• Exploration<br>• Openness To New And Diverse People And Ideas |

| | |
|---|---|
| ***3. Functional*** | • Innovativeness<br>• Decision-making<br>• Knowledge Management<br>• Customer-Focused<br>• Business Sense<br>• Coping With Stress<br>• Effective Delegation<br>• Taking Responsibility<br>• Professional Expertise<br>• Cross Functional Perspective |
| **4. *Social/Interpersonal*** | • Impact<br>• Persuasiveness<br>• Sensitivity<br>• Flexibility<br>• Empathy<br>• Negotiating<br>• Interpersonal Understanding<br>• Relationship Building And Coordination<br>• Attitude and Pleasant Personality<br>• Emotional Resilience<br>• Networking Ability |
| **5. *Intellectual/Cognitive*** | • Information Collection<br>• Problem Analysis<br>• Numerical Interpretation<br>• Judgement<br>• Planning<br>• Organisational Awareness<br>• External Awareness<br>• Learning Orientation<br>• Technical Expertise<br>• Troubleshooting<br>• IT and Computer Literacy |
| ***6. Individual/Personal*** | • Knowledge, Skills and Ability<br>• Independence<br>• Adaptability<br>• Integrity<br>• Stress Tolerance<br>• Resilience<br>• Self – Management<br>• Change Orientated<br>• Goal Seeking<br>• Self-Confidence<br>• Achievement Orientation<br>• Self-Efficacy<br>• Self-Improvement |
| ***7. Leadership*** | • Organising<br>• Empowering and Participation |

| | |
|---|---|
| | • Appraising<br>• Leading<br>• Motivating Others<br>• Developing Others<br>• Developing The Sense Of Shared Leadership<br>• Team Building<br>• Resolving Group Conflict<br>• Communication |
| ***8. Result Oriented*** | • Openness<br>• Risk Taking<br>• Decisiveness<br>• Energy<br>• Concern For Excellence<br>• Goal Clarity<br>• Sense Of Ownership<br>• Organisational Commitment<br>• Building Trust And Commitment<br>• Strategic Thinking<br>• Problem Solving<br>• Time Management<br>• Acknowledging Feedbacks |
| ***9. Ethical/ Value Based*** | • Aligning With Company Values<br>• Adhere To Code Of Conduct<br>• Rewards Right Behaviour<br>• Proper Law Enforcement<br>• Safety Conscious |

# CHAPTER IV

# COMPETENCY MAPPINGIN GLOBAL SCENARIO

# COMPETENCY MAPPING IN GLOBAL SCENARIO

## 4.0 INTRODUCTION

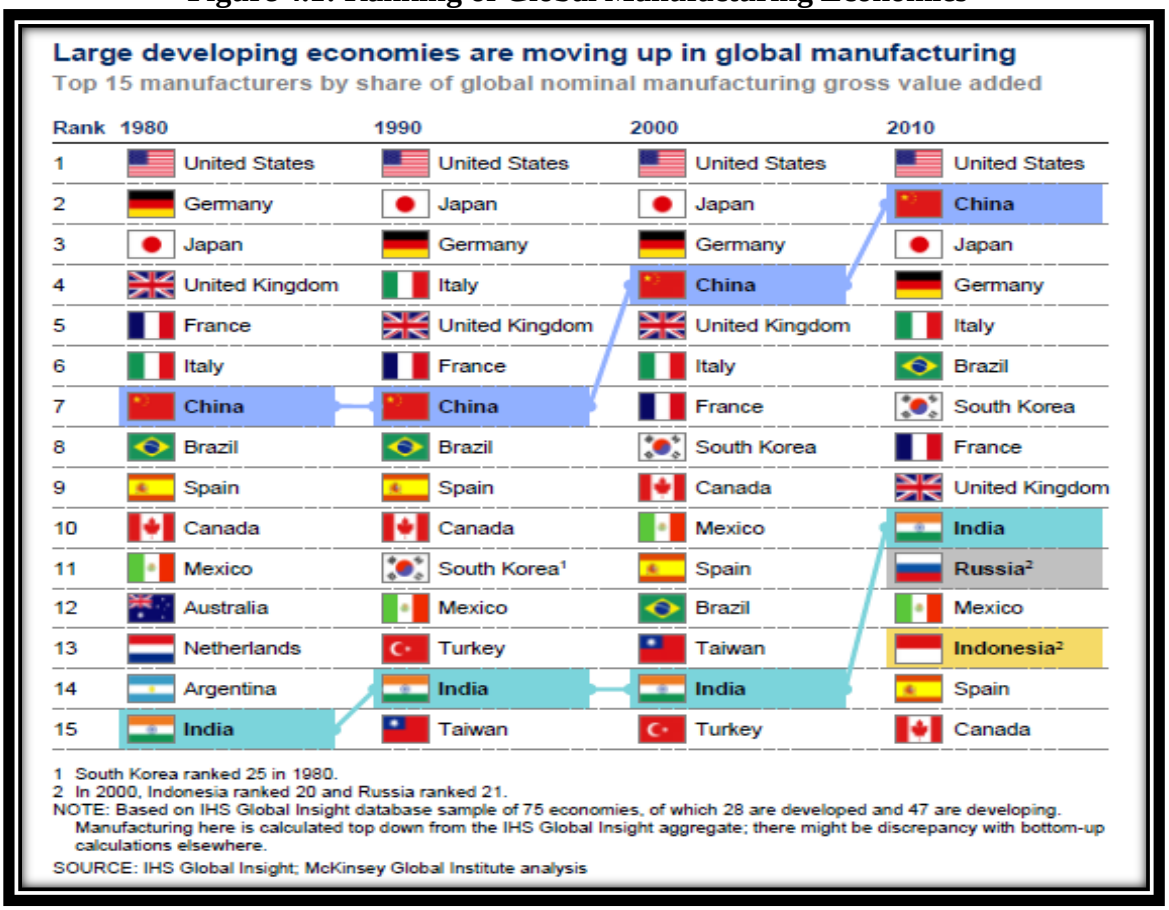
In the era of globalisation, the organisations worldwide was plagued with constant shift in demographic patterns, rapid technological advancements, drifting towards knowledge based economies, increased stress on imbibing innovation, productivity and cost effective mechanisms. The periphery of business sphere is increasing constantly and is becoming boundary-less while facing the competition on both home and international economies alike. With the onset of globalisation the future of the system is to be set with distinctive management practices, work patterns, global workforce integration, and compensation initiatives, and so forth to combat the looming competition. To remain competitive in today's business environment the organisation needs to stay in front of the competition and enhance its capacities to its utmost point. It is easy to imitate products, services and ideas must not the people working in an organisation. The people provide an edge over the competition. Taking into view this perspective, the organisations worldwide has realised that to be sustainable and competitive they need to constantly nurture and equip the capabilities of their people for future challenges. In this chapter, the thrust has been given to the mechanisms that the companies worldwide have adapted to up-skill and up-scale their employee's potential. This chapter has been subdivided into three parts: the first section deals with an overview of the global manufacturing industry to derive an insight on the present scenario with reference to the manufacturing sector. The second section draws an insight on the organisational practices in competency mapping and employee development initiatives. This section provides a snapshot of the competency management initiatives that have been taken up by the manufacturing companies worldwide. The third part is committed towards providing insights about the discussed practices and the managerial implications of this exercise.

## 4.1 GLOBAL MANUFACTURING INDUSTRY

In the constantly changing government actions and policies, the present global economy plays a critical role in shaping the competitiveness index for both nations and the individual companies operate within their borders. The competitiveness drivers such as trade, financial, tax and legal systems, infrastructure, education, labour markets, science and technology are

highly impacted by these constant changes in policy making. In a survey conducted by McKinsey in 2012, depicted that for nearly three centuries the manufacturing industries have been one of the primary sources for driving economic growth and standard of living for the economies worldwide. Particularly, the developing economies such as China, India and Indonesia have developed into the top ranks of global manufacturing as seen the figure 4.1. Though, developed economy of the United States, yet leads the social status in worldwide manufacturing. Simultaneously, it can be observed that some of the larger economic systems such as Germany and Japan are losing their grip in the ranks of global manufacturing gradually over the years.

**Figure 4.1: Ranking of Global Manufacturing Economies**




In a recent study on the global manufacturing sector by Klynveld Peat Marwick Goerdeler (KPMG) in 2014 demonstrates that rapid developments in technology, material science, innovative manufacturing and synergistic operating models are changing the face of

manufacturing companies and redefining the way of competing and succeeding it to the marketplace. The main objective of manufacturers worldwide is overwhelmingly focused on profitable growth for their companies and to gain a sustainable competitive edge in the marketplace. To achieve the ultimate goal the manufacturers extensively utilise a diverse range of strategies. According to KPMG (2014: 03), "Increasing levels of supply chain transparency and visibility; improving use of data, analytics and business intelligence tools; integration of new technologies; and a continuation of the trend towards greater partnerships and collaborative business models are at the forefront of these strategies". In an extensive survey of global manufacturers, KPMG has come up with the key findings and trends followed by global manufacturing units. Some of the key findings are as: manufacturers are focused on understanding their product cost and profitability; organisations are rethinking their product development strategy and shifting towards breakthrough innovation objectives and exploring new collaborative business models to create competitive advantage; supply chain visibility have resulted from stronger relationships between manufacturers and their top-tier suppliers and the willingness to share more real-time data across the value chain and a majority of manufacturers think that they could achieve a globally integrated supply chain within the next three to five years. Though the survey indicates a positive outlook and opportunities for global manufacturing, these opportunities also bring in new challenges and complexities for the same.

Besides the changes in strategies, the manufacturers are faced with the challenge of imbibing digital technologies for their day to day operations. The shift of organisations towards digital technologies have been transforming the way in which manufacturers design and operate their plants, and the assets within them, to make them more efficient and productive. This transition of companies towards digitalisation involves more than just technology enhancement as the employees of the companies are also affected by this process. The manufacturers worldwide increasingly understands that the benefits of digitisation and believe that it can only be achieved successfully only by transforming their talent base and the skills of their workforces accordingly. Prior surveys and studies showcases that the manufacturers are finding it difficult to locate and retain the right talent for their organisations and are plagued with skills gaps. According to the survey by Accenture (2013: 07), "A major contributor to the gap in skills is the ongoing reliance on outdated skill

requirements when recruiting new talent and training existing resources. Often, the training curriculum and role descriptions don't match the actual skills a company truly needs or the essence of the job it's seeking to fill". These findings illustrate the essentiality of competency mapping exercise for the manufacturers in order to sustain and survive the cut-throat competition in the global market.

## 4.2 WORLDWIDE COMPETENCY MAPPING PRACTICES

Competency mapping is a process of identifying key competencies for an organisation or a job role which can be incorporated throughout various organisational processes such as; job evaluation, recruitment, training and development, performance management, succession planning, and such other activities. The primary objective behind competency mapping is to distinguish the strengths and weakness of an individual in order to recognise the excellent performers from mediocre performers. The organisation worldwide is investing both energy and resources to cultivate a competent talent pool to achieve the ultimate end of performance excellence. More or less of the exemplary illustrations of the competency mapping initiatives taken up by several multinational manufacturing firms have been discussed briefly in this section.

### 4.2.1 ArcelorMittal, Luxembourg

ArcelorMittal is the world's leading steel and mining company with a presence in more than 60 countries. ArcelorMittal was created through a merger process when Indian owned multinational steel maker Mittal Steel took over western European steel maker Arcelor in 2006; which has its headquarters in Luxembourg. According to the recent ranking, ArcelorMittal is ranked 91st in the 2013 Fortune Global 500 ranking as one of the world's biggest corporations. As a multinational corporation, the company caters to the complex cultural diversity (national/corporate/functional); a large and geographically dispersed workforce; business units operating at different stages of the economic cycle and sites with different levels of technological sophistication and production capability. In an attempt to bring in uniformity among into workforce worldwide, the company has come up with a global competency framework consisting of five key group competencies such as change management, decision-making, results orientation, strategic thinking and teamwork and three

competencies used to enhance performance of the new organisation such as stakeholder's orientation, effective communication and learning and development (Table 4.1), which describes critical behaviours that has been subdivided into four performance levels that characterises desirable performance for the workforce of ArcelorMittal. The competency framework reflects the business challenges and needs, which can help to bring about a culture of change, improve performance of individuals and support the company's business priorities and values. This framework also helps the organisation in strengthening the leadership and managerial competencies of its employees to face future business challenges.

**Table 4.1: Competency Framework of ArcelorMittal**

| Competency Parameters | Description | Level I | Level II | Level III | Level IV |
|---|---|---|---|---|---|
| Change Management | • Consistently understand the need for change.<br>• Encourage self and others to be open to change.<br>• Adapt to the changing environment, pro-actively support the changes made.<br>• Recognise continuous improvement is at the heart of organisational success.<br>• Deal effectively with pressure; remain optimistic and persistent, even under adversity; recover quickly from setbacks.<br>• Respond and adapts to changing circumstances | • Understands and considers the effect change has on other's work<br>• Searches and finds new effective ways to improve work processes<br>• Suggests ways to make a new changes work (demonstrates positive outlook)<br>• Accepts and applies new priorities, tools and processes<br>• Helps others deal positively with change<br>• Sets a personal example for change<br>• Projects credibility and poise under difficult or adverse conditions. | • Effectively leads and manages change efforts on a local level<br>• Prepares local team and organisation to deal with change<br>• Sets expectations to continually<br>• Find ways of working more effectively<br>• Takes conscious steps to manage own emotions and pressure when necessary<br>• Maintains progress (while maintaining quality) when handling multiple tasks and projects, even under stressful situations or when faced with competing deadlines. | • Removes barriers that inhibit change.<br>• Encourages and create a climate for action and mobilise people for the move between the old and the new paradigm.<br>• Manages and measures the impact of change on stakeholders.<br>• Integrates change efforts to maximise effectiveness and speed of change.<br>• Recognises others' anxieties and problems, and encourages them to find ways of dealing constructively with their stress.<br>• Quickly responds to unforeseen changes in the business.<br>• Take effective action without having all the facts at hand; | • Guides the evolution of the industry by identifying opportunities for change to 'transform tomorrow'<br>• Creates and builds the context for changes<br>• Establishes and sponsors the corporate change agenda<br>• Evaluates the impact of change on stakeholders<br>• Performs consistently in a range of situations under extreme pressure and adapts behaviour appropriately. Retains focus on the course of action in the face of personal challenge or criticism<br>• Effectively adjusts plans, goals, actions, or priorities to deal with changing situations; imposing structure for self and others that provide as much focus as |

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| | and manage, solve problems and provide solutions in a climate of ambiguity. | | | readily and easily changes planned in response to unpredictable or unexpected events. | possible in dynamic situations. |
| Decision Making | • Understand problem quickly<br>• Make an appropriate analysis before taking the decision<br>• Check assumption against facts<br>• Make a decision when it is necessary between urgency and importance<br>• Make a tough decision when necessary<br>• Make well-informed, effective and timely decisions, even when data are limited or solutions produce unpleasant consequences; perceive the impact and implications of decisions. | • Seek advice when necessary to keep the work process flowing<br>• Makes appropriate, clear decisions and recommendations based on a review of facts, priorities, resources, constraints and alternatives<br>• Contributes to problem solving by submitting and testing ideas for solutions<br>• Exercises good judgement in situations where there are clear and straightforward answers<br>• Understands when it is appropriate to make decisions independently vs. when it is appropriate to seek advice from the manager. | • Takes responsibility for making team and local decisions based on organisational implications<br>• Delegates appropriate decision-making authority<br>• Takes steps to ensure problems do not recur<br>• Provides information and guidelines for making decisions and follows it up<br>• Demonstrates the ability to make firm decisions in most cases, only seeking guidance from higher level leaders in cases of unusually difficult decisions<br>• Consciously inculcates ArcelorMittal values in decision-making. | • Demonstrates good judgement in determining which ideas and suggestions will work in a broader context<br>• Can project how potential ideas will play out<br>• Accepts responsibility for making key regional decisions<br>• Removes barriers that inhibit effective decision-making<br>• Exercise sound judgement in situations where solutions are unclear<br>• Consciously inculcates ArclorMittal values in decision-making. | • Integrates ArcelorMittal values into the fibre of the organisation and reinforces their importance in decision-making<br>• Rapidly assimilates and synthesises information and interprets trends even when information is incomplete to establish the context for decision-making based on the strategic direction and goals<br>• Accepts responsibility for making key corporate decisions and does not blame others for setbacks<br>• Leads others by setting guidelines on how to weigh the factors and make decisions in cases of adversity or demanding situations<br>• Consistently takes appropriate risks in decision-making while keeping the best interests of the organisation in mind<br>• Takes unpopular positions when necessary, communicating reasons and provides direction in a crisis and faces adversity head on. |
| Results Orientation | • Focus efforts and prioritise | • Meets deadlines using good time | • Sets high team goals that support | • Sets regional goals that support | • Creates a performance culture |

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| | work to deliver business value (low cost, high value).<br>• Take responsibility for achieving challenging goals.<br>• Proactively overcome obstacles and adapt approach to achieve results.<br>• Consistently operate in ways that achieve sustainable results (high performance).<br>• Capable of fast deployment. | management and allocation of priorities respecting ArcelorMittal's Health and Safety and Environmental standards<br>• Accepts accountability for improving own performance<br>• Anticipates and overcomes problems<br>• Pursues individual goals with energy and persistence, setting high personal standards of performance. | regional goals and Key Performance Indicators (KPI's).<br>• Keeps team focused on short and long-term action plans.<br>• Effectively manages team performance to achieve results.<br>• Measures to what extent targets have been achieved. | corporate goals and Key Performance Indicators (KPI's).<br>• Promotes focus and a sense of urgency.<br>• Removes barriers that prevent high performance.<br>• Analyses and uses results of measurement for goal setting. | and outlines the structure to support achievement of goals<br>• Holds staff accountable for achieving standards and results for the organisation in line with company values<br>• Sets high performance corporate goals and Key Performance Indicators (KPI's)<br>• Acts quickly, especially in crisis situations and ensure the organisation is aligned with the requirements<br>• Displays drive and energy in tackling challenging situations. |
| Strategic Thinking | • Analyse problems from different angles to generate strategic insight.<br>• Apply broader context into the job, link day to day activity with the organisational development and inspire commitment to a vision of success.<br>• Gain insight and analyse problems from different points of view, ensuring alignment with the organisation's | • Connect broad concerns with day-to-day activities with the organisation's vision and values.<br>• Continually evaluates personal progress and actions to ensure alignment with organisational vision and operational goals.<br>• Stay on top of emerging trends in the field of expertise in an entrepreneurial and innovative way<br>• Understands and applies basic business principles to inform good customer service. | • Maintains the commitment of others by connecting local objectives to regional and global strategies.<br>• Fosters a culture within the department that supports exploration of new ideas and creative solutions to broader challenges (entrepreneurship, innovation).<br>• Demonstrates ability to operationalise strategic decisions through systems thinking, planning and measuring progress.<br>• Aligns current business | • Supports taking calculated entrepreneurial risks and challenges assumptions.<br>• Adopts a long term view of organisational issues consistent with time frames appropriate to the business.<br>• Considers complex strategic, business and competitive implications when approaching problems or issues.<br>• Challenges assumptions.<br>• Translates strategies into business plans and tactics and modifies the plan | • Identifies, conceptualises and synthesises new trends and connections between organisational issues and translates them into priorities<br>• Assimilates and integrates information to determine global threats and opportunities<br>• Creates and translates the organisation's vision into clear strategic plans<br>• Translates the brand and customer value proposition in such a way that the correct customers are targeted in an appropriate way. |

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| | vision and values.<br>• Apply understanding of customer information and needs in ArcelorMittal strategic planning to create a unified and customer focused organisation. | | processes and practices to customer requirements. | based on changing conditions.<br>• Anticipates potential objectives by preparing, modifying and reviewing contingency strategies.<br>• Understands and optimises the customer's value chain and can illustrate how ArcelorMittal can contribute to that. | |
| Teamwork | • Know what one can contribute to the team.<br>• Work collaboratively with others.<br>• Appreciate others skills and views to achieve common goals and positive results.<br>• Find win-win solutions (reciprocity).<br>• Utilise teams intentionally, appropriately and positively to affect the behaviour of others by motivating them to achieve personal satisfaction and high performance through a sense of purpose and spirit of cooperation. | • Works effectively with others in a group setting.<br>• Shares information and resources in the team.<br>• Works with others to reach common goals.<br>• Aligns personal objectives with team objectives.<br>• Applies personal skills to add value.<br>• Deals honestly and fairly with others, showing consideration and respect.<br>• Expresses positive expectations of what can be achieved in order to generate energy, enthusiasm and confidence in own team. | • Manages team dynamics for overall success.<br>• Leads by example and communicates information and events about ArcelorMittal in a way that inspires, motivates and energises people.<br>• Supports team outcomes (set expectations for team outcomes and recognises them).<br>• Maximises the contribution of others.<br>• Promotes and reinforces people for teamwork behaviours.<br>• Develops cooperative links with other teams. | • Breaks down barriers (structural, functional, cultural) between teams, facilitating the sharing of expertise and resources.<br>• Builds strong teams that capitalise on differences in expertise, competencies and background.<br>• Ensures consistent application of rewarding practices in the scope of responsibility.<br>• Supports and aligns group work efforts to maximise organisational gains.<br>• Manages the needs and contributions of a diverse workforce.<br>• Actively inspires and motivates people to take ownership of the overall | • Sets context and culture of teamwork.<br>• Promotes a favourable environment for teamwork to achieve business results.<br>• Leverages the benefits of diverse teams for the achievement of business results.<br>• Is a role model; shows strong example of cooperation in the organisation.<br>• Expresses positive expectations of what can be achieved in order to generate energy, enthusiasm and confidence in the industry and the organisation. |

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| | | | | ArcelorMittal vision and values. | |
| Stakeholder Orientation | • Understand own stakeholders<br>• Build and actively maintain stakeholder relationships to achieve the organisational goals<br>• Help stakeholders to achieve results<br>• Achieve win-win scenarios, contributing to sustainable development<br>*A stakeholder is a party who affects, or can be affected by the company's actions (e.g. employees, customers, suppliers, competitors, unions, shareholders, communities, environment, government, NGO's etc.). | • Seeks to understand who ArcelorMittal stakeholders are and what their needs are.<br>• Demonstrates the ability to consider all stakeholder points of view when analysing problems and opportunities.<br>• Seeks solutions that balance the needs of various stakeholders and where possible looks for win–win solutions. | • Ensures regular communication with stakeholders to ensure their needs are heard and addressed.<br>• Ensures the local objectives reflect a strong stakeholder orientation.<br>• Provides an understanding of stakeholders and their needs.<br>• Uses appropriate methods and analyses consequences (positive and negative) to reinforce stakeholder orientation.<br>• Builds and manages relationships with local stakeholders to ensure sustainability of ArcelorMittal stakeholder strategies. | • Facilitates an environment where win-win solutions can be achieved<br>• Ensures regional strategies reflect a strong stakeholder orientation<br>• Ensures local leadership team demonstrates stakeholder orientation<br>• Removes barriers inhibiting successful stakeholder outcomes<br>• Develops and leverages strategic stakeholder relationships (regional, national). | • Ensures global strategies reflect strong stakeholder orientation.<br>• Determines and prioritises strategic stakeholder relationships (global, national).<br>• Holds regional and national leadership teams accountable for demonstrating stakeholder orientation. |
| Effective Communication | • Understand the audience and adapt the message accordingly.<br>• Use correct channel to communicate.<br>• Communicate accurately, clearly and in a timely manner.<br>• Hold accountability for understanding.<br>• Be willing to | • Clearly communicates ideas. Able to give ideas and listen actively in a variety of both oral and written situations; speak and write clearly, logically and concisely with an effective flow of ideas.<br>• Ensures that 2-way dialogue takes place in order to achieve high levels of | • Maintains an approachable presence when communicating<br>• Promotes the flow of communication in all directions.<br>• Maintains integrity of the message when relating to different people and teams.<br>• Takes responsibility for accurate and successful communication. | • Creates a structure that encourages a flow of communication.<br>• Ensures that communication reflects the needs of the regional audience and cultures.<br>• Honours and promotes consistent messages around ArcelorMittal values, objectives, and image. | • Creates and champions an open and honest environment for communication.<br>• Readily deals with and manages controversial issues both inside and outside the organisation.<br>• Honours and creates a consistent message around ArcelorMittal values, strategy, and image. |

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| | give and receive feedback. | understanding (give and receive feedback).<br>• Adapts message according to audience, uses right channel to communicate.<br>• Chooses right moment and place to communicate. | | | |
| Learning and Development | • Continuously learn and grow in a variety of ways.<br>• Leverage organisational information and knowledge.<br>• Actively seek and give feedback regarding competence/ skills and capability. | • Pursues learning opportunities and ongoing development.<br>• Aligns development with organisational needs.<br>• Shares knowledge to improve the skills of others.<br>• Asks for and offers feedback in support of (or to accelerate/advance) learning initiatives. | • Prioritises and ensures that learning and development needs are addressed.<br>• Promotes an environment which facilitates group and individual learning processes.<br>• Recognises and nurtures potential within the workforce.<br>• Encourages opportunities for development, such as cross-functional assignments, job rotations, stretch assignments and mobility to new roles and positions.<br>• Advises guides and coaches others by sharing experiences. | • Fosters a learning and development environment.<br>• Removes barriers that inhibit a positive learning environment.<br>• Manages diversity and prioritises context for learning in the region.<br>• Promotes sharing of expertise and a free flow of learning across the organisation. | • Sets up a global context for learning and development based on business objectives.<br>• Takes ownership of development of senior leaders.<br>• Identifies future competencies and expertise required by the organisation and develops and pursues learning plans accordingly. |

*Source: ArcelorMittal Steel Success Strategies Conference, 2007*

Though the competency framework illustrates a gamut of the key competency parameters required for the overall development of the employees in the organisation; still to get an in-depth understanding of the competency requirement of the employees working within the organisation and the main focus areas of sustainable development taken up by the company are taken into consideration as seen in table 4.2. In a bid to get competent workforce the

company has invested in various developmental action plans for its employees. Safety and health of the employees are the foremost concern for the company as they deal with manufacturing activities which are both risky and hazardous in nature. Safety and health related training and awareness programmes are held in frequent interval of time which helps to enhance the personal and intellectual competencies of the employees. Leadership, social and result oriented competencies of the employees are developed through various employee development programmes in collaboration with ArcelorMittal University; that are best suited for employees to carry out present and future roles/tasks/responsibilities effectively thus boosting up the competency level of the talent pool.

**Table 4.2: Transforming Tomorrow with ArcelorMittal**

| Focus Area | Commitment | Developmental Initiatives | Outcome | Future Plans |
|---|---|---|---|---|
| Safety | • A workplace free of injuries and fatalities (Journey to Zero programmes).<br>• The remuneration of the senior management is linked to their safety performance within the organisation. | • Leadership accountability for safety performance through executive remuneration policy, in which 20% of the Group Management Board member's incentive plans are dependent on the fatality and LTIFR record of the company.<br>• Strive for "walk the talk" on safety, by requiring the managers to spend at least 20% of their time on the shop floor observing worker safety, so that employees know that this is a top priority for the company.<br>• Each site offered workshops on a wide range of topics including ergonomics, respiratory and hearing protection, stress and fatigue.<br>• Acting in partnership with the unions and contractors on safety improvements programmes such as;<br>❖ Mandatory safety training (Eight hours of safety induction plus eight hours of induction in the work area are mandatory).<br>❖ Access control (ensure that only the approved workers have access to the sites through Information Management System (IMaS)).<br>❖ Operational control risk (A Hazard Identification and Risk Assessment (HIRA) must be undertaken before performing any task).<br>❖ Contractor's safety supervisor (A safety supervisor is required for every 50 workers).<br>❖ Golden Aces (Workers nominated as 'Golden Aces' ensure that | • Lost time injury frequency rate (LTIFR) in 2013 is 0.85 compared to 1.0 in 2012.<br>• Operations certified by the end of 2013 were 95%.<br>• Substantial progress was made across sites in 2013 with regard to fatality prevention standards. Individual goals to be achieved were set for each site. | • Efforts to prevent accidents and fatalities through<br>❖ A focus on contractors.<br>❖ A focus on leadership and awareness by all.<br>❖ Additional mentoring for nine top priority sites.<br>• An attempt to be made to make progress towards lost time injury target of 0.5 by 2017. |

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| | | appropriate safety systems are in place, safety standards are adhered to and jobs are properly executed).<br>❖ Safety evaluation performance (performance evaluation is part of the payment process for work performed). | | |
| Health | Health programmes in all business units, adapted tolocal needs. | • A range of good practices across the company, designed to ensure that we identify potential health risks and take the necessary action to address them, so as to prevent occupational illness before it occurs.<br>• Run health awareness programmes at all sites of the company. | Number of days off work following an accident per thousand hours worked fell to 2.3, down from 3.2. | Support sites to share and implement best practice. |
| Employee Engagement | A committed and highly motivated workforce. | • Simplifying the organisational structure helps the company to work more efficiently, as it gives greater clarity for the employees and creates a stronger sense of identity with the whole business and not just their particular site or division.<br>• Introduction of the 'cascade' process to communicate management messages throughout the organisation, and invite feedback.<br>• Offer the employees regular opportunities to step out of their daily work routine to meet colleagues from other parts of the business, learn from them and discuss relevant business topics.<br>• Opportunity to provide anonymous and confidential feedback through the ArcelorMittal Climate Survey.<br>• Incentive schemes for the employees are designed to drive a thirst for achievement throughout the company, not only for | • Employees across the organisation rated health, safety and communications as highest in favour of the company in the latest survey conducted.<br>• 3,500 employees contributed a total of 21,403 hours to volunteer in a wide range of projects. | Roll out an action plan for each segment that addresses climate survey feedback. |

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| | | financial results but also for safety. | | |
| Employee Relations | Open and constructive dialogue with employees. | • In 2013, a new diagnostic tool was developed to ensure that the same principles are applied consistently throughout the company, and learn from best practices from the most advanced sites of the company.<br>• Collective Bargaining Agreements (or CLAs) were established or renewed in Canada, the US, Brazil, Argentina, Venezuela, Trinidad and Tobago, Liberia, Romania, Czech Republic, France, Spain, Germany, and Poland. | Number of strikes exceeding one week duration have reduced to 2% from 8%. | Apply employee relations diagnostics tool at 3 priority sites. |
| Diversity and Inclusion | A thriving workforce where everybody is treated equally and respected for the contribution they make. | • A confidential grievance mechanism has been setupin violation of code of conduct.<br>• Complies with local legislation in every market where it operates.<br>• Setup a woman in a leadership programme at the ArcelorMittal University. | • Subsequent decreasing in the no. of reported employee grievances.<br>• Significant increase of females in major management positions. | • Roll out women in leadership programmes to ArcelorMittal Americas.<br>• Improve awareness of gender and inclusion initiative among male employees. |
| Employee Development | A flexible, trained workforce. | • Induction programmes for new employees.<br>• Line managers provide continuous feedback and coaching for their teams on an informal basis throughout the year, and hold twice-yearly performance reviews.<br>• Training and development activity initiatives at ArcelorMittal University. | More than 27,000 of our employees participated in over 200,000 hours of training at the ArcelorMittal University in 2013. | • Increase local delivery of corporate functional and technical programmes, including translation into the local language.<br>• Expand the network of regional campuses of the ArcelorMittal University. |
| Building the Future | The best talent to lead our organisation in the future. | • A series of 'career committees' have been formulated to ensure the right talent in right place.<br>• Launched a tool called 'Manager Ready', which evaluates the leadership | 83% of significant movements and promotions were the direct result of succession planning. An increase of 3%from the previous | • Hold 2 regional talent meetings to enhance the engagement of young 'high potentials'.<br>• Roll out our |

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| | | potential of the salaried employees up to manager level.<br>• Every year the senior management team spends time reviewing succession plans for around 400 key positions, from general manager to senior executive vice-president. | year. | strategic workforce planning tool across the organisation. |
| Note: *LTIFR* - tracking the number of injuries per million hours worked, which resulted in employees having to take time off work. | | | | |

*Source: Corporate Responsibility Report, 2013.*

### 4.2.2 Baosteel Group, China

Shanghai Baosteel Group Corporation, commonly referred to as Baosteel is a legally incorporated state-owned sole corporation headquartered in the Baosteel Tower in Pudong, Shanghai, China. Baosteel is the second-largest steel producer in the world after ArcelorMittal and was ranked 212$^{th}$ in 2011 Fortune Global 500. Baosteel group achieved total operating revenue of RMB 191.51 billion, with a total profit of RMB 13.14 billion and have a total of 130,401 employees located all across the world in 2012.

The employees of the company are the backbone in the continuous development of the organisation; therefore the company lays a lot of stress on the harmonious development of the employee and the enterprise. The company has been promoting the mechanisms for employee development, incentive system, and proper communication with an objective to develop a corporate model for the common development of employees and the enterprise. To get an insight on the developmental initiatives taken up by the company for the up-gradation of employee competencies; the major focus areas of the development within the organisation are depicted in table 4.3. Four major areas of development for the corporation are employee engagement, social security, occupational health and safety, and communication. The company has invested in various developmental training and awareness programmes to upscale the competencies of its employees. Safety, health and security based programmes are in action that has helped the employees to upgrade their personal, intellectual and functional competencies within the firm which is illustrated in an increment of employee satisfaction level score and in the decrement of industrial accidents. In the present scenario of invention of sophisticated technology, the company has realised the need for effective communication

which is pointed out by the various communication mechanisms adopted by the organisation with an objective to enhance the social competencies of its employees.

**Table 4.3: Meaningful Work Life with Baosteel Group**

| Focus Area | Developmental Initiatives | Outcome |
|---|---|---|
| Employee Engagement | • The company always adheres to the principle of "equal opportunity", offers equal pay to men and women for equal work, and promotes equal treatment in all policies and planning without any discrimination.<br>• The company offers employees training opportunities to facilitate their skill building and career development.<br>• The company carried out the "Dark Blue Plan" in an all-round way to cultivate international talents: launched a series of online courses for Baosteel internationalisation, selected employees take part in English training and to pursue full-time study, and selected a number of managerial staff and management reserve staff, as well as key technicians to go abroad for research, study, or internship.<br>• Corporate activities and programmes such as "Approaching the Masters","Golden Apple Team Research and Study" and "TOP10 Theme Research and Study" in order to cultivate "all-flow engineers" in an all-round way to raise its overall technical capacity.<br>• "Technical Gym Plan", "Technical Master Training Camp", "Team of Supervisor","Core Learning Courses" and "Key Practice Activities" were systematically designed for various paths and levels.<br>• "Office Term System for Leaders" initiative has been implemented to develop leaders within the company. | • The proportion of male and female employees has increased to 6.8: 1.<br>• 192,698 persons were trained in 3,277 programmes. 94 hours of training were provided per capita.<br>• In 2013, 22 persons were selected for major overseas training programmes and sent to Harvard Business School, Missouri State University and University of California-Berkeley in the U.S.A and University of Twente and Maastricht University in Europe to receive training.<br>• In 2013, totally 28 online courses on international competence promotion were developed.<br>• In 2013, in accordance with its access mechanism, 7 subsidiaries of Baosteel adopted Office Term System. |
| Social Security | • Performance-OrientedPayment-Incentive Policy has been implemented.<br>• The company provides corporate pension plan, supplementary housing reservations system, health insurance plan, and regular physical check-up, free working lunch, and comprehensive insurance against accidents to address employees' concerns of retirement, resignation, hospital treatment, and accidents.<br>• Employees are entitled to take the days off as regulated by the state law and the company's rules.<br>• When employees work overtime and on holidays, the payment would be made in accordance with the national and company rules.<br>• The Service Platform for "Good Life"was constructed for enterprise welfare management and service for Baosteel's enterprises, employees, and suppliers. | • In 2013, the average score for satisfaction on employee development was 81.54, an increase of 3.2% over 2012 (78.98). 10 of the 15 companies that participated in the survey raised their scores. Thus, all unit scores exceeded the satisfactory line and two of them exceeded the highly satisfactory line for the first time.<br>• Employee devotion has been enhanced by 17% since 2010.<br>• "Good Life" Service Platform has served 64,533 employees, among which 45,874 have been activated. |
| Occupational Health and Safety | • Sticking to the idea of "Safety first, zero accident, and zero violation," the four parities including the Party committee, the administrative body, the Labour Union and the Youth League Committee worked jointly to | There has been a subsequent decrease in the frequency and number of accidents in the company in 2013 compared to 2011. |

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| | enforce the implementation of safety responsibility at all levels.<br>• Strengthened the function of "one post with double responsibilities" to improve the safety management awareness and skills of the sub plant directors and working team leaders.<br>• The Corporation has reinforced accountability, strengthened hazard source control, hidden risk investigation and control, safety management of high-risk operations and other fundamental management works and enhanced stringent regulations.<br>• The "Guiding Opinions on the Optimisation and Improvement of Safety Management System" have been formulated to vigorously promote the transformation of the philosophy and approach of safety management.<br>• The awareness of safety responsibility and the capacity of duty fulfilment for management at all levels have been developed.<br>• The Corporation-wide safety inspection has been organised. In line with the deployment of the Work Safety Committee of the State Council and in accordance with the general principles of "full coverage, zero tolerance, strict supervision and emphasis on concrete results", the goals and inspection priorities have been confirmed. | |
| Communication | • The programmes of Employee's Top Concerns (top concerns of the employees that are more realistic and closely related to their work and life) have been implemented.<br>• Engaged in Collective Consultation and Standardised Collective Contracts.<br>• Has implemented the cloud app of "Bridge" forum, one of the most important communication channels for Baosteel's youths.<br>• Linking channels were established between 54.baosteel.com and the websites of the Communist Youth League (CYL) organisations in the secondary entities to achieve automatic information circulation. | • The corporation has confirmed three programmes of Employee's Top Three Concerns, namely, the "Program of Preparing and Constructing Baosteel Employee's Cultural Centre", "Promotion of Baosteel Ai Li Flexible Employee Benefit Programme" and "Programme on Promoting Transitional Low-Rent Houses for Young Employees".<br>• In 2013, Baosteel signed collective contracts with all independent employer parties through equal consultation on issues concerned with broad range of employees such as labour safety and hygiene programmes, grass-root team building, health plans and physical examination, aid for the impoverished.<br>• All Youth League organisations were able to extend its quick contact system to all the 40,000 young employees across Baosteel by virtue of such forums. |

*Source: Corporate Social Responsibility Report, 2013 and Sustainability Report 2012.*

### 4.2.3 Rio Tinto, Australia

Rio Tinto Group is a British-Australian multinational metal and mining corporation which has its management office in Melbourne, Australia and is headquartered in London, United Kingdom. Rio Tinto globally has presently around 60,000 employees operating across six continents and in more than 40 countries due to the frequent organisational mergers and acquisition processes for production of many commodities such as: aluminium, iron, copper, uranium, coal, and diamonds. The Rio Tinto group is the world's number one producer of bauxite; alumina and aluminium while the third-largest producer of mined diamonds. As skilled and diverse workforces are critical for the business performance of the organisation, therefore the organisation has put a lot of effort to develop its people for both present and future roles and challenges. To achieve this endeavour, the company has integrated a three-year learning roadmap to support the development needs of the people at all levels, in all roles across our operations. The Rio Tinto College also has a major role to play in devising innovative approaches to the development of the employees. Health, Safety, Environment and Quality (HSEQ) is the major focus of the company due to its risky method of operation. Training, competency and awareness programmes are included in the company's action plan for delivery and maintain the competence based training programmes effectively; which are tailored made to suit the employees in accordance to their previous training, education, skills and experience as shown in table 4.4. The effect of these mechanisms is noticed with a constant decrease in injury rates and occupational health related issues.

**Table 4.4: Targeting Continuous Improvement with Rio Tinto**

| Focus Area | Commitment | Developmental Initiatives | Outcome |
|---|---|---|---|
| Safety | The safety vision of the company is to create an injury and illness-free workplace where everyone goes home safe and healthy each day of their working life. | • Integrated safety approach combines a focus on injury reduction, elimination of fatalities and catastrophic risk management to build a zero harm culture.<br>• Maintaining and improving programmes to strengthen safety leadership across the entire business is paramount for building capability among our people.<br>• Critical safety risk management is implemented to ensure that the low-probability/high-consequence risks are understood and effective controls are in place at every site. | • The all injury frequency rate (AIFR) was 0.65 in 2013 compared to 1.50 in 2004.<br>• Lost time injury frequency rate (LTIFR) was 0.42 per 200,000 hours worked in 2013. |
| Health | Protecting, promoting and | • Group-wide occupational health standards to improve identification and management | • Implementation of occupational health |

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| | enhancing the health and well-being of the people by identifying and managing the key occupational health risks to which the employees are exposed. | of health risks. These performance standards are integrated with our custom-built Health, Safety, Environment and Quality (HSEQ) management system to ensure consistent Group-wide application, on an exposure risk basis.<br>• Developed a formal process for identifying material health risks and critical controls, for which critical control monitoring plans are developed. | standards has led to a significant increase in employee's awareness of health issues and the noticeable improvements in performance.<br>• In 2013, the company achieved a 68% improvement in performance compared with 2008, with significant decreases in the number of reported cases of noise-induced hearing loss (81%), musculoskeletal disorders (59%) and stress (66 %). |
| People and Compensation | People strategy, together with the employee commitment, forms the framework that guides how the company attracts, develops, engages and retains talented people and aligns with the business strategy. | • Recruit based on skills and experience, to meet the requirements of each role.<br>• No discrimination on grounds of age, ethnic or social origin, gender, sexual orientation, politics, religion or physical abilities and do not employ forced, bonded or child labour.<br>• Encourage collaboration within and across our businesses, cultures and countries to build cohesiveness and raise performance.<br>• Focused on increasing the representation of women, and achieving a better balance in gender in the short term, and in ethnicity and nationality in the medium term.<br>• Have rolled out a "Speak-Out" initiative that is confidential, free telephone line for the people to bring any concerns to the attention of senior management.<br>• "Leading at Rio Tinto", is a leadership framework which provides employees with the key competencies and behaviours that is expected from a leader.<br>• A performance-focused culture by making clear linkages between performance and reward, and enable employees to articulate their career aspiration.<br>• Each role within the organisation is banded using the global banding structure and each band has a target variable pay opportunity. | • In 2013, women represented 14 per cent of senior management, 17 percent of the board, and 19 percent of the total workforce.<br>• Approximately 884,000 attendances were recorded for training in leadership, technical and operational skills, and health, safety, and environment courses during 2013. |

*Source: Rio Tinto Sustainability Development Report 2013.*

### 4.2.4 Nucor Corporation, USA

Nucor Corporation is one of the largest steel producers in the United States featuring in the Fortune 300 companies listing headquartered in Charlotte, North Carolina. The company

has presently employee strength of 22,300 as well as around 200 operating facilities in Northern America and around the world. The core objective of the company is to take care of its customers as they directly influence the employees, stakeholders and the people who purchase and use the products. With the intention to serve the customers effectively, various developmental initiatives for its employees have been initiated and implemented by the organisation. The employees are faced with risky working environment on a daily basis due to which occupational health and safety plans are given prior importance. The health and safety plans have helped the company to decrease the accident rates and has increased the productivity level of the employees as a whole. The company has adopted 10 core principles in pursuit of continual improvement and to develop employee competency such as; integrity, personal responsibility, teamwork, open communication, work ethic, pride, innovative/intelligent risks, treating people the right way, optimism and can-do attitude. These principles are the desired work behaviours that are expected from the employees of the company. Implementation of these principles has resulted in an increment of the employee retention rate and satisfaction level, which has led to better organisational performance as reflected in table 4.5. In association with Nucor Foundation the company has provided the employee the provision to upscale their managerial competencies by availing educational scholarships and internship programmes.

**Table 4.5: Building a Performance-Based Culture with Nucor Steel**

| Focus Area | Commitment | Developmental Initiatives | Outcome |
|---|---|---|---|
| Occupational Health and Safety | Providing opportunities for Health, Fitness, and Prevention | • Health Fairs<br>• On-site Medical and Fitness Centres.<br>• Health Education<br>• OSHA's Voluntary Protection Programme (VPP) a gold standard for safety excellence. | • In the five years tracked results, there has been a decline in the percentage of teammates facing a health risk.<br>• In 2013, 14 of Nucor's 22 VPP divisions for their outstanding safety performance were recognised. |
| Employee Relations | To get the "right people" to work for the company as they are the greatest assets and greatest competitive advantage for the company. | • 10 core principles drive and direct the company's pursuit of continual improvement as a team such as;<br>❖ Integrity<br>❖ Personal Responsibility<br>❖ Team Work<br>❖ Open Communication<br>❖ Work Ethic<br>❖ Pride | • 93% employee retention rate.<br>• 86% satisfied employee in 2013 in comparison to 81% in 2010. |

| | | | |
|---|---|---|---|
| | | ❖ Innovative/Intelligent Risks<br>❖ Treating People The Right Way<br>❖ Optimism<br>❖ Can-Do Attitude<br>• 'Pay-by-performance' strategy.<br>• Provide job security for all of the teammates with the practice of not laying off teammates for lack of work. | |
| Employee Development Initiatives | Building a strong team and an even stronger future for the company. | • Investing in future leaders through Nucor Foundation that provides scholarships and educational reimbursements.<br>• Providing college students with internships and co-op opportunities. | • In 2013, the Foundation provided $4,733,929 in scholarships and educational disbursements for more than 2,045 students. |

*Source: NUCOR Sustainability Report, 2013.*

### 4.2.5 United Company Rusal Plc. (UC RUSAL), Russia

UC RUSAL is the global leader and the largest aluminium industry which accounts for approximately 9% of global aluminium and alloys production and output and is headquartered in Moscow, Russian Federation. The merger between RUSAL, SUAL and alumina assets of Glencore created UC RUSAL in March, 2007. Being a multinational corporation, it has its operations in 19 countries over five continents wherein it has employed over 72,000 people across its international operations. The company has got 14 aluminium smelters; 11 alumina refineries; 8 bauxite mines; 4 aluminium foil mills and 1 cathode plant facilities located across the globe.

In pursuit to become the world's most efficient aluminium company, the organisation has instigated numerous employee development plans in favour of enhancing the overall capability and performance of its employees. The company's commitment towards the health and safety of its employees is depicted by the steady reduction of work related illness and injuries. The training programmes conducted for the employees provide awareness about the safety regulations as well as helping in enhancing their personal and functional competencies. To influence the ethical and unethical behaviour within an organisation's ethical business practice is implemented; for it not only make's the company more appealing to the employees, but also enhances the overall efficiency and productivity of the company in the long run. The number of meetings conducted on the issue of ethical practices in the company in recent years showcases their effort in encouraging of ethical competencies among their employees. The company has put considerable effort to organise various training

and motivational programmes for its employee to update the competencies of its employees at regular interval of time which is illustrated in table 4.6.

**Table 4.6: Balanced Approach with UC RUSAL**

| Focus Area | Commitment | Developmental Initiatives | Outcome |
|---|---|---|---|
| Health and Safety Management | The company is committed for zero injuries, no accidents and no fires; health and safety of staff at the workplace and preventing work-related illnesses. | • UC RUSAL operates on the following principles:<br>❖ Human life and health take precedence over production achievements and economic results.<br>❖ Full integration of the safety management system in the management of business and production activity.<br>❖ Prevention of incidents and risk management in the field of HSE.<br>❖ Training and instruction of employees.<br>❖ Compliance with laws, regulatory acts and voluntary commitments.<br>❖ Support and incentives for safe behaviour by employees.<br>❖ Mutually beneficial relations with suppliers and contractors.<br>❖ Monitoring and assessment of indicators in the field of HSE.<br>• The Company began a project to conduct regular medical inspections of employees with more than five years' work experience in harmful and hazardous working conditions at manufacturing facilities<br>• Joint medical commissions are being created in the field, consisting of specialists from regional union centres and specialists of the branches of the RUSAL Medical Centre (RMC) to establish an objective approach to preventing job-related illnesses. | • The implementation of the programmes to reduce the accident rate made it possible to reduce the total number of persons injured in on-the-job accidents by 10.8%.<br>• The Lost Time Accident Frequency Rate (LTAFR) was 0.25 in 2012 which was the lowest the company had ever achieved.<br>• Job-related illnesses were reduced considerably. |
| Code of Ethics | Seeks to foster a favourable moral and psychological environment for its employees, which helps not only to maintain its reputation as an appealing employer, but also serves to improve efficiency and productivity at its | • UC RUSAL has documented a corporate code of ethics which are as follows;<br>❖ Respect individual freedoms, human rights and dignity, we are committed to treating all our employees with trust and respect, and provide equal opportunities to each person.<br>❖ The Company always fulfils its obligations to its employees, and | Ethics representatives considered 147 cases and conducted 207 meetings in 2012. Among the key topics raised in the cases submitted to ethics representatives are issues of an advisory nature, internal relations |

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| | enterprises. | employees meet their obligations to the Company and to each other.<br>❖ The Company does not employ child labour or forced labour.<br>❖ Welcome leadership as the ability to make decisions at all levels.<br>❖ Expect each to be proactive and make the maximum contribution towards meeting the company's challenges.<br>❖ Always speak out and express one's ideas clearly. The company also encourages feedback from its employees to improve the performance of the company.<br>❖ Prevent from personal affections so as not to compromise the reinforcement of the principle of equal opportunities and effective decision-making.<br>❖ A company creates a work environment that provides all its employees with opportunities for career development.<br>❖ Appreciate the employees and reward them for their performance, based on clear operational performance objectives.<br>❖ Respect the cultural specifics of the countries and regions where the company operates in our decision-making. | between employees, conflicts of interests, the provision of personal protective equipment, and others. |
| Employee Motivation and Compensation | To motivate employees to effective work and development. | • The compensation of UC RUSAL employees consists of a fixed component, which depends on the employee's qualifications, labour costs, and the complexity of the work they perform, and a variable component, the size of which is determined by both their individual achievements and the company's performance indicators.<br>• For senior management a STIP (Short-Term Incentive Programme) of monetary incentives and LTIP (Long-Term Incentive Plan) of stock incentives have been in operation since 2011.<br>• UC RUSAL provides assistance to employees working in the enterprises in the Russian regions to find housing.<br>• The company holds an annual RUSAL professional competition, in | • In 2012 the Company achieved its planned 10% growth in salaries.<br>• Company employees were able to purchase 216 flats under the housing programme.<br>• In 2012 the factory stage of the RUSAL professionals was held; 50 enterprises participated in 71 working categories and four management categories. |

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|---|---|---|---|
| | | which specialists from the working professions and employees in the management field to participate. | |
| Training and Development | Seeks to create one of the strongest teams of specialists in Russia and abroad, distinguished by strong qualifications and professional training. | • To ensure that professional qualifications meet corporate norms, all employees undergo mandatory testing, and depending on the results are sent for training necessary to increase their professional level.<br>• UC RUSAL became the first industrial company in Russia to begin implementation of modular training programmes. The modular system of education has the following advantages:<br>❖ An individual approach to employee development that takes into consideration their personal needs and abilities.<br>❖ The ability to focus on specific areas and stages of work in which quality must be improved.<br>❖ Flexibility of the educational programme, making it possible to assess the effectiveness of interim training results, add new elements, and review elements already completed.<br>• The Company makes active use of an electronic learning system (ELS), which is a unified educational information environment which helps to improve the employee's professional knowledge at their own pace, both on the job and by accessing the system through the Internet.<br>• To effectively prepare members of the talent pool to work at a higher level, the company has created a Personnel Reserve Academy programme. Based on the results of their training, some members of the talent pool are given the opportunity to intern abroad or train in an MBA programme.<br>• Presidential Programme for Engineering Personnel Skills Development was implemented. | • The Company is conducting training in 35 modular professional educational programmes at present.<br>• On an average about 31% of employees underwent training in 2012.<br>• In 2012 18 employees completed training under the "MBA—Manufacturing Systems" programme and another 12 began their training. |

*Source: UC RUSAL Sustainability Report, 2012.*

### 4.2.6 Companhia Siderurgica Nacional (CSN), Brazil

The CSN is the second major Brazilian steel-making company which is headquartered in Sao Paulo, Brazil. The company produces a wide range of steel products, including slabs, hot- and cold-rolled, galvanized and tin mill products; in terms of crude steel production it is one of the largest in South America while it is a global leader in production of tin mill products. The company has invested in various training programmes on safety awareness, accident prevention, skill development, which were focused on enhancing the overall productivity of the employees and the organisation as a whole. The competency mapping process is done strategically and systematically by taking into consideration each individual employee's capability and performance level as the company believes in individual development and encourages in-house employee succession planning. The competency management model of CSN is implemented in accordance with the organisation's mission, vision, values and goals which is divided into three major categories such as; core, sustainability and business. These major categories are further subdivided into key ten competencies in order to ensure the overall company's growth requirements and to get sustainable organisational growth. Table 4.7 showcases a variety of organisational schemes that the company has partaken for its employees.

**Table 4.7: Optimising your decision with CSN**

| Focus Area | Developmental Initiatives | Outcome |
|---|---|---|
| Employee Development | • Utilisation of 'Human Resources Management' model which is based on five pillars: attract; align and engage; evaluate; develop; recognise and compensate.<br>• The New Trainee Program and the Young Professionals Programme were developed.<br>• The Aprendizagem (Apprenticeship) programme aims to transmit a set of skills to young people that will favour the progress of their studies, increasing their prospects of entering and remaining in the job market. In addition, it offers professional training courses in partnership with SENAI (National Industrial Apprenticeship Service).<br>• The Company offered 73 places in MBA courses in top Brazilian institutions to highly skilled professionals and former trainees.<br>• CSN created the Ciranda do Conhecimento Program, aimed at promoting continuous learning, propagating knowledge and expanding the organisation's intellectual capital.<br>• Aiming to improve communications CSN launched the 'Electronic Mural'. The murals efficiently inform corporate and local news, information regarding the markets where the Company operates, and notes on Brazil and the world. | • By the end of 2010, CSN and its subsidiaries, saw a 12.7% increase in its workforce, which reached 19,000 employees.<br>• In 2010, 42% of all job openings were filled by in-house candidates through a fair and transparent process which recognises personal performance and encourages individual development. |

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| Employee Safety | • Implementation of the Top Safety programme.<br>• CSN Foundation Safety Training Centre organised various safety awareness programmes. | In 2010, CSN attained its lowest employee accident rate for the last 8 years, a reduction of 22.2% in the employee accident rate from 2009 to 2010 (3.65 to 2.84). |
| Managing Competencies and Compensation | • CSN develops initiatives to monitor the competence of its staff, competencies being defined as the set of knowledge, skills and attitudes demonstrated by the employee. The ten key competencies are divided into three categories: core, sustainability and business.<br>• The company also implemented a Feedback Workshop to introduce techniques and tools to help managers with RumoCerto (Right Way) a new process for assessing competencies.<br>• The company launched the Leadership School, which seeks to strengthen the corporate culture, align knowledge and create synergies among the Group's executives. In addition to propagating the competency management model, which is in full accordance with the company's strategic pillars, it aims to ensure sustainable leadership, based on the organisation's mission, vision and values.<br>• Managers and employees are assessed in relation to the results of the company and the business unit where they work, as well as their own specific performance, always in line with the strategic maps and GVA. The company follows performance based pay policy. | • In 2010, all executives, senior management and administrative staff were trained in the competencies mapped out in 2009.<br>• In 2011, CSN, which has around 20,000 employees, directed its HR initiatives towards recognising and developing the skills of its workers in order to ensure the Group's growth requirements and sustain the business. |

*Source: Annual Report, 2010.*

## 4.3 MANAGERIAL IMPLICATIONS

The competency mapping exercises made by the global companies have set a benchmark practice for the Indian companies, which are worth adapting in the work setting. The summarisations of such constructive practices are given below:

- Safety awareness and accident prevention is one of the main competencies that are focused by global manufacturers. Since most of the manufacturing firms deal with jobs that are hazardous and accident prone in nature. Therefore, the firms believe that safety awareness is an essential competency component that is necessary for all the employees from worker to management level.
- Succession planning is one of the main objectives behind competency mapping exercise within an organisation. The global manufacturers have put a lot of effort on building a strong leadership pipeline, consisting of internal employees. Therefore, most of the training programmes are scheduled to boost leadership skill among the employees and for effective succession planning.

- The executives of the manufacturing firms need to be functional apt. Periodic training and development interventions are adopted by the organisations' to upgrade the functional skills of the talent pool.
- Effective communication and the ability to work in teams are very essential for the smooth functioning of an organisation. As most of the work done within the organisation are team-based therefore, it becomes essential that the employees must possess a team spirit and can adjust according to the requirements of a team. Similarly, open and clear communication process must be shared among the employees for effective implementation of action plans for achievement of the team goal.
- Well-informed, effective and timely decisions are necessary for effective implantation of tasks within an organisation; therefore employees needed to be competent in decision-making skill especially at the time of urgency.
- The sole objective of a firm is to gain profit and positive result outcomes. The firms expect its employees to focus their efforts and prioritise their work to deliver business value, which are low in cost and more in value. Therefore, making result oriented competency an essential component of competency mapping of the employees.
- Manufacturing industries are plagued with consistent changes, which require the employees to be proactive in adapting to changing environments.
- Besides the essential competency requirement of the employees, the global manufacturers have focused on the developmental interventions. Imparting proper training enables the employees to fill up the identified competency gaps as well as helps in maintaining a healthy and safety conscious workplace.

The present global economy with its volatility consisting of global currency instability, unpredictable commodity costs, uncertainty about customer demands, political or social unrest in key markets, potential changes in government regulations, etc. is posing a threat to a growth agenda of global manufacturers worldwide. The companies are determined on taking steps to equip themselves to excel in such an environment. It has been found that companies who possess more advanced key capabilities that are critical to operating more flexibly and dynamically and more productive than others. One of the key capabilities of these companies

is their competent and capable employees. The competency mapping exercises have enabled to upscale the capabilities of their employees in accordance to the change in the economy.

## 4.4 CONCLUSION

This chapter exemplifies the global organisational practices in competency mapping. To understand the competency mapping exercise and practices utilised by global manufacturers, the case of six global industries has been discussed in detailed. Considerable efforts have been made to identify the essential components of competencies that have enabled these organisations in achieving performance excellence. Worthwhile managerial practices and inferences have been identified for practical application. The competency mapping practices with people-centric conjecture could enable the HR professionals to tap the potential capabilities of the employees which in turn would drive productivity, profitability and performance of the organisation.

# CHAPTER V

# COMPETENCY MAPPING IN INDIAN CONTEXT

# COMPETENCY MAPPING IN INDIAN CONTEXT

## 5.0 INTRODUCTION

The manufacturing sector in India is facing a slow growth in recent times due to the continuous stint of structural, financial and economic changes in the world economic system. The "growth rate in manufacturing reduced from 9.7% in 2010-11 to 2.7% in 2011-12 and 1% in 2012-13. In FY13, only 3.3% of the country's growth was generated by manufacturing as opposed to 83% contributed by services" (India Manufacturing Barometer, 2013: 06) based on the survey conducted jointly by PricewaterCoopers (PWC) and Federation of Indian Chambers of Commerce and Industry (FICCI) in 2013. Though the government is making considerable efforts to perk up the situation by improving the investment environment, but the researchers believe that the trend of growth may remain undeterred for some time in the coming years. Under such circumstances, organisations have no option but to become more technology driven, market sensitive, customer focused, quality centred, cost effective, systems driven and managerially effective. To accomplish these, having competent managers to occupy strategic roles and perform their roles very competently is necessary for strategic advantage of the organisation. The crunch in the growth rate has infused an alarming situation for the manufacturing firms in India. The Indian manufacturing firms have realised the importance of continuous skill development of its workforce for sustainable growth and in gaining a competitive edge in the market. This need for continuous skill development has materialised as competency mapping practices among the manufacturing firms. Competency mapping has become an essential activity as a human resource initiative within the firms for identification of key competencies essential for an organisation, job roles and functions within it. These activities enable the firm in detecting the strengths and weakness of its employees as well as indicate the direction for future career development process. According to Yuvaraj (2011: 02), "with the increased importance of operational efficiency, cost reduction, higher productivity norms and managing with fewer employees than before by corporate, brings competency as the most important yardstick for all human capital – related decisions like selection, assimilation, development, growth charting and promotion, etc.". In recent times, it has been observed that manufacturing firms in India are undertaking competency mapping as a tool to respond to the crisis situation in the economy.

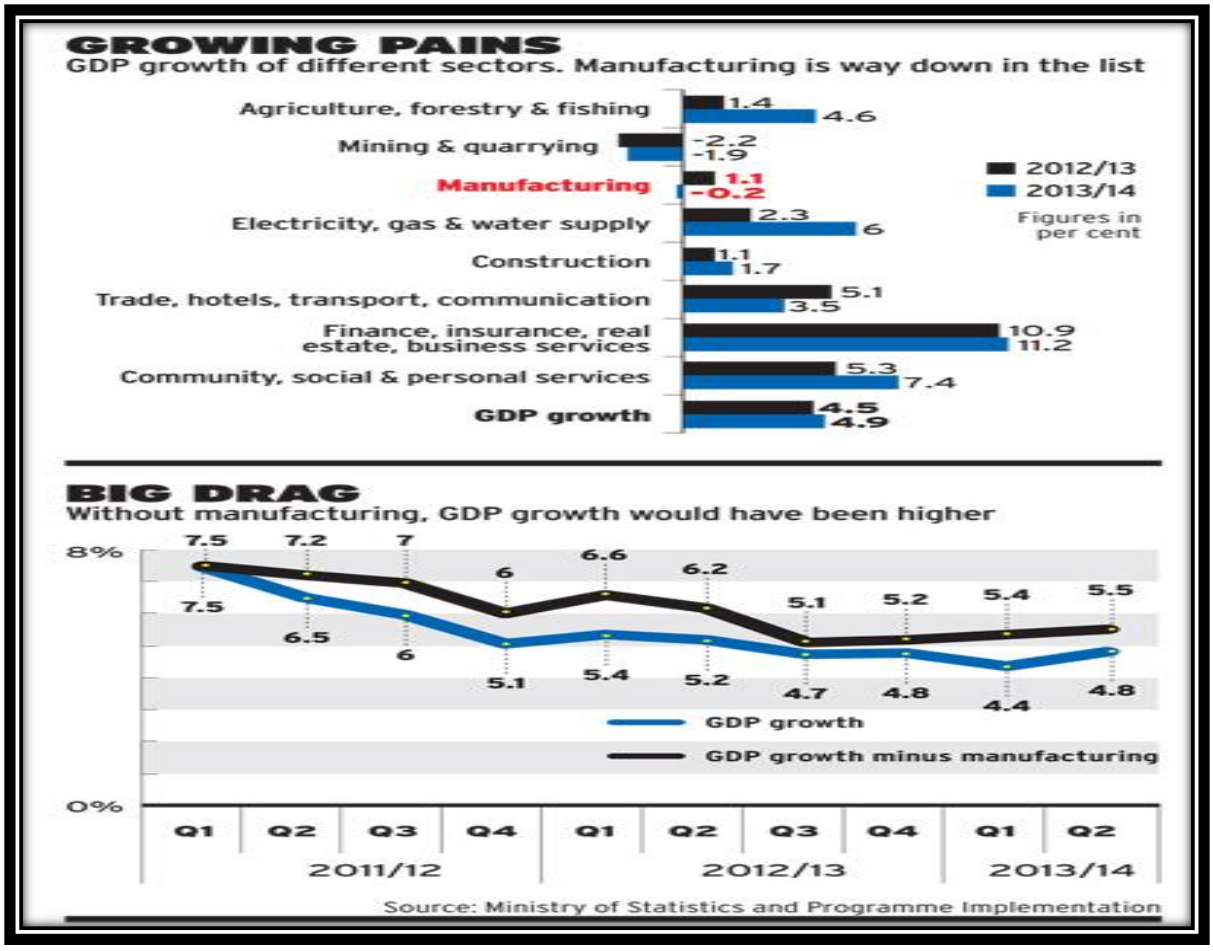
## 5.1 INDIAN MANUFACTURING SECTOR

The manufacturing industry of India has been through various stages of development. It has travelled from the initial phase of building industrial framework in 1950's, to the licensing system from 1960's to 1980's and finally to the liberation period from 1990's. The sector has seen robust rate of growth in the economy since its inception. Manufacturing is a major growth sector in the Indian economy with includes diverse companies such as; manufacturing of machinery and equipment, electrical and metal products, cement, building and construction material, rubber and plastic products and automation technology products.According to a report by McKinsey and Company, the Indian manufacturing sector would reach a mark of US$ 1 trillion by 2025, thus accounting 25-30 percent of the country's GDP.

Past studies have illustrated that every job created in the manufacturing sector has a multiplier effect. Therefore, this sector poses a critical area for achieving inclusive growth for the economy. Despite of the positive outlook on the growth parameters of the manufacturing industries, this sector is facing a rapid decline in present time. The sector, which had grown impressively over the years, with growth of around 10 percent Compound Annual Growth Rate (CAGR) between 2005 and 2011 has reduced to 0.2 per cent in 2013-2014 compared with 1.1 percent growth in the previous year thus dragging down the overall economy as seen in figure 5.1. The industries are in cautious mode and are focused on cost control and risk management methods to revive the critical situation. Though this sector has always been a hot spot for foreign investments in the economy due to the low cost of setting up of plants and available manpower, a slowdown has been seen lately. In these challenging times, the manufacturing industries need to showcase the resilience by undertaking proactive measures for sustainable growth rate and for survival.

To rescue the staggering decline in the Indian manufacturing sector, the government has come up with a new strategic plan of 'Make in India' initiative in 2015. It is an initiative taken by the Government of India to boost investment and fosters innovation and technology development for the sector. It is implied that this initiative would create significant additional employment opportunities for the people of India. It has been estimated that about 60 million jobs would be created in the next decade, which would raise the sector's share to 25% of GDP.

**Figure 5.1: GDP Growth of Sectors**




## 5.2 COMPETENCY MAPPING INITIATIVES IN INDIA

In the present scenario, the need to achieve high efficiency and effectiveness in the economy is driving organisations towards building competency models and frameworks. The competency framework consists of knowledge, skill, attitude and behaviour which are needed to be demonstrated by the workforce in order to carry out their task and responsibility successfully. Prior research on competency mapping have illustrated that the competencies act as a foundation for effective performance in any job or position within an organisation. According to Celia and Karthick (2012), "A competency profile can include core competencies, which identify those core values that all staff members should demonstrate, managerial competencies, relevant to management positions and functional/technical competencies that are specific to functional areas". Competency mapping is a process of identifying essential competencies for an organisation with special reference to a specified

job and its associated function. Through competency mapping an organisation tries to understand and analyse an individual's strength, weakness, opportunity and threats to future career building exercise. Developmental interventions can be customised as per the requirement of the employee through competency gap analysis. It has been witnessed that many Indian manufacturing firms have invested in competency mapping process for workforce skill development. To get a better understanding of the competency mapping exercises done by the Indian manufacturing firms, some competency frameworks of Indian industries have been discussed below.

### 5.2.1 National Hydroelectric Power Corporation Limited (NHPC)

The National Hydroelectric Power Corporation (NHPC) is an Indian hydro-power generation company that was incorporated on November 7, 1975 as a private enterprise. It was converted into a public limited company is 1986 was changed to its present name, "NHPC Limited" in 2008. It is ranked as the premier organisation in the country for the development of hydro-power. At present, NHPC is a Mini Ratna Category-I Enterprise of the Govt. of India with an authorised share capital of Rs. 1,50,000 Million.

The HR vision of the company is "Aligning HR to Corporate Business through empowerment and performance aimed at efficiency, effectiveness and productivity for the achievement of deliverables for external and internal stakeholders and making NHPC a learning organisation". Taking this vision into account, one of the primary HR developmental interventions undertaken by the company is competency mapping. The competency mapping of the company has been designed according to the job roles and functions of its employees; for example the senior management comprising of ED and GM, the middle management comprising of Managers, Senior Managers and Chief/ Chief Engineers and so on. The company has also invested on external consultant such as Ernst and Young and Hero Mindmine for conducting the process. Table 5.1 illustrates the behavioural indicators for assessment of middle management competencies. About eight competency parameters and twenty six components have been identified and adapted to the middle management level in the company. The objective of this level of assessment is to assess the different levels of competencies in the participants. Through the assessment process, the assessors attempt to identify the levels of competencies exhibited by the participants. Based on the results of the

assessment process, the developmental needs of employees are conveyed to the Training and Human Resource Development (T&HRD) department and a number of planned training interventions are introduced in the subsequent Annual Training Calendars accordingly.

**Table 5.1: Behavioural Indicators for Assessment of Middle Management Competencies**

| 1. Impact and Influence | | | | |
|---|---|---|---|---|
| *Components* | *Level 1* | *Level 2* | *Level 3* | *Level 4* |
| Networking and Relationship Management | • Knows whom to approach for assistance on specific issues.<br>• Understands that winning at all costs is not important and a win-win solution is most effective. | • Initiates informal or casual relationships at work with colleagues and other stakeholders.<br>• Discusses work related matters through common interest.<br>• Displays understanding of the interests of the other side and uses it to work towards a common goal. | • Frequently initiates or pursues friendly relationships with key stakeholders on a regular basis.<br>• Is able to suggest / concede possible concessions to bring the other party to an agreeable solution without losing grasp of the main agenda. | • Becomes close personal friendship with colleagues / members of industry forums and associations / vendors or utilises personal friendship to expand the business network (within NHPC and with external agencies in hydro and related sector) keeping in mind the organisational value system.<br>• Facilitates consensus building through necessary pre-work–like assembling coalition, build "behind the scene".<br>• Support for the ideas, deliberately gives or withholds information to have specific effects. |
| Self Confidence | • Understands current unspoken thoughts, concerns or feelings and comes across with confidence in his interactions. | • States confidence in own judgement and ability, especially in conflicts / discussions with seniors / others. | • Displays very high conviction in his abilities and volunteers for challenging assignments and is excited about seeking additional responsibility. | • Understands the complex causes of other's long term behaviour patterns, attitudes or problems and has the ability to leverage his emotions to |

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| | | | | energise others as well as create a positive result. |
| Impactful Communication | • Through oral and written communication, is able to articulate ideas, concepts or a position in a form so that others can readily understand the message.<br>• Communicates easily, with a clear sense of audience and appropriate tone.<br>• Uses direct persuasion in a discussion or presentation, e.g. appeals to reason, cites examples, presents data, etc. | • Articulates complex issues in a concise, readily understood manner by using similar situations, past experiences, anecdotes or graphical presentations.<br>• Adapts oneself based on situational requirements/ to influence and negotiate with specific audiences.<br>• Selects the most appropriate mix of persuasion, request, coercion, etc. best suited to the situation. | • Fosters two-way communication by listening to feedback, asking questions to clarify, and paraphrasing understanding.<br>• Uses active listening and addresses specific points of disagreement in response to others. Uses experts or third parties to influence by winning the consent of the final person through managing intermediaries. | • Encourages and helps others to communicate more effectively with multiple stakeholders.<br>• Improves communication beyond the realm of own work unit.<br>• Makes complex staged arguments in order to convince others.<br>• Takes different actions involving multiple stakeholders (from inside and outside the organisation) in order to get the necessary support to push through organisation level initiatives /projects. |
| 2. Team Leadership | | | | |
| Team Work | • Works effectively in a team and displays commitment to team goals. | • Invites all members of the group contribute to the team.<br>• Actively participates in building team capabilities in the work unit. | • Values differences and diversity within the team.<br>• Understands individual strengths and capitalises by leveraging synergies within and across teams. | • Emphasises a team based approach for accomplishing work.<br>• Takes steps to promote an atmosphere of cooperation and collaboration. |
| Creating shared vision | • Can rally key team members around during times of crises. | • Promotes the overall team goals over and above the individual goals to ensure effective team functioning | • Consistently communicates the big picture and shared purpose with people across NHPC by communicating linkage of the team's goals to the overall organisational goals. | • Creates a shared vision<br>• Recognised as a charismatic role model who can lead people across levels to fulfil NHPC's vision through personal commitment, purpose and passion.<br>• Shows consistency |

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| | | | | between own words and actions. |
| Conflict Resolution | • Is aware of possible sources of conflict within the team and uses this awareness to facilitate a non-threatening and supportive atmosphere. | • Effectively resolves conflicts by bringing them to the surface and encouraging team members to voice their opinions | • Anticipates and creates a plan to manage conflicts, thereby maximising the success of multiple teams/ work units of NHPC. | • Facilitate resolution of interdepartmental conflicts / sensitive matters at an organisational level. |
| Team Leadership | • Uses formal authority and power in a fair and equitable manner | • Understands and actively supports the organisational mission and objectives and aligns own activities and priorities to meet organisational needs. | • Sacrifices group/team's short term needs/ interests for the long term good of the organisation.<br>• Advices others to make sacrifices to meet the organisation's needs. | • Supports decisions that are beneficial to the organisation, even if the same is controversial in nature.<br>• Puts organisational needs before personal needs / professional interests. |
| 3. Developing Organisational and People Capabilities | | | | |
| Developing Self | • Scans the environment to gather information relevant to own area of work.<br>• Is positive and non-defensive to constructive inputs. | • Exhibits active curiosity to discover new things, explores beyond one's immediate field.<br>• Constantly reassesses own strengths and weaknesses and works on them. | • Updates knowledge from a long-term perspective and tries to keep pace with industry / technology trends.<br>• Takes responsibility for own development and creates long term plans. | • Maintains an extensive network of technical / professional contacts to stay abreast of industry trends.<br>• Is an acknowledged expert in his field within and outside. |
| Developing Subordinates | • Provides support to do tasks through direction, instructions, helpful suggestions and sharing of knowledge to make the job easier.<br>• Asks questions or uses other methods to verify that explanation /directions are understood. | • Identifies gaps and suggests specific action plans to subordinates for addressing performance issues. | • Delegates authority and responsibility with enough space to do a task in their own way and arranges appropriate and helpful training, assignments or other experiences with a specific purpose of fostering the other person's learning and development. | • Has a track record of creating star performers (in leadership positions) through driving focused development over a long time frame. |
| Motivation and Inspiration | • Expresses positive expectations of others and | • Believes that others can and want to learn and provides | • Projects top performers through publicly crediting them, presenting | • Arranges for recognition (for e.g., promotion / career growth) for |

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| | displays confidence in their abilities.<br>• Extends a helping hand towards peers, subordinates in case of any need. | continuous motivation (ongoing praise) for the same through practical support, demonstrations, etc.<br>• Able to give balanced feedback form developmental purpose that specifically defines what actions were effective and what areas need improvement. | them with the opportunities to showcase their achievements in larger forums.<br>• Backs his people and protects the extended team. Mentors and proactively counsel subordinates for building their career and address personal issues that are road blocks to performance. | the individual(s) as a reward for his development.<br>• Enjoys a very high credibility amongst peers, superiors and subordinates and is seen as a role model for inspiration by others both personally and professionally. |
| Learning Organisation/ Knowledge Management | • Shares new things learnt, with others on a regular basis | • Ensures there is frequent knowledge sharing interactions within the team and builds it within the department / team plan. | • Develops systems, processes or enforced practices for knowledge sharing and converting individual specific knowledge to NHPC knowledge. | • Develops and propagates a knowledge culture/philosophy aiming towards knowledge management at the organisational level. |
| 4. Drive for Results | | | | |
| Target Setting | • Works to meet standards of performance set by the management. | • Uses personal methods of measuring and exceeding outcomes against a standard of excellence beyond that imposed by the management. | • Sets and acts to reach challenging goals for self and others (a challenging goal is one that has a 50:50 chance of success however is not impossible or unachievable). | • Defines and sets high standards of performance based on benchmarks of global standards of performance excellence. |
| Resilience and Initiative | • Does not give up easily when things do not go smoothly. Identifies potential obstacles to achieving performance in own area. | • Displays personal drive at work and has a healthy spirit of competition. Deals effectively with pressure.<br>• Makes changes (wherever required) in the system or in own work area to improve performance. | • Take charge and constantly endeavours to assume higher responsibilities.<br>• Recovers quickly from setbacks. Is able to identify and drive improvement in own and related areas to enhance productivity / efficiency at a work unit level. | • Creates a high performance mindset throughout the organisation, by appropriately designing and benchmarking policies (financial, performance and reward management, planning, budgeting etc.) and structures which impact the organisation at |

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| | | | | large.<br>• Ensures achievement even in the face of obstacles to achieve extremely challenging organisational goals. |
| 5. Planning and Resource Management | | | | |
| Planning and Organizing Resources | • Schedules and prioritize activities related to own work unit to resolve last minute problems/ delays.<br>• Ensures all team members have the required information on operational and backup plans. | • Ability to think through the entire sequence of events; plans and sets guidelines for subordinates accordingly.<br>• Develops a detailed plan for the team to solve / avoid backlogs and delays. Clearly defines deliverables, timelines and resources. | • Develops and implements a framework for planning within which individuals and teams can operate effectively, avoiding the need for micromanagement.<br>• Monitors progress, prioritises and directs action towards activities to ensure timely completion of the assignment.<br>• Foresees potential medium term issues and develops a contingency plan. | • Establishes and maintains effective accountability systems to review progress on key activities and goals against strategies.<br>• Identifies problems and situations not obvious to others that can have a significant long term impact on NHPC's achievements; proactively creates contingency measures. |
| Cost Consciousness | • Understands cost implications of using organisational resources and makes judicious use of these resources. | • Assesses and provides inputs to own team on cost and resource optimisation initiatives; educates the team on the potential benefit of these initiatives. | • Allocates resources in the most optimal manner to ensure that NHPC's objectives are met within optimal costs / predefined budgets. | • Demonstrates a consistent focus on cost consciousness/ resource management while maximising organisational benefits.<br>• Ascertains potential benefit to the organisation based on cost reduction initiatives and initiates action towards the same. |
| Time Consciousness | • Understands the critical importance of timeliness and speed of delivery. | • Displays visible urgency in pursuing tasks and pushes team members to inculcate in them adherence to process delivery timelines. | • Proactively keeps track of time and delivery schedules and adjusts work allocation/ execution of plans to adhere to timelines. | • Defines and monitors standards of speed and timeliness of delivery at NHPC; benchmarks the same against industry wide best practices. |

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| 6. Decision-making | | | | |
| Risk taking | • Seeks inputs / feedback from others in order to make informed and appropriate decisions. | • Acts quickly and decisively in a crisis (where the norm is to wait, study, hope the problem will resolve itself). | • Encourages a culture of practical risk-taking and provides consistent support to / rewards those who are willing to take risks (e.g. creates an environment which allows for mistakes). | • Makes extraordinary heroic effort, acts without formal authority, takes personal risks, to get the desired results in favour of NHPC. |
| Creating buy in for decisions | • Considers impact only on his own work area while making decisions. | • Considers perspectives of involved parties into account when making decisions | • Takes stakeholders into confidence while making critical decisions. | • Is able to balance conflicting stakeholder perspectives while making decisions having an organisational wide impact. |
| Ownership for decisions | • Makes timely decisions and takes the ownership for decisions within his/her area. | • Is not afraid to take responsibility for carrying forward a decision even without approvals / complete information. | • Displays the ability to make and stand by difficult decisions for the benefit of the team / work unit even when opposed by subordinates or peers. | • Displays the ability to make and stand-by difficult decisions for the benefit of the organisation, even when opposed by superiors or multiple stakeholders. |
| 7. Strategic Orientation | | | | |
| Ability to see the big picture | • Displays a good understanding of the initiatives in one's own area and how the same influence the overall organisational strategy. | • Is able to analyse business situations in detail (e.g. pros and cons of various business options possible).<br>• Displays the ability to evaluate and provide inputs to build strategy at the work unit / team level. | • Have the ability to do scenario planning and the ability to articulate clear business intent for the work unit, using multiple points of data. | • Has a big picture perspective; translates NHPC's vision into a strategy of balancing short term needs with long term priorities and assessing the potential impact (risks and opportunities). |
| Business Acumen | • Displays basic business acumen.<br>• Understands financial implication of the business decisions. | • Displays in-depth business acumen.<br>• Demonstrates the ability to understand financial data and its relevance to | • Understands and uses financial data and applies it effectively to own area for business decisions.<br>• Is able to showcase | • Lays the entire roadmap for service offerings of NHPC based on own strong commercial orientation.<br>• Is able to do a cost |

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| | | business decisions.<br>• Ensures that team members are aware of the business impact of their decisions. | the benefit using financial data to other functions. | benefit analysis and develop a business case for the envisaged strategic direction. |
| Knowledge of Industry (Domestic /Global) | • Continuously scans the environment and proactively keeps abreast of developments in the external environment. | • Ensures alignment of all processes within the work unit with approved best practices.<br>• Continuously monitors and reports, improvements as per industry trends. | • Understands and monitors the external environment as well as Government policies and regulations explicitly and implicitly related to the work unit and prioritises action steps for implementation of the best practices at the work unit level. | • Defines and sets global standards of excellence at NHPC by benchmarking with the best-in-class domestic and international players and assists in implementation of the same (economic, political and social trends). |
| 8. Adaptability and Change Management | | | | |
| Conceptualising Change | • Displays openness and commitment to change. | • Shares plans for change with the employees in the work unit / team.<br>• Builds commitment to the change process to facilitate a smooth transition. | • Actively communicates the defined vision for change across work unit.<br>• Addresses employee concerns. | • Creates a compelling vision for change, based on NHPC's strategic perspective.<br>• Identifies and develops individuals who can champion the change effort. |
| Managing change process | • Supports the change process by continuously providing information to peers/ subordinates. | • Provides a clear sense of direction to subordinates on what needs to be done to move from the current reality to the future vision of change. | • Translates higher level vision for change into concrete actions at work unit level.<br>• Models required behaviour and values. | • Creates strategies/ initiates activities to sustain an environment that promotes change orientation throughout the organisation. |
| Implementing and Institutionalizing change | • Takes an active role in modelling change efforts in an own area / unit of work.<br>• Follows up and monitors the implementation of change plans based on | • Understands differences in others capacity for implementing and accepting change.<br>• Adapts one's behaviour to support those less comfortable | • Anticipates others reactions to change; plans and provides assistance to address any adverse impact on individuals.<br>• Makes detailed plans to transform / adapt processes and | • Demonstrates expert change management skills and acts as an organisational change agent.<br>• Identifies critical success factors and potential obstacles to achieve the |

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| | parameters identified for success. | with changing conditions.<br>• Drives implementation of change plans by adapting current processes. | build capabilities/ arranges resources for the change. | change and provides direction to manage the resistance to change. |
| Practical Innovation | • Displays willingness to experiment with new ideas for developing new solutions / applications / practices in own area. | • Is able to apply new approaches to routine processes.<br>• Selects and cross-fertilise ideas across team / work unit. | • Filters new ideas generated based on their risk / return profile and carry forward those ideas that could drive work unit growth. | • Champions creative initiatives based on a thorough understanding of internal strengths and emerging growth opportunities at an organisational level. |

*Source: Competency Mapping Experiences, PowerHR Forum, 2014*

### 5.2.2 National Thermal Power Corporation Ltd. (NTPC)

The National Thermal Power Corporation Limited (NTPC) is an Indian Central Public Sector Undertaking (CPSU) under the Ministry of Power, Government of India, engaged in the business of generation of electricity and allied activity, which was established in the year 1975. NTPC has been ranked No. 1 independent power producers, in world by Platts in the 'Top 250 Global Energy Companies' list for the year 2013, thus becoming one of the best and most efficient power generators in the world. At present with about 18% of the installed capacity in the country, NTPC generates about 27% of the total power generated in the country in FY13. NTPC plans to become a 1, 28,000 MW company in terms of installed capacity, with 28 percent coming from fuel sources such as renewable, hydro and nuclear by the year 2032.

NTPC is strongly committed to the development and growth of all its employees as individuals and not just as employees. The HR system of the company is based on four building blocks; competence, commitment, culture, and systems building. The company holds the view that future leaders have to come from within the organisation. Therefore, in order to go through the competency mapping exercise, the first step was to identify, map the role and identify the competencies needed for leadership positions within the organisation. For this exercise the help of external consultants was also taken into consideration such as assistance of Dr. T.V. Rao, an eminent academician and consultant, AT Kearney, Hewitts

Associates, etc. Initially, the company identifies certain unique leadership positions, wherein each of these positions had a defined role and prescribed competencies for each grade/level that is subsequently taken up by Corporate HRD. For each grade/level, a list of 8-10 competencies are identified that is incorporated in the Performance Management System, which is known as the Performance and Competence for Excellence (PACE). Based on competencies each executive is evaluated at the end of the performance year. Table 5.2 illustrates the behavioural competencies meant for the middle level managers. In NTPC the entire process of competency mapping is tied to the leadership development framework. On the overall result of competency mapping exercise, the competencies which are assessed as low for the majority of the group is taken up separately as a training intervention. The entire group of managers who have referred to the development centre (DC) are mapped on a 3x3 grid with DC scores (potential) and PACE scores (performance), wherein the high performers are tracked for future growth and to groom them for the leadership positions.

**Table 5.2: Details of Behavioural Competencies for Managers**

| Competencies | Components | Details |
|---|---|---|
| Strategic Thinking and Vision | Strategic Orientation | • Is able to take a holistic view of business beyond functional boundaries and think strategically.<br>• Is able to conceptualise, develop and articulate innovative, insight based and well thought-through strategies that consider the longer term opportunities and challenges.<br>• Is able to leverage strategic opportunities to gain competitive advantage. |
| | Business Acumen | • Ability to spot opportunities and threats in his area of operations.<br>• Demonstrates deep commercial and business insight and savvy.<br>• Demonstrates ability to provide new direction to business/function in diverse situations.<br>• Demonstrates ability to leverage cross disciplinary knowledge. |
| Leadership | Inspiring and Leading | • Inspires and rallies people to commit to a common vision.<br>• Is able to motivate people to achieve demanding goals and excel.<br>• Takes the lead in addressing issues, demonstrates conviction and courage and is able to take stands on the issues.<br>• Is able to be assertive and confront the issues.<br>• Is able to persuade and gain commitment and support from others. |
| | Builds an Effective Team | • Creates a trusting relationship that enables people to perform and minimise conflict.<br>• Fosters collaboration among teams and creates a conducive environment for teamwork across the organisation.<br>• Values the contribution of all team members.<br>• Enables achievement through empowerment, delegation, transparency and effective conflict resolution. |
| | Champions of Change | • Is able to question the status quo.<br>• Is constantly looking out for newer and better (innovation) ways to |

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| | | do the things.<br>• Is able to convincingly present and the gamer support for things.<br>• Demonstrates flexibility and adaptability in arriving at new approaches. |
| | Acts with Integrity and Demonstrates NTPC Values | • Acts with integrity and demonstrates principled leadership and sound business ethics.<br>• Adheres to and promotes organisational values and code to conduct and act.<br>• Operates within the boundaries of organisational processes. |
| Execution Excellence | Drive for Results | • Set high standards, pursues aggressive goals and drives performance.<br>• Demonstrates determination in achieving goals and perseveres through challenges, obstacles and changing circumstances.<br>• Demonstrate energy and a positive mindset that infuses enthusiasm.<br>• Conveys a sense of urgency and drives issues to closure |
| | Sound Judgement and Decision-making | • Demonstrates ability to make well thought out, sound decisions considering both short term and long term perspectives and consequences.<br>• Make timely decision<br>• Demonstrates ability to make good judgements and consistent decisions, even in tough situations and crisis.<br>• Takes responsibility for decision-making. |
| | Builds Organisational Capability | • Demonstrate focus on self-improvement and development.<br>• Coaches and mentors team to build capability.<br>• Anticipates future needs and puts in place actions to enable development of the organisational and future succession. |
| Building and Maintaining Relationships | Interpersonal Skills | • Relates to people in an open, friendly, and accepting manner and is approachable.<br>• Demonstrates the ability to work well with others irrespective of the reporting dynamics.<br>• Is able to get the trust and respect from others.<br>• Is able to build consensus. |
| | Effective Communication | • Fosters a culture of open communication and encourages open expression of idea and opinions.<br>• Able to express with clarity and present views and ideas effectively individually and in a group.<br>• Listens effectively. |
| | Leveraging Networks | • Identifies and cultivate relationships with key stakeholders across a wide spectrum.<br>• Leverages networks to get things done and gain insights.<br>• Able to use influence effectively. |

*Source: Competency Mapping Experiences, PowerHR Forum, 2014*

### 5.2.3 Power Grid Corporation of India Ltd. (POWERGRID)

The Power Grid Corporation of India Limited (POWERGRID) is the central transmission utility (CTU) of the country under the Ministry of Power. It is one amongst the largest power transmission utilities in the world and a Navaratrna PSU, which was incorporated on October 23, 1989 under the Companies Act, 1956 with an authorised share capital of Rs. 5,000 crores

as a public limited company, wholly owned by the Government of India. POWERGRID transmits about 50% of the total power generated in India on its transmission network. The company has crossed the benchmark values of 1,00,000 circuit kilometre (ckm) and 1,50,000 MVA in 2013 with total transmission network as 1,02,035 ckm and 1,69,570 MVA of transmission capacity along with 171 numbers of substations, as on August 31, 2013.

The company believes that continuity of leadership in key positions is one of the most important requirements to survive and succeed in today's highly competitive environment. To maintain the status quo, the company endeavours to develop and maintain strong leadership, plan for identification and development of potential candidates to fill key organisational positions in advance to the actual need. The competency mapping of the company is highly tied to the leadership development, succession planning and career development exercise in a bid to build a high performance organisation for the future with sustained excellence in business results. The behavioural competency frameworks for the executives are mainly addressed to four basic levels, i.e. top management, senior management, middle management and lower management. The competency for each position/level is identified using techniques such as of Behavioural Event Interviews (BEI), Repertory Grid and Senior Management Structured Interviews. The framework also specifies the key competencies applicable to the pre-determined bands of employees in the company.

The behavioural competencies for the executive reflect the core competencies that the each individual across the organisation needs to imbibe for demonstrating performance excellence. Ten performance driven behavioural competencies have been identified by the organisation for middle management executives. Each of these competencies is explained in terms of their applicability of behaviours at three levels by foundational, proficient and expert as illustrated in table 5.3. In light of the identified competencies, assessment is made and the skill gaps among the executives are recognised and individual development plan is recommended. Based on this exercise competency based recruitment, training needs assessment, matching job assignments, developing KRA in performance assessment, etc. are carried out within the organisation.

**Table 5.3: Details of Behavioural Competencies for Middle Management Executives**

| Competency | Foundational | Proficient | Expert |
|---|---|---|---|
| Accountability | • Takes personal responsibility for delivering results.<br>• Measures self by the results produced<br>• Continues to maintain momentum under highly demanding or adverse circumstances | • Takes persistent or alternative actions to overcome obstacles.<br>• Do not give up.<br>• Accepts responsibility for negative consequences or failure. | • Assumes responsibility or takes on takes that are beyond the scope of one's role.<br>• Makes good use of constructive critical feedback to improve performance.<br>• Assumes responsibility for outcomes related to the group effort. |
| Collaboration and Networking | • Develop and maintains good working relationships based on routine contact.<br>• Create relationships to address the current situation.<br>• Increases interactions with the purpose of achieving an immediate agenda. | • Actively pursues and cultivate relationships with the intention of achieving future business opportunities.<br>• Develops contacts to capitalise on anticipated developments even when there is no immediate benefit. | • Calls upon alliances to mobilise resources for achievement of the stated objectives.<br>• Consistently achieves goals by making use of business alliances. |
| Problem Solving | • Identifies and defines problem situations clearly.<br>• Identifies discrete action steps and timing considerations.<br>• Makes sequential links between component steps within a task or problem. | • Prioritizes problems so that major issues are solved in a timely way.<br>• Anticipates obstacles realistically.<br>• Plans for contingencies. | • Integrates various parts of a problem and fits them together as a whole.<br>• Thinks ahead about alternative outcomes and proactively addresses uncertainties.<br>• Approaches unfamiliar or unusual situations logically and identify a range of solutions. |
| Drive and Initiative | • Take action when there is an apparent need for doing so.<br>• Takes action as required despite personal inconvenience.<br>• Takes action to overcome obstacles and alerts others to impending problems. | • Volunteers to perform challenging or undesirable tasks.<br>• Eager and willing to "go the extra mile" in terms of time and effort.<br>• Follows through from beginning to end. | • Realises that something needs to be done and acts on it.<br>• Takes the next step with little or no guidance.<br>• Consistently acts in a proactive manner in addressing significant opportunities or problems. |
| Planning and Coordination | • Develops sound plans and schedules to achieve the needed.<br>• Is extremely well-organised in own work and in | • Organises tasks for most efficient use of time.<br>• Monitors progress against milestones or deadlines.<br>• Effectively anticipates and | • Makes necessary adjustments and revisions based upon changes.<br>• Juggles resources, |

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| | directing others.<br>• Prioritizes activities based on criticality. | measures the impact of obstacles, changing circumstances and puts steps in place to resolve them. | requests, and scheduled activities in order to fulfil all commitments.<br>• Enables others to more clearly monitor progress and results. |
| Leadership | • Communicates the mission of the team and uses it to set goals.<br>• Encourages staff to achieve set goals.<br>• Understands the full extent of the team's capabilities and ensures support for the team by obtaining needed personnel, resources, information. | • Fosters an atmosphere of teamwork.<br>• Encourages going above and beyond to reach established team goals.<br>• Creates an environment that motivates and builds morale.<br>• Confronts people (if required) with sensitivity. | • Regularly acts as effective role models in terms of attitude, teamwork and the ability to "get the job done".<br>• Treats everyone with respect and convinces others through self-example.<br>• Takes responsibility of action. |
| Learning Orientation | • Is excited by the challenge of obtaining a new skill, knowledge.<br>• Tracks developments in the own field of expertise through readily available sources.<br>• Works to quickly "get up to speed" with new approaches. | • Assesses current expertise and knowledge base on an ongoing basis.<br>• Understands own strengths and identifies areas of development and growth.<br>• Demonstrates self-development skills and makes initial efforts to improve in weaker areas. | • Exposes oneself to increasingly more challenging experiences.<br>• Independently pursues informal and formal training opportunities to develop capability in new areas.<br>• Leverages broader learning experiences to the organisation's advantage. |
| Interpersonal Sensitivity | • Understands present emotions when interacting with others.<br>• Actively listens and asks questions to clarify or confirm the speaker`s thoughts.<br>• Shows genuine respect for others' thoughts. | • Quickly establishes trust in relationships.<br>• Demonstrates an understanding of and responds to other's hidden feelings.<br>• Shares information with partners, subordinates, responsibilities with peers and opinion/feedback with superiors. | • Uses' understanding of other's enduring attitudes to effectively respond to work related issues.<br>• Modifies own behaviour to work effectively with others based on an understanding of their biases and motivations. |
| Managing Change | • Demonstrates flexibility in responding to ongoing changes.<br>• Makes necessary adjustments and revisions in view of changes.<br>• Changes systems or work processes in order to improve performance is willing to let go of a | • Anticipates the need for change by evaluating the situation before a problem arises.<br>• Questions the status quo and encourages others to do the same.<br>• Knows when it is necessary to deviate from a plan and changes course of action | • Encourages others to change inefficient work practices.<br>• Manages change using a step by step approach takes others along in the process.<br>• Makes long-term, fundamental changes in strategic direction |

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| | familiar process. | based on an understanding of organisational goals. | based on shifting business priorities. |
| Pragmatism | • Assesses the task at hand and evaluates information to set the future course of action.<br>• Is optimistic about the current initiatives and attempts to execute the same earnestly.<br>• Demonstrates high devotion to job, maintains a positive outlook and do not worry unduly about the roadblocks. | • Identifies alternatives to achieve the goal.<br>• Deals with the situation then and there rather than letting it fester.<br>• Demonstrates courage in thinking. | • Adapts existing approach to suit changed circumstances.<br>• Follows previous practices of the organisation. In such situation keeps the stakeholders informed of any deviations.<br>• Done not get stuck with the same idea in case of repeated (failed) attempts. |

*Source: Competency Mapping Experiences, PowerHR Forum, 2014*

### 5.2.4 Tehri Hydro Development Corporation Ltd. (THDC)

The Tehri Hydro Development Corporation India Limited (THDCIL) is a joint venture of government of India and government of Uttar Pradesh and share equity in the ratio of 3:1 between the centre and state for the power component.The company was incorporated in the year 1988 and is a Mini Ratna Category – I enterprise of government of India. THDCIL has now grown into a multi project organisational having 15 projects totalling to an installed capacity of 2400 MW under operation/various stages of development in Uttarakhand, Maharashtra and Bhutan. In addition, a number of projects, totalling to 5490 MW are in the business development stage in Chhattisgarh, Uttarakhand and Odisha.

THDCIL has composed a competency based model for the whole organisation, as they believe that it can contribute in ascertaining the competency level of its employees at the individual level as well as can assist the management in taking decisions regarding training need analysis, job rotation or transfers and potential analysis adequately. In order to carry out the competency mapping of its employees systematically, the company has phased the process through external agency i.e. MaFoi Management Consultants. The main objective of this exercise was to identify skill gaps of its employees and to recommend suitable measures for developing the identified competencies that are aligned with the vision, mission and objectives of the organisation so as to be deterred global competition effectively. The development of the competency model for the company had to go through four major stages such as, sensing studies, competency model - listing, defining and behavioural indicators,

validating and benchmarking competency model, reviewing and finalising. In the sensing study stage, essential competencies for the each job role is studied through focused group interviews and position analysis questionnaire that are administered along with the HR and senior functionaries of the organisation. In the second stage, list of competencies and behavioural indicators for each competency are identified. At the end of the second stage, the competency model is validated with the HR and the weightage for each competency are assigned. Lastly, the competency model was discussed with top management, reviewed and then finalised. The behavioural competencies of the executives in the company are evaluated on a 4-point scale based on the score obtained/ behaviour exhibited by them during the assessment process as seen in the table 5.4. Based on the results in the assessment centre, the competency gaps of the individual executives are identified and accordingly training programmes are conducted.

**Table 5.4: Details of Behavioural Competencies at THDC**

| Behavioural Competency | Level 1 | Level 2 | Level 3 | Level 4 |
|---|---|---|---|---|
| Leadership | Identifies issues and continually shares expertise with the team members on how to handle them. | Supports individual development and improvement; provide performance feedback, reinforces strengths. | Provides opportunities and motivates others for development through challenging assignments, mentoring and coaching. | Promotes a continuous learning and development environment; provides guidance for the attainment of professional and personal goals. |
| Planning and Organizing | Identifies requirements and uses the available resources to meet ones work objectives. | Supports individual development and improvement; provide performance feedback, reinforces strengths | Considers a wide range of factors while planning establishes alternative courses of actions; evaluates processes against plans to make adjustments. | Develops strategic plans; organises and allocates resources in line with plans; ensure sufficient resources are available and used to meet targets. |
| Relationship Management | Interacts frequently with other departments as well as external particles and shares relevant information. | Understands and helps in resolving issues; provides relevant resources to deal with it. | Works effectively in cross-functional teams; establishes good rapport with external agencies to meet interdepartmental needs. | Creates and acts on opportunities for interaction and facilitating achievements of goals. |
| Achievement | Sets goals and | Consistently meets | Surpasses current | Models excellence |

| | | | | |
|---|---|---|---|---|
| Orientation | works to meet the objectives; maintain performance levels. | established expectations through personal commitments; make necessary adjustments to achieve goals. | performance expectations and takes on new roles and responsibilities voluntarily. | in achieving the desired outcomes; adds value to the new projects without compromising on current accountabilities. |
| Decision-making and Problem Solving | Makes straight forward decisions based on predefined options using clear criteria or procedures. | Is able to weigh the risks and consequences of the decisions or actions and take appropriate steps. | Considers the significance of interrelated factors; balances competing priorities in reaching decisions. | Takes calculated risks to arrive at strategic decisions through his experience and knowledge of the business. |
| Team Work | Assumes personal responsibility and follows up to meet commitments to others; understands the goals of the team and each team member's role within it. | Willingly gives support to co-workers and works collaboratively rather than competitively. | Promotes team goals, shifts priorities, changes style and responds with new approaches as needed to meet team goals; builds relationships with team members and with other work units. | Foster team spirit and collaboration between teams; breaks down barriers (structural, functional, cultural) between teams, facilitating the sharing of expertise and resources. |
| Strategic Thinking | Assesses the gap between the current state and desired future direction | Is able to formulate plans keeping in mind the long term consequences and risks. | Provides direction and communicates the vision to encourage alignment within the organisation. | Encourages others to contribute to the vision of the organisation to achieve desired results. |
| Compliance | Conforms when instructed, or forced to do so. | Refers to the guidelines and conforms when finding it reasonable. | Conforms to the norms even in the face of conflicting priorities. | Encourages an environment of rule orientation and advocates strict procedural way of doing things. |
| Interpersonal Skills | Seeks to understand others perspectives while dealing with conflicts | Responds fairness to others; maintains confidentiality while handling sensitive matters. | Anticipates and resolves conflicts and disagreements so as to create a win-win situation. | Handles conflict situations objectively and provides timely and constructive feedback. |
| Attention to details | Accurately and diligently performs the tasks. | Commits to continuous improvement with inputs from superiors to meet the desired quality norms. | Tries to implement zero error principles in self and in others. | Develops and guide others to maintain and strive for higher quality. |
| Service orientation | Maintains clear communication with customers/clients | Follows up on inquiries, requests, and complaints. Keeps concerned parties updated about the progress | Corrects problems promptly and efficiently, keeping the interest of both | Works with a long term perspective in addressing problems by |

| | | | | |
|---|---|---|---|---|
| | regarding mutual expectations. | of projects. | parties in mind. | taking adequate feedback with a view to ensure client satisfaction. |
| Communication Skills | Presents information in a clear and concise manner; listens actively and objectively. | Fosters two-way communication through open and constructive discussions; eliminates misunderstandings, if any. | Takes others perspectives into consideration, is open to other ideas and gives them due respect. | Communicates complex issues tactfully through the right channels to promote shared understanding. |
| Initiative | Would take responsibility only when asked to do so. | Is able to identify the need and takes initiative only in the absence of resources. | Is proactive in taking on responsibility and actively works to achieve results. | Encourages others to take up responsibility by providing adequate resources. |
| Negotiation skills | Makes appropriate use of data and presents information. | Is confident and often directs discussions in his favour to achieve positive outcomes. | Is able to convince others and bargain to reach a win-win situation. | Designs and champions negotiation initiatives; uses competitor information to his advantage. |
| Networking | Seek information from others to facilitate organisational goals. | Builds key contacts; participates in networking and social events internal/ external to the organisation. | Creates and facilitates forums to build new alliances; identifies potential areas of mutual, long-term interest. | Expands the network to other areas to tap new business opportunities. |
| Resilience and Creativity | Maintains focus on goals in stressful situations. | Remains persistent towards achieving goals even under adverse circumstances | Handles several challenging tasks or problems at once; senses the issues beforehand and adjusts his behaviour to respond accordingly. | Adapts to changing environments effectively; and helps others to do the same. |
| Adaptability | Shows ability to adjust one's behaviour to suit changing situations. | Shows personal eagerness for adapting to change to achieve desired results. | Actively participates in contributing to change by making changes in his behaviour and plans | Is alert and receptive to changes around him and guide others in order to adapt to the changes. |

*Source: Competency Mapping Experiences, PowerHR Forum, 2014*

### 5.2.5 Jindal Stainless Limited (JSL)

The Jindal Stainless Limited is part of the $18 billion USD, OP Jindal group that is the one of the largest integrated manufacturers of stainless steel in India. It has been ranked amongst the top 10 stainless steel manufacturers in the world and has a capacity of 1.8 million tons. JSL has successfully crafted its success by fully integrating its operations based

on a strategy of both, backward and forward integration, starting from mining, melting, casting, hot rolling to cold rolling and further value additions. The company produces a range of products such as; ferro alloys, stainless steel slabs, blooms, hot rolled coils, plates and cold rolled coils/ sheets, stainless steel strips for razor blade steel and coin blanks for mints in India and European Union (EU).

The company is dedicated to development of its employees and believes that competency mapping is essential for assisting in making decisions on talent acquisition and development process, formation of continuous leadership pipeline, succession planning, etc. The biggest challenge for JSL was during the transitional phase of the plant's development especially during the stage when the company had to move from project to operation stage. Need-based training and proper identification of competencies for employees was the requirement of the time, for this activity based stage was time driven. In order to accomplish this exercise, the company had adopted a scientific competency mapping system as illustrated in table 5.5. This system enables the company to identify crucial competencies for its employees as well as assisting in identifying skill gaps for future training and development interventions. This system was hugely successful and it helped the company to achieve the 'Sustainability Award' for the year 2012.

**Table 5.5: Scientific Competency Mapping at JSL**

| Description | Action | Outcome |
|---|---|---|
| The system helps to develop an effective organisational reporting structure and align it with an effective integrated management system (IMS). This is an activity based phase, in which need-based training or identifying competencies is time driven. | The competency mapping process is initiated through semi-operational, stabilised units with defined positions. Standard operating practices (SOP) were prepared in consultation with the heads of all departments and aligned with the needs of both the technical and behavioural areas. The competency needs were captured in a structured format using a scientific process of assessment. This included:<br>• Defining competency requirements for each position. The competency assessment was validated by the head of the department.<br>• Determining scoring scale | These initiatives resulted in the following outcomes:<br>• The list of training activities was prioritised. Critical needs were urgently addressed in the current year training calendar. Essential and desired trainings were scheduled for subsequent years. A target of three days training was set for each employee, but analysis showed that critical training could be completed in the first year at the rate of 4.08 days/ employee.<br>• The average competency profile was assessed on behavioural as well as functional competencies. The organisational structure of all operational units was frozen based on the defined competencies and this helped in identifying critical positions. They were given priority in terms of in-house and external training and career succession planning.<br>• Succession planning was performed on the available vacant positions and the vacancies were filled via internal recruitment. Priority was given to the competency rating or profile of the individual.<br>• An on-line training management portal was developed in-house. Staffs use the system to nominate themselves |

| | | |
|---|---|---|
| | and weightings. A score and weightings were established based on the responsibility level of each position.<br>• Assessment of the competency gap.<br>• Prioritization of training needs. An annual training calendar was prepared for critical, essential and desired training.<br>• Assessment of the training needs for each individual for the current and subsequent years. | for internal training programmes. The system includes an option which enables department heads to validate the training. It also enables us to track training coverage and assess backlogs.<br>• Needs-based training modules were developed based on the instructional design (ID) process. Training initiatives were more focused on the needs of the individual and the identified competency gaps. There has been a notable improvement in technical competency and an increased number of training events in the areas of safety, cost control and waste management.<br>• The effectiveness of the programme was assessed and an internal process, check was conducted for all in-house programmes to assess learning effectiveness. Average effectiveness was 8.3 using the Likert Scale (0 to 10).<br>• Interdepartmental staff movements were initiated based on the results of the competency mapping process. |

*Source:International Stainless Steel Forum - 2012 Sustainability Award (Case Studies).*

## 5.3 MANAGERIAL INFERENCES

The Indian manufacturing organisations have realised of late that attainment of high performance is dependent on the capability of the employees. Various methods and tools are being implemented by the organisation to improve and enhance the performance index of the employees. The method of "competency mapping" provides a tool for the organisations, for making an assessment of the present and potential capability of their workforce and ways of its augmentation. The cases of Indian organisations that have implemented this tool provide valuable insights on the development, assessment and implementation of competency mapping process that can be emulated by other manufacturing organisations as well. The managerial inferences of this exercise are summarised and interpreted as the following:

- The competency planning process is a complicated exercise, in which the business context of the organisation should be taken into consideration. Before, identification of essential managerial and behavioural competencies for the existing talent pool, a detailed research on the industry and the mission and vision of the company has to be investigated. The organisation goals and objective provides an outline for the identification and selection of crucial competencies within the firm.
- To adequately match the competency with the functional requirement of the executives, it is essential to gather information regarding the functionality of an individual in a more systematic manner. Tools such as focused group interviews,

behavioural event interviews with a sample population across grades and functions, benchmarking with successful organisations within and outside the industry, etc. can be utilised to carry out the process effectively.

- The components of competencies included in the competency scale must be mentioned in detail and must be validated before actual implementation process within the organisation.
- The assessors of the competency mapping process also need to be properly trained and well informed about the assessment process or else it would be liable to fail.
- Communication of relevant information is very vital for the success of the competency tool. The employees must be aware about the measures of competency scales on which their performance would be assessed, so that they can strive to attain the pre-determined competency level.
- Competency gaps identified through the competency mapping process need to be handled systematically. Devise development programmes and training schedules need to be prepared in accordance to the gaps identified during the assessment process for performance improvement.
- This exercise of competency mapping must be implemented by the organisations frequently at equal interval of time, so as to assess the loophole and the success of the competency mapping process. The loopholes of the competency can be identified through the feedback process for the participants.
- An assessment centre can also be formulated by the organisation to update the competency scales in accordance to the changes occurring within the organisation, the functioning of the individual, formation of teams, etc.

The gloomy situation of the Indian manufacturing industries offers a set of opportunities and challenge at the same time. To avail the opportunities of this situation, the organisations are realising the need to have a pool of skilled and competent workforce. The few examples of Indian manufacturing units indicate that in order to attract a good talent pool and to retain skilled manpower for the organisation is a challenging task and to counter this issue, competency mapping provides an effective solution towards this. It is vital for an organisation to adopt the process more scientifically to enhance the performance measure of its existing to the level of expectation.

## 5.4 CONCLUSION

The competency mapping practices of the Indian manufacturing units have been illustrated in this chapter. The development and implementation of behavioural competencies for executives of manufacturing firms have been briefly discussed. The practical inferences of competency mapping have helped in identification of essential competencies that can enable performance enhancement among the employees. This chapter gives an insight on the managerial implications of employing a competency based model in an organisation and the criticality of identifying the components of competency scales. This brings on some live examples of competency mapping that would be beneficial for the practitioner to segregating among the imperative and non-imperative competency parameters in accordance to the organisational objective as well as for performance excellence.

# CHAPTER VI

# RESEARCH METHODOLOGY

# RESEARCH METHODOLOGY

## 6.0 INTRODUCTION

The review of literature on competency based executive performance management, presented in the previous chapters reveals the importance of executive competencies in influencing and enhancing the overall management and organisational performance and capabilities within an organisational set up. The reviews also revealed that there are a limited number of studies directed towards development of a systematic competency based executive performance management system that can cater to the developmental needs of the middle and lower level executives within an organisation; especially in manufacturing industries. A conceptual model has been developed based on the literature studies. An attempt has been made to validate the formulated model by administering a structured questionnaire among the middle and lower level executives of the selected manufacturing units. The responses of the respondents are further deduced through application of various statistical tools.

This is one of the concise and vital chapters of the thesis. This chapter is subdivided into four major subsections. An overview of research methodology has been discussed in section 6.1 which reflects about research design, the universe of the study, sampling method and determination of sample size, data sources and questionnaire design. It is followed by section 6.2 that summarises the essential research tools and techniques that has been applied to make the pre-determined research objectives; which has been observed in the introductory chapter of this dissertation.

## 6.1 RESEARCH SETTING

Research is an art of scientific investigation, which deals with the systematised effort to gain new knowledge and information. It comprises of numerous systematic activities such as; defining and redefining problems, formulation of hypotheses, collecting, organising and evaluating data, making deductions and reaching a conclusion. The research design and methodologies for the research process needs to be pre-set before the real execution. For systematic implementation of research, this section has been sub-divided into the following five sub-sections.

### 6.1.1 Research Design

To systematically investigate the research problem in the study; descriptive research design has been utilised. According to Auberbach and Silverstein (2003), "The descriptive research attempts to describe, explain and interpret conditions of the present i.e. 'what is'. The purpose of a descriptive research is to examine a phenomenon that is occurring at a specific place and time. A descriptive research is concerned with conditions, practices, structures, differences or relationships that exist, opinions held processes that are going on or trends that are evident". The descriptive research consists of three main categories such as; observation, case studies, and surveys that have been used in this study as well as analyse the dimensions of the research problem adequately.

The present study also bends towards exploratory research for data collection process, as we are seeking to generate a posteriori hypothesis by examining a dataset and looking for potential relations between the tested variables. "When the purpose of research is to gain familiarity with a phenomenon or acquire new insight into it in order to formulate a more precise problem or develop hypothesis, the exploratory studies (also known as formulative research) come in handy. If the theory happens to be too general or too specific, a hypothesis cannot be formulated. Therefore, a need for an exploratory research is felt to gain experience that will be helpful in formulating relevant hypotheses for more definite investigation" (Shields and Rangarjan, 2013).

### 6.1.2 Research Universe

The main objective of this empirical study is to examine the essential competencies that the executives of the manufacturing sector can imbibe so as to enhance their overall performance within the organisation. In order to get an in-depth insight on this aspect three manufacturing units were included in the study. The three manufacturing units are Rourkela Steel Plant (RSP), National Aluminium Company Limited (NALCO) and Tata Steel Ferro Alloys Limited (TS Alloys Ltd.). Both primary and secondary data sources along with various multivariate techniques were applied together to analyse and validate the hypotheses proposed in the study.

### 6.1.3 Sampling Method

Selection of samples is the most essential factor of research as it is not possible to include everyone in the research population. Thus, it is vital to draw out samples that can interpret the population sufficiently. The stratified and random sampling method has been utilised to conduct this study. It is a probabilistic sampling technique, which consists of two steps. The first step is to split the population comprising of middle and lower level executives into strata or segments; wherein the specific departments (strata) are chosen to draw the samples. The second step is to take a simple random sample within each stratum. The stratified and random sampling technique is appropriate for this study as it undertakes to limit the possible samples to those which are "less extreme" by insuring that all sections of the population are represented in the sample in order to increase the efficiency, by decreasing the error of estimation (Agresti and Finlay, 2008). The respondents of the questionnaire were mainly the middle and lower level executives from the manufacturing units. As two subgroups of samples were brought into consideration therefore, it was indispensable that the samples collected were enough for interpreting both the group proportionally.

Determination of sample size is an important element of an empirical research and the objective is to make inferences about a population from a selected sample. The statistical power of a study is defined by the number of samples for the conduction. The formula taken (Charan and Biswas, 2013), for calculation of necessary sample size is;

$$N = (Z\text{-score})^2 * Std.\ Dev.* (1\text{-}Std.Dev.) / (margin\ of\ error)^2$$

In this study, 95 percent confidence level is taken for which the Z value is 1.96 according to the standard normal distribution table. We have assumed the standard deviation to be .5, and the margin of error of +/- 5%. Therefore, to calculate N, we have assumed (Z-score = 1.96, StdDev = .5 and the margin of error = +/- .5.

$$N = \{(1.96)^2 \times .5(.5)\} / (.05)^2 = (3.8416 \times .25) / .0025 = .9604 / .0025 = 384.16.$$

Therefore, a minimum sample size of 385 would enable the estimation of the influence of executive competencies on performance on a 5 point scale, with 95 percent confidence level

and error level maintained within +/- 0.5 of the actual value. However, increasing the sample size could reduce the sampling error.

### 6.1.4 Data Sources

To ensure adequate representation of data in this thesis, both primary and secondary sources were taken into consideration. The primary data are the first hand information that is collected directly from the research unit. In order to collect primary data from the selected research units, a structured questionnaire has been distributed among the respondents. The secondary data are the second hand information which is gathered from the existing records and published data sources. Secondary data from the selected research units was collected through the methods of case studies, annual reports, performance appraisals, periodic journals, yearbooks and other departmental documents from which the prevailing trends and practices on competency based performance management could be drawn upon.

### 6.1.5 Questionnaire Design

The aim of conducting opinion surveys through a structured questionnaire is to examine the hypothesised model developed in this work. An effort is made to catch the essential parts of executive competencies that would enhance operation in an organisational set up. The questionnaire was systematically prepared to consider the extensive literature reviews and personal interviews with the respondents of this study. The questionnaire consists of 124 items and five point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree) were utilised to rate the responses of the participants. In order to test the reliability and validity of the questionnaire, a pilot study was conducted initially. According to Baker (1994), the purpose of the pilot study is to test the questionnaire and to ensure that the data collected are coherent and comprehensible which can be carried out subsequently. The pre-testing was very useful, as it focused on the difficulties faced by the respondents during the period of the survey. The difficulty that the respondents faced during the pre-testing was rectified accordingly. The feedbacks during the pre-testing process were also taken into consideration at the time of the actual data collection process. About 750 questionnaires were distributed among the executives of three research units, out of which 516 useful responses have been considered for this study.

## 6.2 MULTIVARIATE TECHNIQUES

The multivariate analysis techniques are primarily used to enable the organisations to create knowledge and for improving the decision-making process. To validate and quantify the data collected some multivariate techniques have been taken into consideration. The following is a brief discussion with respect to those techniques utilised for this purpose and is subdivided into six sub- sections.

### 6.2.1 Descriptive statistics

Descriptive statistics are used simply to describe the basic features of the data that one is concerned with. It is beneficial for describing data, summarising data and for data cleaning. According to Dodge (2003), "descriptive statistics aims to summarise a data set quantitatively without employing a probabilistic formulation, rather than taking inferences regarding the population as a whole". It is essential to monitor the 'N' (number of valid cases) for each variable as variations in 'N' is considered a problem, that may arise when the variables are examined together during data analysis. In descriptive statistics three major characteristics of a single variable are examined such as: the distribution, the central tendency, and the dispersion. The distribution refers to the summary of frequency of individual values or ranges of values for a variable. The frequency distribution is basically used to describe a single variable in a study. All the data values for a particular variable are grouped together to form categories so as to identify the frequencies of the data appropriately.

The central tendency of a distribution is an estimate of the "centre" of a distribution of data's collected. The central tendency of a distribution consists of three major estimates such as; mean median and mode. The mean or average of the distribution is one of the common methods used in central tendency. The values collected are added up and divide by the number of values to commute the mean of the central tendency. The median of the central tendency is the score that is found in the exact middle of the set of values collected. To compute the median of the central tendency, all the values are listed in a numerical order and then the value in the centre of the sample is located and is taken as the median value. The mode of the central tendency is the most frequently occurring value in the set of samples listed. These measures of central tendency help in simplifying the values collected from the

samples. The dispersion refers to the spread of the values around the central tendency. There are two common measures of dispersion used for analysis that is the range and the standard deviation. The range is simply the highest value minus the lowest value. The most accurate and detailed form of dispersion is the standard deviation, as it shows the relation that the set of values have with that of the mean of the sample. To compute the standard deviation, we first find the distance between each value and the mean. The "squares of the value" are taken and are summed up to get the Sum of Squares (SS) value. Next, we divide this sum by the number of scores minus 1, which is known as the variance. To commute the standard deviation, we take the square root of the variance. In this study the descriptive statistics are used to summarise and simplify the data collected through the questionnaire survey. The table 6.1 illustrates some relevant studies which have used descriptive statistics for the purpose of data interpretation.

### 6.2.2 Exploratory Factor Analysis

The exploratory factor analysis is basically utilised to "examine the underlying patterns or relationships for a large number of variables and to determine whether the information can be condensed or summarised into a smaller set of factors or components" (Hair et al., 2009). The primary purpose of factor analysis is to define the underlying structure among the variables as well as the interrelationships shared among the variables in a study. It signifies that the factors deduced through this process have high correlations with few variables and the remaining correlation should be near to zero. Preferably, to carry out exploratory factor analysis the sample size should be more than 100 and as a general rule, the minimum is to have at least five times as many observations as the number of variables to be analysed.

The exploratory factor analysis usually begins with principal component analysis, which yields a set of uncorrelated components. The principal component analysis is primarily focused on data reduction, so as to get the minimum number of factors needed to account for the maximum portion of the total variance represented in the original set of variables as well as to have a relatively small proportion of error variance. The number of factors extracted through this process can be determined by examining the eigenvalues of the principal component analysis. The proportion of common variance presented in a variable is showcased through the table of communality. The factor loadings are the correlation of a

variable with a factor that has been extracted through the principal component analysis. The variables with high loading on the factor are examined and are named as such that it summarises the content of these variables listed. The table 6.2 illustrates some relevant studies which have used exploratory factor analysis for the purpose of data interpretation.

**Table 6.1: Relevant Studies Undertaking Descriptive Statistics**

| *Sl. No.* | *Author* | *Year* | *Dimensions* |
|---|---|---|---|
| 1 | Dirks | 1999 | Examined the effects of interpersonal trust on work group performance. |
| 2 | Rajadhyaksha | 2005 | Tested a model of the techno-managerial competencies for executives belonging to vehicle manufacturing companies. |
| 3 | Ryan, et al. | 2009 | Demonstrates the impact of role demands and culture on the manifestation of managerial competencies for the most predictive performance index. |
| 4 | Camuffo, et al. | 2012 | Explores the extent the competency portfolio of entrepreneurs affects firm's performance, controlling a set of individual and organisational variables. |
| 5 | Sutton and Sutton | 2013 | Depicts the utility of an organisation-wide competency framework for developmental needs and job performance. |
| 6 | Kohont and Brewster | 2014 | Examines the roles and required competencies of HR managers in Slovenian multinational companies when these companies enter the international arena. |

**Table 6.2: Relevant Studies Undertaking Exploratory Factor Analysis**

| *Sl. No.* | *Author* | *Year* | *Dimensions* |
|---|---|---|---|
| 1 | Nikolaou | 2003 | Discusses the development, validation and psychometric properties of a measure of generic work competencies. |
| 2 | Dainty, et al. | 2005 | This study identifies the core competencies associated with the construction management role and further develops a predictive model to inform the human resource selection and development decisions within large construction organisations. |
| 3 | Raja and Swapna | 2010 | Evaluates the difference between managerial and executive level personal competencies, personal competencies in IT companies. |
| 4 | Chuttipattana and Shamsudin | 2011 | Examine the moderating or contingent effect of organisational culture on the relationship between the personality and managerial competencies of primary care managers in Thailand. |

| | | | |
|---|---|---|---|
| 5 | Rahimic, et al. | 2012 | The principal aim of this study is to determine the level of management competencies in the process of employee motivation within an organisation. |
| 6 | Khoshouei, et al. | 2013 | The main objective of this study was to identify the essential managerial competencies for Iranian managers. |
| 7 | Quintana, et al. | 2014 | The purpose of this paper was to analyse the three dimensions of leadership behaviour in a professional environment, by disclosing the specific competency profile developed by those who actually lead in work organisations. |

### 6.2.3 Analysis of Variance

Analysis of variance (ANOVA) is a collection of statistical models used to analyse the differences between group means and their variations among and between groups which was developed by Ronald Aylmer Fisher in early 1920's. In its simplest form, ANOVA is equivalent to the t-test in which only two variables are involved, whereas in ANOVA more than two exploratory variables are involved. The exploratory variables in ANOVA are categorical in nature; hence they are referred to as factors (Hinkelmann and Kempthorne, 2008). The fundamental technique of ANOVA is to partition the total sum of squares (SS) into components related to the effects involved in the model. There are various methods of applying ANOVA but is typically dependent on the number of factors and the number of dependent variables involved. The one-way ANOVA is the simplest form of application, as only one single factor is involved. It is commonly used to test the differences between independent variables and its effects that can be estimated for the population as a whole. Primarily, one-way ANOVA is used to test the differences among at least three groups of observations, as two groups of observation can be easily tested through a t - test or F-test (as $F = t^2$). When there is a case of two or more factors, then two-way ANOVA and three-way ANOVA is a significant method of measurement.

ANOVA is a useful procedure to test for significant differences between means. However, three assumptions have to be achieved to conduct this test. First is the assumption of independence, which states that observations are random and independent samples from the population. Second is the assumption of normality, which states that distributions of the population from which the samples are selected are normal. Third is the assumption of homogeneity of variance, which states that, the variances of the distribution in a population

are equal. The table 6.3 illustrates some relevant studies which have used analysis of variance for the purpose of data interpretation.

**Table 6.3: Relevant Studies Undertaking Analysis of Variance**

| *Sl. No.* | *Author* | *Year* | *Dimensions* |
|---|---|---|---|
| 1 | Chaston, et al. | 2001 | The study has been undertaken to acquire data on whether a relationship exists between learning style and the competencies exhibited by organisations. |
| 2 | Murray | 2003 | An empirical investigation, determining the relationship between the creation of competencies and the quality of learning within an organisation. |
| 3 | Thach and Thompson | 2007 | Identifies differences that exist in leadership style, behaviours, and competencies to drive performance between profit and non-profit organisational leaders. |
| 4 | Sudsakorn and Swierczek | 2009 | Investigates the management competencies required by global business manager in a business environment. |
| 5 | Milicevic, et al. | 2011 | This study explores the competencies and the perceived competence gap of management personnel in public primary health care. |
| 6 | Yang, et al. | 2012 | Investigates the relationship of the project leader's competencies with job satisfaction, and their impact on project performance |
| 7 | L. Zhang and W. Fan | 2013 | This study makes recommendations on the selection and appointment of project managers in construction organisations by recognising the significant emotional competencies that can cater for large and complex construction projects. |
| 8 | Verle, et al. | 2014 | Determines whether there is a relationship among leadership, action, social, and personal competencies of managers in modern organisational structure types and whether a relationship exists between a company's organisational structure and performance. |

### 6.2.4 Multiple Regression Analysis

Regression analysis is a statistical procedure for estimating the relationships among predictor and predicted variables. The primary purpose of this technique is focused on the

relationship between a dependent variable and one or more independent variables. It is a way of predicting an outcome variable from one independent variable or several independent variables (Field, 2009). When one independent variable is involved, it is known as simple regression, whereas in the case of more than one independent variable it is known as multiple regressions. Multiple regressions are a statistical technique used to analyse the relationship between a single dependent variable and several independent variables, wherein each independent variable is weighted by the regression analysis procedure to ensure maximal prediction from the set of independent variable (Hair, et al., 2009).

According to Hair, et al. (2009) multiple regressions fulfil two objectives of the research. Firstly, to maximise the overall predictive power of the independent variables as represented in the variate and secondly, to compare two or more sets of independent variables to ascertain the predictive power of each variate. The size of the sample has a direct impact on the appropriateness and the statistical power of the multiple regression analysis, therefore the researcher must ensure that the criterion of practical significance is met along with statistical significance. As a rule of thumb the minimum ratio of observations to variable is 5:1, but the preferred ratio is 15:1 or 20:1, which increases with stepwise estimation. Likewise, maximising the degree of freedom improves the generalisability of the model parsimony and the concerns regarding the sample size. The table 6.4 illustrates some relevant studies which have used multiple regression analysis for the purpose of data interpretation.

**Table 6.4: Relevant Studies Undertaking Multiple Regression Analysis**

| *Sl. No.* | *Author* | *Year* | *Dimensions* |
|---|---|---|---|
| 1 | McCredie and Shackleton | 2000 | Explores the requisite competencies of subsidiary unit general managers in a successful multi-business group dealing primarily in industrial goods. |
| 2 | Agut, et al. | 2003 | Analyses the influence of individual and contextual factors (type of establishment and number of subordinates) on managerial competency needs. |
| 3 | Hopkins and Bilimoria | 2008 | The study highlights the moderating influence of gender between the demonstration of emotional and social intelligence competencies and success. |
| 4 | Azan and Bollecker | 2011 | Analyses the developments in IT and their significant impact on competencies within an organisational set-up. |
| 5 | Ryan, et al. | 2012 | This study empirically links competencies of individual leaders to business profitability and |

| | | | |
|---|---|---|---|
| | | | demonstrate that competencies are cross-culturally valid. |
| 6 | Stavrou and Ierodiakonou | 2013 | Utilisation of competency-based models to explore empirically the factors that influence the suitability of different flexible work arrangements in organisations. |
| 7 | Fleisher, et al. | 2014 | Examines the effects of employee's career competencies on the employing organisation and assessment of career satisfaction in this relationship. |

### 6.2.5 Confirmatory Factor Analysis

The confirmatory factor analysis (CFA) is a statistical technique used to verify the factor structure of a set of observed variables, as well as it allows testing of the hypothesis so as to verify the relationship between observed variables and their existing underlying latent constructs. This technique is based on the framework of structural equation modelling procedure. In simple words, CFA is a tool that enables a researcher to confirm or reject one's preconceived theory. It is used to formulate a confirmatory test of a measurement theory. The measurement theory specifies a series of relationships that suggest how measured variables represent a latent construct that is not measured directly. Through the implementation of CFA, a researcher specifies five elements; the latent constructs, the measured variables, the item loadings on specific constructs, the relationship between constructs and the error terms for each indicator (Hair, et al., 2009). According to Schumacker and Lomax (1996), the use of the CFA can be impacted by various attributes such as; the research hypothesis being tested, the requirement of sufficient sample size, measurement instrument, multivariate normality, parameter identification, outliers, missing data and interpretation of model fit indices.

Most of the statistical methods require only one statistical test to determine the significance of an analysis. However, in CFA, several statistical tests are used to determine, how well the model fits to the data (Suhr, 2006). While reporting the results of a confirmatory factor analysis, one is urged to report; the proposed models, any modifications made, measures identified for each latent variable, correlations between latent variables, any other pertinent information and whether the constraints are used. According to Kline (2010), chi-squared test, the root mean square error of approximation (RMSEA), the comparative fit index (CFI), the goodness of fit index (GFI), the adjusted goodness of fit index (AGFI) and

the standardised root mean square residual (SRMR) must be reported. The chi-squared test indicates the difference between observed and expected covariance matrices and the values closer to zero indicates a better fit as well as smaller variance between expected and observed covariance matrices. The chi-squared statistics can also be used to directly compare the fit of nested models to the data. The RMSEA analyses the discrepancy between the hypothesised model, with optimally chosen parameter estimates, and the population covariance matrix. The value of RMSEA ranges from 0 to 1 and the smaller values indicating a better model fit. Preferably, a value of .06 or less is indicative of acceptable model fit in a study. The CFI analyses the model fit by examining the discrepancy between the data and the hypothesised model, while adjusting for the issues of sample size inherent in the chi-squared test of model fit and the normed fit index. The value of CFI values ranges from 0 to 1 and the value of .90 or larger is generally considered to indicate acceptable model fit. The GFI is a measure of fit between the hypothesised model and the observed covariance matrix. The value of GFI ranges between 0 to 1 and generally a value of .90 is indicative of an acceptable model fit. The AGFI corrects the GFI, which is affected by the number of indicators of each latent variable. The value of AGFI ranges between 0 to 1 and generally a value of .90 is indicative of an acceptable model fit. The SRMR are the square root of the discrepancy between the sample covariance matrix and the model covariance matrix. The value of SRMR ranges from 0 to 1 and a value of .08 or less are indicative of an acceptable model (Hooper, Coughlan and Mullen, 2008). If model fit is acceptable, the parameter estimates are examined. The unstandardised parameter estimates retain scaling information of variables and can only be interpreted with reference to the scales of the variables, while standardised parameter estimates are transformations of unstandardised estimates that removes scale and can be used for informal comparisons of parameters throughout the model.

### 6.2.6 Structural Equation Modelling

The structural equation modelling (SEM) is a statistical technique for testing and estimating causal relations using a combination of statistical data and qualitative causal assumptions. Statistically, it represents an extension of general linear modelling (GLM) procedures, such as the ANOVA and multiple regression analysis. The SEM allows both confirmatory and exploratory modelling, which means that it is suited for both theory testing

and theory development. The basic advantage of SEM is its ability to construct latent variables. It allows the researcher to explicitly capture the unreliability of measurement in the model, which in theory allows the structural relations between latent variables to be accurately estimated (Byrne, 2010). Predominantly, SEM is a largely confirmatory, rather than exploratory technique as the researcher basically uses this technique to determine whether a certain model is valid, rather than to find a suitable model through it. Many standard statistical procedures such as factor analysis, path analysis, analysis of variance and multiple regressions can be viewed as special cases of SEM.

The SEM models can be distinguished by three characteristics such as; estimation of multiple and interrelated dependence relationships, an ability to represent unobserved concepts in these relationships and account for measurement error in the estimation process and defining a model to explain the entire set of relationships (Hair, et al., 2009). The SEM technique conveys two important aspects of the procedure, such as; the causal process under study is presented with a series of structural equations (e.g. regression) and the structural relations are then pictorially modelled so as to enable a clearer conceptualisation of the theory under study. The goal is to determine whether a hypothesised theoretical model is consistent with the data collected to reflect this theory. The consistency is evaluated through model-data fit, which indicates the extent to which the postulated network of relations among variables is plausible. If goodness-of-fit is achieved, then it suggested that the plausibility of the hypothesised variables in the model is reinstated, whereas if not then such relations are rejected. According to Kline (2005), the SEM technique is used basically for a large sample technique ($N > 200$), which is dependent on the model complexity, the estimation method used and the distributional characteristics of observed variables.

The SEM technique involves the evaluation of two models that is; the path model and the measurement model. The path analysis is an extension of multiple regressions that involves various multiple regression models or equations that are estimated simultaneously in a study. Through this model interrelation among variables are hypothesised, so as to generate specific observed covariance (or correlation) patterns among the variables. The measurement model in SEM is evaluated through CFA, as it allows an indicator to load on multiple factors and latent constructs. This model also allows residuals or errors to correlate. When the measurement model has been specified, structural relations of the latent factors are then

modelled essentially the same way as they are in both models. The combination of CFA models with structural path models on the latent constructs represents the general SEM framework for analysing covariance structures. The table 6.5 illustrates some relevant studies which have used confirmatory factor analysis and structural equation modelling for the purpose of data interpretation.

**Table 6.5: Relevant Studies Undertaking Confirmatory Factor Analysis and Structural Equation Modelling**

| *Sl. No.* | *Author* | *Year* | *Dimensions* |
|---|---|---|---|
| 1 | Rahim, et al. | 2001 | Explores the leadership power, subordinate's styles of handling conflict and job performance with structural equation modelling technique. |
| 2 | Dragoni, et al. | 2009 | This study explores that the learning orientations, especially those with access to growth assignments are more likely to achieve higher levels of competence. |
| 3 | Liao, et al. | 2011 | This study uses competence transfer theory to establish a mechanism for transferring competencies into an organisation from the outside. |
| 4 | Heimler, et al. | 2012 | Examines the employability skills in order to determine which skills best predict career advancement potential. |
| 5 | Linton and Walsh | 2013 | The purpose of this paper is to consider whether the characteristics of technology affect the type of learning modes used for acquiring abilities related to specific competencies. |
| 6 | Fernandez-Mesa, et al. | 2014 | Analyse the impact of information technology competency (ITC) on internal and external learning competency and the relations among ITC, internal and external learning competency and the commercial success of innovation (CSI). |

## 6.3 CONCLUSION

This chapter outlines the various research methodologies that have been implemented for the purpose of the research work carried out in a more systematic and meaningful way. Both primary and secondary data had been collected from the selected manufacturing units. The selection of samples for this study was based on stratified and random sampling methods and an attempt was made for reciprocal representation of respondents from middle and lower level executives of the selected manufacturing units. The succeeding chapters would examine the research methodologies and the rationale for selection of research techniques in detail for data analysis.

# CHAPTER VII

# COMPETENCY MAPPING IN MANUFACTURING UNITS

(*Based on Secondary Data*)

# COMPETENCY MAPPING IN MANUFACTURING UNITS

## 7.0 INTRODUCTION

Indian manufacturing firms are increasingly emerging as potential destinations for foreign investments globally. Over the years the Indian manufacturing firms have created a niche in the global market for its excellence in quality. To make India a manufacturing hub, the government of India has initiated the 'Make in India' initiative in the year 2015, which is proposing to aid the manufacturing units to cut costs as well as to gain them access to skilled manpower supply. Consequently, the emphasis is shifted to the enhancement of the performance index of the Indian manufacturing industries in the global market periphery. The frequently changing economic policies have made the Indian manufacturing firms realise the essentiality of competency mapping in determining the organisational objectives and in achieving the set goals for an organisation. In the last three decades competency mapping has become a critical component of the human resource development function for Indian manufacturing firms, with varying results.

The competency mapping process is a technique to identify, analyse and evaluate the skills possessed and required by the concerned person to accomplish their tasks effectively. Through the competency mapping process, a list of individual competencies is formulated in perspective to the "factors that are most critical for the success in the given jobs, departments, organisations or industries that are part of the individual's current career plan" (Sarkar, 2013). The manufacturing firms have realised the importance of operational efficiency with regard to cost reduction, enhanced productivity norms, etc. which has made competency a focal standard for most of the human resource related decisions like selection, recruitment, assimilation, promotion, succession, development, etc. The competency mapping in majority of manufacturing industries follows a seven stages standard format for the process such as: a) roles for which the competencies need to be mapped are decided, b) location of the role and functional objectives of the department, where the role is located are identified, c) the key performance areas, result areas and tasks of the role holder for the last two to three years from the performance appraisal records are collected, d) list of tasks and activities that expected to be performed by the role holder are identified through an interview process, e) the actual knowledge, attitude, skills and other competencies required for

performing the task effectively are determined by interviewing the job-holder, f) list of competencies from all the job holders in the organisation by each task is consolidated, g) the critical competencies list is edited and finalised, which is presented to the authorising authority for approval and finalisation.

The competency approaches in the manufacturing firms are focused on linking the business objectives and strategies with the efforts of individual performance within the organisation. Competency mapping encourages development of competencies that can be useful for carrying out tasks in diverse work situations, rather than limiting it to a particular task accomplishment. Capability building of the employees enables them to perform present and future job roles effectively. The applicability of competency mapping determines the organisational structure and the requirements of critical competencies for the human capital employed within the organisation. To systematically carry out the competency mapping process, the majority of the manufacturing firms depend on the expertise of external agencies and consultancies for determination of essential competency parameters for its employees. According to Jain (2013), to create a high performance organisation, the competencies of the employees need to be "continuously monitored, reviewed and enhanced in congruence with the business plans", as it plays a key role in enhancing the overall efficiency and effectiveness of the overall organisation.

Competency mapping has become a crucial part of human resource activity among the manufacturing industries. Competency mapping exercises are being carried among the manufacturing units to enhance the capability index of the employees in an organisation paradigm. In this chapter, an attempt has been made to understand the competency mapping practices prevalent among the research units; to get an extensive insight on the implementation of the executive competency mapping processes and procedures.

## 7.1 ROURKELA STEEL PLANT

Rourkela Steel Plant (RSP) believes that continuous enhancement of an employee's knowledge; skills, capabilities and competence would enable the organisation to achieve optimum level of performance. The organisation invests greatly in education, training and development to enhance the efficiency of its employees. The HRD centre of the organisation is responsible for mapping and identification of the skills and competence level requirements

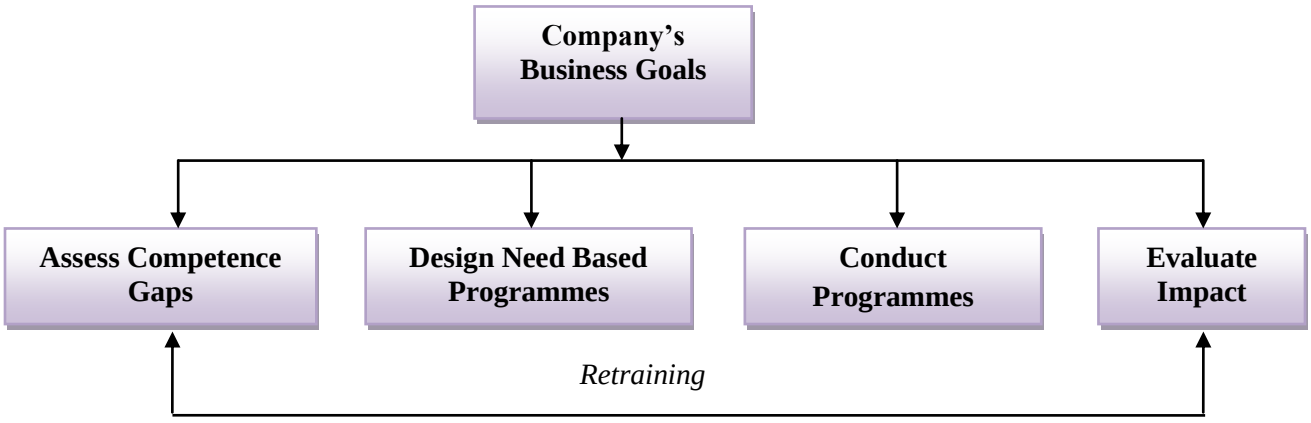
for all positions in the organisation as well as development of intervention programmes to fill up the skill gaps. Some of the guiding principles for undertaking competency mapping are as follows:

a) Every employee has the potential for growth and should be given opportunity to develop.
b) All new entrants must be imparted with the requisite training to enable them to acquire necessary skills and competence before being put on the job.
c) Training is a continuous process to meet the emerging technological changes and challenges.
d) Training resources and professionals must be continually updated.

The training and development process undertaken by the organisation takes into consideration the alignment of competence requirement with the company's business goals as seen in figure 7.1. The HRD strategies for the training and development process as follows:

a) Organisational needs and corporate goals, identify the thrust areas of training.
b) An initiative to identify the individual and his training needs with each thrust area.
c) Training needs to be result oriented.

**Figure 7.1: The Training and Development Process**




*Source: RSP Sustainability Report, 2012*

### 7.1.1 The Competency Mapping Process

The employees of RSP are assessed based on their present level of competence vis-à-vis the requirements of the job positions and gaps identified. For assessment of the competence,

a ‘Competency Assessment Form’ has been developed which lists the key competence areas in terms of the knowledge and skills required to carry out the tasks. The knowledge level in a particular area is assessed through a questionnaire and the skill level through observation by superiors or experienced master technicians in that area. The skills and knowledge of the employees are separately rated for each key function on a scale of 0-2 where 0 indicates “lack of competency”, 1 is “partial competency and 2 is “full competency”. At the end of this exercise, skill and knowledge gaps exist for those functions where the score is less than 2. Based on the scores obtained, the appropriate developmental interventions have been for the employees, either on the job or through a classroom and a workshop training programme.

The training needs identified from all the sources are compiled in the training database and discussed with all the Training Engineers and Programme in charges. The Annual Training Plan for the year is then prepared and finalised to bridge the competency gaps. Once the gaps are identified and such gaps are bridged through comprehensive technical and skill based training programmes that is organised by Human Resource Development Centre (HRDC) and the Central Power Training Institute (CPTI), both of the departments are ISO 9001 certified. If the skills and knowledge gaps require any other external training or supplier based foreign training, then these are also arranged to bridge the gaps. Apart from these, the Leadership and Higher Management trainings are also arranged through external faculties or other agencies from inside or outside the country. The feedback on the training is tracked to improve the effectiveness. The training for the development of knowledge and competence level of the employees is done through:

a) Technical Development Training: As per the need, the technical skill and knowledge enhancement training is imparted to the employees.
b) Managerial Development: This training is regularly imparted to enhance the managerial capabilities of the executives and non-executives alike.
c) Skill Gap Training Due to Retirement: The employees retiring are identified beforehand and their skills if critical are transferred to an identified successor and training programmes are conducted to bridge the skill gap through skill and knowledge training (SKT).
d) Department Specific Programmes: Training is imparted to meet the specific requirements of a department for competency enhancement of the employees.

e) Equipment Specific Programmes: Training is imparted to meet any specific training in this area, with regard to equipment specific modules within the organisation.
f) Unit Training: Training is provided to meet the employees training needs of a particular unit of the organisation, as per the requirement specifications.
g) Shop based Multi-Skill Training: Multi-skill training is identified to provide additional skills to the employees.
h) Performance Improvement Workshops: Workshops are organised to address specific issues of organisational concern having cross functional implications.
i) Additional Skill Training: In view of the expansion plans of RSP and the new equipment that are commissioned in the existing departments to upgrade the currently installed facilities, training is imparted to enhance the skills of the employees as well as to get updated with the new technology.
j) Training as per other needs: Training is also imparted for the following areas in the organisation such as;
    - Induction training to all new employees.
    - Specific training, safety, environmental management, quality circle tools, fire control, etc.
    - Integrated Management System – ISO 9001: 2000QMS, SA8000, OHSAS 18001.
    - Energy conservation and cost control.
    - General Management Programme – Enhancing Managerial Effectiveness (EME), Management Development Programmes (MDP – I and II), Skill Development Programme (SDP).

The company's training programmes are designed keeping in view the career progression needs of all categories. Through capability building exercise, some broad steps are followed such as: a) identification of competencies required for the job; b) identification of knowledge and skill level of employees keeping in view the job requirement, and c) identification of the gaps in competency which can be fulfilled through systematic training efforts to build capability and bridge the gap. For the systematic operation of the competency mapping process within the organisation, extensive use of online computerised training management

system (TMS) in Oracle Database, facilitates monitoring and review of the training function. The online system allows the following initiation such as:

- Feeding of annual training needs (inbuilt check for non-repetition)
- Generation of monthly nominations to HODs.
- Updating the attendance
- Settlement of queries related to training
- E-integration with HODs and departmental training engineers
- Generation of employee/department/module/duration based reports

In addition to all the initiatives of competency mapping process, the gaps in the systems are also reviewed continuously. The participant's feedback at reaction level, review of programme evaluation summary at head of training level, feedback from the department at the application level, fortnightly training engineer meetings, reviews at the level of heads of Mechanical and Electrical areas, suggestions of training advisory committee, training advisory board, management training institute, etc., provides the necessary inputs for fine tuning the training function and enhance its effectiveness.

### 7.1.2 The Competency Framework

Rourkela Steel Plant believes that a systematic competency leadership framework is essential for setting a benchmark of performance excellence for its employees. The external consultants i.e. KPMG was also involved in this development process. The end result of the collaborative efforts put by the organisation and the external management consultants can be seen in the table 7.1. The table illustrates about eight executive leadership competency clusters and the five levels of excelling each competency cluster. All the identified competency clusters are relevant to the performance needs of the executives within the organisation. This framework provides a benchmark for the executives against which their performance as an individual and as a team can be assessed. The eight managerial competency clusters are enlisted below:

a) *Strategic Orientation*: Understand implications of multiple factors on long term and short term strategy of the organisation and undertake necessary actions. The key behaviours are:
   - Understands internal and external business environment.

- Draws business insights from market intelligence by interpreting patterns, connections and trends.
- Balances and aligns short term benefits with long term goals.
- Recognises strategic opportunities for success and capitalise on them by linking initiatives to organisational goals and objectives.

b) *Business Acumen*: Displays commercial understanding and decision-making through evaluating business risks and returns. The key behaviours are:
   - Displays sound understanding of financial aspect.
   - Understands organisational, commercial policies and procedures.
   - Understands the connections of business components and manages them to consistently maximise results.
   - Takes timely and apt decisions duly evaluating risks and benefits to the organisation.

c) *Managing External Stakeholders*: Recognise key stakeholders and maintain cordial and equitable relations favouring the organisation. The key intended behaviours are:
   - Identification of key stakeholders and is sensitive to their expectations.
   - Establishes and maintains a broad network of relationships with external stakeholders.
   - Identifies solutions to win support, gain cooperation and overcome barriers.
   - Influences and gains buy-in and commitment to organisational agenda.
   - Shows sensitivity and genuine concern for the ecosystem (society and environment).

d) *Customer Orientation*: Understand current and future customer needs and align organisational systems and actions to achieve customer delight. The expected key behaviours are:
   - Understands customer needs.
   - Actively looks for increasing customer value.
   - Seeks and acts on feedback from customers.

e) *Change Management*: Appreciate and drive the change agenda by influencing and gaining commitment of key stakeholders. The required behaviours are:

- Develops shared vision and a strategy for change.
- Identifies critical success factors and potential obstacles to change.
- Gains commitment from key stakeholders.
- Drives successful execution of change initiatives.
- Fosters an environment which encourages and rewards change initiatives.

f) *Execution Excellence*: Plan and optimally utilise resources. Set and achieve higher standards of excellence. The key behaviours are:

- Converts strategic initiatives into actionable plans and assigns targets for self and others.
- Anticipates roadblocks in advance and plan solutions accordingly.
- Prioritises and optimises utilisation of resources.
- Continuously sets new standards, adopts leading practices to create value.
- Generates a wide range of ideas and promotes innovation.
- Promotes safe and healthy working environment.

g) *People Management*: Empower and develop people and foster collaborative working to deliver superior performance. The expected behaviours are:

- Delegates' authority and responsibility to allow others to act with a sense of purpose and ownership.
- Builds trust by demonstrating transparency, empathy and respect towards others.
- Inspires and motivates others for ownership and engagement.
- Provides feedback and facilitates people development.
- Fosters collaborative environment.

h) *People Effectiveness*: Channelise one's energies for the overall benefit of the organisation. The key behaviours are:

- Continuously enhances self-learning
- Displays passion and commitment to work
- Is motivated and willingly undertakes higher responsibilities.
- Maintains calm and composure at work.

## Table 7.1: Competency Leadership Framework for Executives at RSP

| **1. Business Leadership** | | | | | |
|---|---|---|---|---|---|
| ***Levels*** / ***Components*** | ***Beginners*** | ***Improving*** | ***Performers*** | ***Mastery*** | ***Expert*** |
| Strategic Orientation | • Understands the internal and external business environment in his/her work level. With guidance, carries out a SWOT analysis.<br>• Understands the short term benefits. Has limited perspective on the long term impact of actions.<br>• Scans the environment and needs support to identify opportunities for success. | • Understands the internal and external business environment in his/her work level. Displays ability to carry out a SWOT analysis.<br>• Takes actions for short term benefits. Understands the long term impact.<br>• Scans business environment and recognises opportunities for success. | • Understands the internal and external business environment. Draws appropriate inferences and conclusions from a SWOT analysis. Aligns short term benefits of long term goals and develop action plans at a unit level.<br>• Understands big picture. Understands success factors, identifies opportunities for success and initiates actions to capitalise on them. | • Understands macro environment and its influence on the company and the sector.<br>• Formulate strategy, aligning short term goals to long term objectives at an organisational level.<br>• Recognises and capitalises on strategic opportunities and capitalise on them by linking initiatives to unit level goals and objectives. | • Predicts the changes in the macro environment and articulates its impact on the organisation.<br>• Does scenario planning for organisational goals based on anticipated environmental changes.<br>• Spots opportunities for success that has impacted at an organisational level and capitalise on them by linking initiatives to organisational objectives. |
| Business Acumen | • Understands profit and loss statements.<br>• Understands commercial guidelines/procedures with some guidance.<br>• With some guidance, understands related component of business with his/her own area of work.<br>• Acts as suggested by superiors. | • Understands profit and loss statements. With some guidance, understands cost factors of actions undertaken.<br>• Completely understands the commercial policies and procedures pertaining to one's area of work.<br>• Understands value chain of business and | • Displays ability to interpret financial statements. Understands financial implications of actions.<br>• Understands commercial policies and guidelines and disseminates the knowledge.<br>• Understands the cost benefit impact of various techno-economic | • Appreciates and monitors financial statements. Clearly articulates cost factors and rate of returns of actions undertaken.<br>• Disseminates knowledge on commercial policies in simple terms to others. Demonstrates ability to identify and improve the policies and | • Shows ability to carry out predictive analysis of various actions and draws out financial implications.<br>• Shows ability to institutionalise initiatives into robust organisational policies and procedures.<br>• Possesses ability to re-engineer the value chain by leveraging |

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|---|---|---|---|---|---|
| | | techno economics.<br>• Evaluates risk and returns of actions. Makes decisions under guidance. | factors.<br>• Makes decisions as per delegation of power. Understands risks and returns of decisions taken. | procedures. Possesses comprehensive view of key business levers and leverages them to maximise results.<br>• Takes timely decisions duly considering risks and returns. | available support.<br>• Proactively evaluates risks and benefits on an on-going basis to facilitate sound decision-making process. |
| **2. Relationship Leadership** | | | | | |
| Managing External Stakeholders | • Broadly understands stakeholders<br>• With guidance, provides necessary information to external stakeholders using existing communication processes.<br>• With guidance, provides necessary information to external stakeholders using existing communication processes. Follows up with stakeholders to gain commitment with guidance.<br>• Implements suggested organisational initiatives with some guidance. | • Identifies the key stakeholders with guidance and has some understanding of their expectations. Furnishes necessary information to external stakeholders<br>• Uses existing systems to seek cooperation from stakeholders.<br>• Follows up with stakeholders to seek a commitment.<br>• Implements various organisational initiatives towards contributing to the ecosystem. | • Identifies key stakeholders and has some understanding of stakeholder expectations.<br>• Uses existing systems to maintain relationships with key stakeholders.<br>• Leverages existing systems to seek support and overcome barriers.<br>• Leverages existing systems and follows up with stakeholders on a continuous basis seeking commitment.<br>• Appreciates societal and environmental factors and leverage existing systems to contribute to the ecosystem. | • Has a sound understanding of key stakeholder expectations and influencing factors.<br>• Identifies and seizes opportunities to establish and maintain relationship with all key stakeholders.<br>• Proactively identifies methods to win support and cooperation of external stakeholders.<br>• Influences key stakeholders to gain buy-in for a given situation.<br>• Shows genuine concern for the ecosystem and encourages others to display ecological sensitivity. | • Understands and appreciates the changing expectations of key stakeholders and the factors influencing them. Creates opportunities for networking (for self and team) with external stakeholders and maintains cordial relations with all key stakeholders.<br>• Generates a wide range of solutions that enable taking key stakeholders into confidence.<br>• Positively influences key stakeholders and achieves their buy-in to the organisation's agenda. Inspires others contribute to the ecosystem and acts as a |

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|---|---|---|---|---|---|
| | | | | | role model. |
| Customer Orientation | • Understands the stated needs of the customer.<br>• Works towards fulfilling the customer commitment.<br>• Takes feedback as suggested. | • Appreciates the importance of knowing customer needs and understands stated customer needs. Fulfils customer commitment<br>• Understands the importance of feedback and seeks feedback. | • Understands the needs of customers and the factors affecting them.<br>• Delivers the promise and clearly explains the value proposition.<br>• Seeks continuous feedback and initiates necessary actions. | • Understands and appreciates the stated and unstated needs of the customers. Identifies the opportunities to fulfil the customer's needs.<br>• Actively looks for opportunities for improving service and product delivery through strong two-way communication with customers. | • Appreciates the unstated needs of the customers as well as customer's needs. Identifies long term needs of the customer and the end user needs and works towards fulfilling these needs by suggesting improvements in services and products.<br>• Partners with customers for continuous improvement in the service/ product delivery. |
| **3. Result Leadership** | | | | | |
| Change Management | • Understands the need for change.<br>• Implements the change initiatives as suggested.<br>• Needs guidance to identify key stakeholders<br>• Acts as follower in a change process. | • Understands and appreciates the need for change in the given context. Understands broad implication of change initiatives.<br>• Identifies critical stakeholders and assesses the impact of change on them.<br>• Displays drive for execution of change.<br>• Displays excitement towards change initiatives. | • Prepares a communicatio n plan of change to stakeholders. Understands critical success factor and potential obstacles to change.<br>• Builds relationship with key stakeholders.<br>• Enables execution of the change process by creating a roadmap.<br>• Actively involves and appreciates the change agents and implements the | • Communicates the need for change to align stakeholders.<br>• Recognises success factors and implementation challenges and draws plans to mitigate them. Builds strong relationship with key stakeholders for gaining commitment.<br>• Drives change by establishing clear milestones and mobilises resources for the same. Fosters the spirit of change by leveraging established | • Develops shared vision and strategy by engaging the stakeholders.<br>• Leverages success factors and proactively initiate actions to overcome potential obstacles.<br>• Building trusting relationships with and positively influences all relevant stakeholders towards achieving sustainable change.<br>• Establishes effective monitoring and |

| | | | | | |
|---|---|---|---|---|---|
| | | | existing rewards system. | rewards and recognition system. | review mechanism and ensures adherence.<br>• Devises and implements innovative ways to encourage, recognise and reward the change agents. |
| Execution Excellence | • Sets targets for self.<br>• Executes assigned tasks.<br>• Utilises assigned resources as per established norms.<br>• Implements new ideas as suggested.<br>• Understands safe work practices. | • Has an understanding of defining action plans based on strategic initiatives.<br>• Identifies potential roadblocks with guidance/ supervision.<br>• Deploys resources based on priority.<br>• Possesses awareness of different practices for improvement. Understands different ways of working for improved service delivery.<br>• Has comprehensive understanding of safe and healthy work practices. | • Clarifies accountability and sets targets for self and others.<br>• Anticipates roadblocks and plan solutions to overcome them.<br>• Manages effective utilisation based on the availability.<br>• Identifies leading practices with guidance.<br>• Generates ideas and implements new ways of working to increase efficiency. Adopts safe and healthy work practices as per the guidelines. | • Sets smart goals for self and team. Defines action plans based on strategic initiatives.<br>• Prepares contingency plans to overcome potential roadblocks.<br>• Seeks continuous improvement in resource optimisation. Prioritizes deployment based on urgency and importance.<br>• Understands and adopts leading practices to create value.<br>• Actively generates a wide range of ideas and successfully implements them. Encourages and established mechanism for the team to follow safe and healthy work practices. | • Proactively prepares action plans in line with the strategic objectives and defines a mechanism to cascade goals to employees at all levels. Establishes risk mitigation plans and ensures adherence to the same at an organisational level.<br>• Sets benchmark and strives to achieve them in resource optimisation.<br>• Strives to achieve benchmark standards. Set benchmarks.<br>• Creates a culture of innovation by encouraging and promoting a wide range of ideas. Acts as a role model in establishing/ leading safe and healthy work practices. |

| **4. People Leadership** | | | | | |
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| People Effectiveness | • Participates in training programmes as recommended.<br>• Performs assigned tasks.<br>• Performs assigned tasks under supervision.<br>• Shows reactiveness to situations. | • Proactively nominates self for learning and development programmes.<br>• Understands expectations of the superior and executes necessary tasks.<br>• Remains self-motivated to perform assigned tasks.<br>• Displays calm and composure under normal circumstances. | • Has understanding of areas for development in the business context and leverage opportunities for self-development.<br>Understand expectations and enthusiastically stretches oneself to discharge responsibilities.<br>Is self – motivated and seeks higher responsibilities.<br>• Adopts oneself to appropriately respond to various situations and resolve conflicts amicably. | • Understands one's own strengths and improvement areas and creates learning opportunities to be effective in the workplace.<br>Displays passion and commitment to fulfil expectations.<br>Goes beyond the call of duty.<br>Looks for opportunities to enhance contributions to the organisation.<br>• Displays composure even under adverse situations.<br>Effectively resolves a conflict situation seeking win – win situation. | • Proactively identifies changing organisational needs and keeps himself/ herself updated on the latest developments.<br>Sets example and acts as a role model.<br>• Is an inspirational leader.<br>Displays exemplary abilities to achieve organisational objectives.<br>Remains focused and objective at all times and handles crisis situation with ease. Leads by example in conflict resolution and acts as a role model. |
| People Management | • Understands powers delegated to self.<br>• Has an understanding of organisational policy in dealing with others.<br>• Executes people management initiatives as suggested.<br>• Shares positive feedback and hesitates openly sharing negative | • Has understanding of delegation of powers.<br>• Adopts organisational policies in dealing with others.<br>• Understands constituents of employee engagement and executes organisational initiatives.<br>• Utilises existing systems to provide feedback and create development | • Understands power delegation of powers and follows accordingly.<br>• Displays respect towards others and communicate relevant information.<br>• Motivates others to improve engagement levels with the job and the organisation.<br>• Shares | • Empowers and enables team and monitors execution.<br>• Has respect for others and understands their perspective.<br>Shares relevant information.<br>Facilitates aligning individual objectives to the organisational objectives.<br>• Recognises and provides development opportunities. | • Empowers and encourages the team to act with a sense of purpose and ownership by providing requisite support. Builds trust by demonstrating transparency, empathy and respect towards others.<br>• Clarifies the linkage of individual success to organisational success and |

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| | feedback.<br>• Understands requirement in a team context. | opportunities.<br>• Displays team working capabilities. | strengths confront with facts and identify improvement areas. Recognises development opportunities. Encourages and is actively involved in collaborative working at a unit level. | Monitors and guides/ coaches for the development of others. Builds rapport with different stakeholders and focuses on team goals across organisational units. | inspires superior contribution with a sense of achievement. Provides coaching/ mentoring and creates an environment to learn from self and others experiences and continuously improves. Inspires others towards common objectives and focuses on win-win situations. |

*Source: SAIL Competency Framework, Klynveld Peat Marwick Goerdeler [KPMG], (2012).*

## 7.2 NATIONAL ALUMINUM COMPANY LIMITED

National Aluminium Company Limited (NALCO) is an ISO 9000(1) certified organisation. It means it is system specific (SS) rather than person specific (PS), which is a traditional way of assessment. It is essential to understand the job specific characteristics to identify the competencies essential for a specific person at a specific post within an organisation. A person's experience, past and present achievement and tasks handled are also considered during the process so that the job specific and soft skill specific (competencies) could be aligned properly. The competency mapping process at NALCO is done systematically by using various types of forms. The competency requirements of the employees are determined by the "Competency Requirement Form". The form is sub-divided into various sections such as, job position, minimum educational qualification, experience requisite for the job position and job skills required for the job position. The job position of the employees is indicated in the first section of the form, by bunching the grades in which the employee's concerned work indicates the job position in respect of a particular category of employees; for example, in case of front line executives (E0 to E3 grade) belong to Officer/ Engineer category with functional denomination. Similarly the middle management executives (E4 and E6 grade) belong to the Manager category with functional denomination.

In the second section of the form, the minimum educational qualification and experience requisite for the job position is indicated wherein the training requisites are also mentioned in three different categories, i.e. (A) Functional (general), (B) Functional (Statutory/ Mandatory), (C) Developmental. The functional training is related to the present job position of the employees. The third section of the form includes the job skills required for the job position, which is derived from the activities that the jobholder is required to perform in order to complete the job efficiently. The competency level of the employees to perform the job to a desired level is also indicated in the form such as; I= New on job, II= Can perform under the guidance, III = Perform independently, IV= Independent+ Problem Solving, V= IV+Ability to supervise and train others. The nature of skill which is essential for the job position is indicated along with its level expected from the jobholder in the functional area for example; the level of soft skill like communication, interpersonal skill, delegation and leadership and team building is indicated as a measure of the executive skill level. During the entire competency mapping process, the HRD department does all the above exercise involving the concerned department executives and HODs, where the jobholders work.

The initial competency requirement form identifies the essential competency requirements of the jobholders. In association to the findings of the previous form, the actual competence profile of the employees is implemented in the organisation, wherein the individual employee holding the job position is assessed. In this form, apart from the educational and professional qualification, the training undergone and the details of the employees experience during the last 12 years in various areas which are indicated by the HRD department and the concerned department where the employee works are notified. This form indicates the actual level of various skills which that particular employee possesses on the date of assessment. The identified gaps derived by comparison of actual competencies of individual employees in accordance to the identified positions vis-à-vis competencies required for those positions, are recorded in a Competence Gap Assessment form.

### 7.2.1 Application of Competency Based Management

The application of competency based performance management process is systematically utilised at NALCO for enhancing the performance output of the employees across the organisation. The competency process is basically used for the following activities such as:

a) *Competency Frameworks* – The competency framework helps the organisation to identify the competency requirement of the employees adequately. Basically, this framework includes the requirements of generic competencies that cover all the key jobs in an organisation. The competency framework at NALCO is mainly sub-divided into four parts such as; core competency (organisation specific), business competency (SBU specific), team competency (project driven), and role competency (role specific).

b) *Competency Maps* – The competency maps formulated for the organisation describe the different aspects of competent behaviour in an occupation against competency dimensions such as strategic capability, resource management and quality.

c) *Competency Profiles* – The set of competencies that are required to perform a specific role effectively is identified through competency profiling process. This process is done on an individual basis, so that the individual requirement of an employee is adequately recognised.

### 7.2.2 Stages of Competency Mapping at NALCO

The competency mapping system at NALCO has to go through broadly four stages of processing and such stages of competency mapping are as follows:

*Stage 1: Identification of Role Competencies*

The first stage of competency mapping is to identify the role competencies for the specified jobholder. For this process, a systematic structure is formulated wherein a list of roles is listed initially. In accordance with the listed roles, they are given their specific definitions. The definition of roles is finalised by following two major steps; a) identifying the key performance areas (KPA's) of the role listed, b) linking the KPA's with the department and the organisational goals. After the completion of role description, job descriptions of these roles are illustrated by listing down all the activities/tasks. These tasks are listed in accordance to small and big, routine and creative, etc. Finally, the competency

requirements are identified taking into consideration the association of job roles and job description listed.

*Stage 2: Competency Identification*

The competency identification of the employees is derived through the following activities such as;

a) Role holder interview and listing.
b) Day in the life of study.
c) Internal/external customer interview and listing.
d) Star performers interview and listing.
e) Role holder critical incident analysis.
f) Management climate study.
g) Benchmarking.

At the end of these activities, a checklist of essential competencies is formulated. The checklist holds the finalised 5 to 6 competencies that are critical to a role, which have been ranked in order of importance.

*Stage 3: Measures and Identifying Gaps*

The essential competencies identified in stage two are used to measure and identify the competency gaps among the employees. A five cluster of managerial competencies has been identified for the executive cadre employees of NALCO such as: Leadership and Team Building, Communication, Planning and Decision-making, Improvement and Innovation Orientation, and Quality Consciousness. At this stage, the organisation is able to identify the organisational, team and individual competency gaps of the employees.

*Stage 4: Competency Assessment*

The identified gaps derived by comparison of actual competencies of individual employees manning identified positions vis-à-vis competencies required for those positions, are recorded in a Competence Gap Assessment form. Though the competency gap assessment form, some developmental action plans are decided by the organisation such as: suitable training for upgrading the skill requirements, obtaining additional education and/or professional qualification, etc. The training department of the organisation is given the responsibility for developing and implementing the developmental action plans as per the requirements of the employees.

### 7.2.3 Process Map for Competence Mapping at NALCO

The table 7.2 illustrates the process map for competence mapping for the employees of NALCO. The details of the procedure are as follows;

1) The competence requirement against education, skills and training are firmed up to all identified job positions by the Head of the concerned departments (F/HRD/C/01).
2) The technical / functional competencies are identified through either or a combination of the following:
   a) Referring the approved job-skill standard
   b) Task analysis
   c) Discussion amongst members of the department
3) Actual competency profile in respect of education, skill and training for individuals manning the identified positions is recorded in the actual competency profile form (F/HRD/C/02). Actual competency required is reviewed annually in case of a change of job position during November/December.
4) GM (H&A) decides the action to be taken for bridging the competence gap in the Competence Gap Assessment Form and inform to the Nodal Officer. The identified gaps derived by comparison of actual competency of the individuals manning identified positions vis-à-vis competence required for the job positions are recorded in the competency gap assessment form (F/HRD/C/03).
5) In case of a transfer from the unit, the competence profile is forwarded to the respective unit by the Nodal Officer.
6) Identification of competence is done for any new positions as are required from time to time within 3 months of creation of the new job position.
7) The authorities for preparation and approval of the competency requirement, actual competency profile and competency gap assessment are given below:

| Sl. No. | Responsibility | Preparing | Approving |
|---|---|---|---|
| 1 | All Executives | Reporting Officer/Nodal Officer | HOD |
| 2 | HOD and above | Reporting Officer/Nodal Officer | ED/GM |

8) Action arising for bridging the gap by training / workshop forwards to the I/C training in Nodal Office. Suitable training requirement is initiated by I/C (TRG) for approval and execution for bridging the gap.
9) Competency bridging exercise is reviewed annually in November/December and this action is coordinated by Nodal Officer. The illustrative list of alternate actions that can be taken to bridge the competency gap is given below:
    a) Workplace training
    b) Familiarisations with standard operating procedures
    c) Learning from mentor/peer/counselling/guidance by superiors
    d) Watching/working with an experienced colleague on specific assignments
    e) Acquiring professional qualifications
    f) Suitable exposure to specialised training/ seminar/ workshop
    g) Job rotation
10) For all training related actions, effectiveness evaluation is coordinated by HRD Centre of Excellence (covered in Training and Development Programme Manual (DPM)). Well defined and specific training needs as an action to bridge the competency gap have to be identified in consultation with HODs. In case of training along with the need, HODs suggest alternative training programmes to fulfil the need. This is coordinated and forwarded to the Human Resource Development Centre of Excellence (HCE) by the Competency Cell.
11) After job skill related training programmes are organised to bridge the gap, the effectiveness of training imparted is evaluated in the training impact assessment form no. F/TRG(C)/12 as per the procedure for training within three months of execution of the training programme. The training department hands over the training impact assessment forms to the concerned HOD. After evaluation, the HODs send back the same to HCE. The evaluation report is sent to the nodal officer of the competency cell by the in-charge of the HCE for updating of the competency database.
12) For actions other than training, effectiveness evaluation is coordinated by Competency Cell (form no. F/TRG(C)/04). Reviews of actions other than training have to be carried out on a quarterly basis.

## Table 7.2: Process Map of Competency Mapping

| Sl. No. | Activity | Responsibility | | | | | Control Point | Records | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | | Corp. HRD | HOD | Corp. Trg. | Unit Trg. | Nodal Officer | | | |
| 1 | Job positions affecting quality are identified for each department under the scope by the nodal officer in consultation with HOD. | | Start | | | | Exercise carried out annually in January-February. Review every quarter to check out new joining/ transfer/ rotation | | |
| 2 | For each job position, competence requirements in terms of education, experience, training and skill requisites are identified by HOD. | | | | | | | | |
| 3 | The competence requisites are recorded in the competence requirement form. | | | | | | | F/HRD (C)/01 | |
| 4 | Competence requirement forms of each department are approved by competent authority as per DPM | | | | | | | F/HRD (C)/01 | |
| 5 | Actual incumbents are fitted to the identified positions. | | | | | | | | |
| 6 | Education, experience and skill details of actual incumbents of job positions are identified in competency | | 1 | | | | | F/HRD (C)/01 | |

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| | requirement form. | | | | | | | | |
| 7 | Training profiles of the employees manning the identified positions are prepared by training department concerned. | | | 1 | | | | F/HRD (C)/02 | |
| 8 | Prepared competency gap assessment is approved by competent authority, as per DPM. | | | | | | | F/HRD (C)/03 | Competence Gap Assessment Forms are reviewed annually.<br>a) Add qualifications/ training undergone.<br>b) Add competence profiles in case of job rotation |
| 9 | Competence gaps in terms of skills and training are assessed in competence development profile from respective reporting officers. | | | | | 2 | Copy made available to HOD concerned and Nodal Officer | F/HRD (C)/03 | |
| 10 | Based on the competence gap assessment forms, consolidated action plan for corrective action is put by Nodal Officer. | | | | | 2 | | | |
| 11 | For action other than (action to be taken by HOD/ Reporting Officer concerned), intimation is sent | | | | | 4 | | | |

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| | by the Nodal Officer to the department concerned. | | | | | | | | |
| 12 | Job-skill based training to be undertaken to bridge the gaps, is intimated to training department concerned, to be included in the training annual action plan. | | | | | 4 | | | |
| 13 | Subsequent to the organisation of the job-skill related training programmes to bridge the gaps, training department will undertake training effectiveness evaluation. | | | 3 | | | | F/HRD (C)/04 | Before completion of three months after the programme covered in training development plan. |
| 14 | Effectiveness of training imparted is evaluated in training assessment forms as per procedure of training. | | | 3 | | | Within 3 months of programme covered in training DPM. | F/HRD (C)/04 | |
| 15 | The effectiveness of other actions, if any, is evaluated, in case of any significant change. | | | | | 4 | | F/HRD (C)/04 | |
| 16 | Actual competency profile of employees is updated. | | | | | | | | |
| 17 | Action taken are reviewed half yearly by GM (H&A) and appropriate corrective and preventive | End | | | | | | | |

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| | actions are taken to improve the effectiveness of the system | | | | | | | | |

*Source: Compiled by HRD, NALCO, Bhubaneswar.*

### 7.2.4 The Executive Competency Framework

The competency framework for executives at NALCO is illustrated in table 7.3. The framework indicates the various components of managerial competencies and the levels of proficiencies that are expected from the executives in the organisation. The five clusters of managerial competencies that have been identified for executives are: leadership and team building, communication, planning and decision-making, improvement and innovation orientation and quality consciousness. The five levels of behavioural indicators, corresponding to the five levels are already determined for technical/functional competencies in the competency requirement form of the organisation. Assessment of the competencies is depicted in accordance to the exhibition quality of these competencies as mentioned in the table. The assessment is ranked on a five point scale consisting of; I = rarely, II = marginally, III = to a reasonable, IV = to a high and V = to a superior degree and influences others. The competency gaps identified through this process are recorded in the competence gap assessment form.

**Table 7.3: Assessment of Management Competencies at NALCO**

| **1. Leadership & Team Building** | | | | | |
|---|---|---|---|---|---|
| *Components* | *Level 1* | *Level 2* | *Level 3* | *Level 4* | *Level 5* |
| Self-Motivation | • Does not exhibit a willingness to work | • Requires constant supervision | • Completes assignments without extra supervision | • Work extra hours to get work completed<br>• Exceeds job description, takes on extra work | • Starts and carries through new project<br>• Acts without formal authority<br>• Takes personal risks.<br>• Get others involved in extra efforts. |
| Interpersonal Understanding | • Misunderstands<br>• Is surprised by others' feelings and actions | • Shows no explicit awareness of others<br>• No evidence of serious misunderstandings | • Understands the present emotion and explicit content.<br>• Shows concern, consideration and respect. | • Understands current unspoken thoughts, concerns or feelings.<br>• Get others willing to take | • Understands underlying problems: the reason for someone's ongoing or long term feelings, |

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| | | | | actions desired by the speaker.<br>• Manages relations positively even when they may be adversarial.<br>• Establishes and maintains positive working relations. | behaviours or concerns.<br>• Presents a balanced view of someone's strengths and weaknesses. |
| Relationship Building | • Keeps to himself.<br>• Avoids social interaction. | • Accepts invitations or other friendly overtures from others, but does not extend invitations or go out of the way to establish working relationships. | • Maintains formal working relationships.<br>• Includes unstructured chats about work related matters.<br>• Occasionally initiates informal or casual relationships or conversation. | • Makes a conscious effort to build rapport.<br>• Frequently initiates informal or casual contacts at work.<br>• Initiates friendly relations with colleagues and customers outside work. | • Frequently entertains colleagues or customers at home.<br>• Cares about their well-being.<br>• Utilises personal friendships to further company's interests. |
| Developing Others | • Does not express positive expectations and comments.<br>• Unable to display a favourable attitude towards subordinates and customers. | • Focuses on doing his own job well.<br>• Sets a good example. | • Makes positive comments about others' ability.<br>• Believes in others' ability to learn.<br>• Makes specific helpful suggestions. | • Gives practical support to make the job easier.<br>• Gives directions or demonstrations with reasons included, as a training strategy.<br>• Uses different methods to verify that others have understood explanations. | • Reassures others after a setback.<br>• Gives negative feedback in behavioural rather than personal terms.<br>• Expresses positive expectations for the future.<br>• Arranges appropriate training or other developmental action for fostering learning. |
| Teamwork & Cooperation | • Disruptive.<br>• Causes trouble. | • Passive<br>• Does not resist participation but does not initiate participation also. | • Participates willingly.<br>• Supports team decisions.<br>• Shares relevant or useful information. | • Expresses positive expression for others.<br>• Speaks of team members positively.<br>• Is willing to learn from others. | • Genuinely values others' inputs and expertise.<br>• Solicits ideas and opinion to help take decisions.<br>• Publicly credits others. |

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| | | | | | • Encourages and empowers others.<br>• Places team interest above personal interest. |
| Leadership | • Fails to lead.<br>• Is unable to provide direction or mission when subordinates need them. | • Manages meetings.<br>• States agenda and objectives.<br>• Controls time.<br>• Makes assignments. | • Let people affected by a decision know what is happening.<br>• Makes sure that the group has all the information.<br>• Is able to motivate his team.<br>• Gives crisp and concise directions. | • Makes a personal effort to treat all group members fairly.<br>• Uses strategies to promote their morale and productivity.<br>• Protects the group and its reputation.<br>• Makes sure the practical needs of the group are met.<br>• Involves his team in planning ahead. | • Has genuine charisma.<br>• Communicates a compelling vision.<br>• Generates excitement, enthusiasm and commitment to the group's mission. |
| Self-assurance | • Shows lack of confidence.<br>• Avoids conflict or disapproval.<br>• Has a weak self-presentation. | • Defers to others (the 'yes sir' man).<br>• Lacks confidence. | • Make decision independently.<br>• Works without constant supervision. | • Makes or acts on decisions in spite of disagreement from others.<br>• In company's interest, acts outside area of explicit authority. | • Causal agent, prime mover and catalyst.<br>• States position clearly in conflict.<br>• States confidence in own judgement with action supporting judgement.<br>• Is happy with challenging assignments. |
| Motivation and Initiative | • Does not exhibit energy and enthusiasm. | • Discharges assignment as per expectations. | • Approaches work with a positive and flexible attitude.<br>• Works hard to meet goals and objectives.<br>• Takes initiatives and responds to challenges and opportunities. | • Identifies common goals and works hard to realise them.<br>• Demonstrates enthusiasm for the issues at hand. | • Maintains energy and focus in the face of stress, ambiguity and change.<br>• Engenders enthusiasm and motivation to work with him or her. |
| **2. Communication** | | | | | |
| Listening & Responding to | • Makes others 'close up'. | • Listens when approached. | • Demonstrates objective and | • Has an 'open door'. | • Is able to insightfully |

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| Others | • Does not demonstrate listening skills. | • Is receptive to new information | active listening.<br>• Picks up clues to others' meanings or feelings. | • Goes out of the way to invite conversations.<br>• Actively seeks to understand.<br>• Responds with sensitivity and directness. | assess the underlying causes of individual and group behaviour.<br>• Uses understanding based on listening and observation to predict and prepare for others' reactions.<br>• Reflects people's concerns.<br>• Responds to people's concerns. |
| Written Communication | • Does not use correct grammar and syntax.<br>• Lacks ability to communicate concisely and directly. | • Able to produce written communication with minimum supervisor input. | • Demonstrates an understanding of the various vehicles for written communication.<br>• Able to produce written briefing materials in a clear and effective manner. | • Communicates efficiently and concisely using complex information.<br>• Communicates in ways that capture interest, inform and gain support. | • Demonstrates written fluency even under pressure or within tight deadlines.<br>• Conveys complex and critical information in high pressure situations.<br>• Adopts different styles according to requirement. |
| **3. Planning and Decision-Making** | | | | | |
| Information Gathering | • Does not seek additional information. | • Asks direct questions of immediately available people.<br>• Consults available resources. | • Get critical information on time.<br>• Uses network to gather information.<br>• Has information on who to contact in exigencies. | • Have formal and informal networks to gather sensitive information.<br>• Asks a set of probing questions to get at the root of a problem.<br>• Calls on others who may not be directly involved to get perspectives, background information. | • Makes a systematic effort over time to obtain data or feedback.<br>• Has personally established on-going systems for various kinds of information (through 'management by walking around' or informal meetings). |

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| | | | | | • Involves others who normally would not be involved and gets them to seek out information. |
| Result Orientation | • Shows no special concern with work.<br>• Does only what is required. | • Works hard but gives no evidence of his standard of excellence for work outputs. | • Works towards implicit standards of excellence.<br>• Tries to do the job well or right.<br>• Uses available resources to get desired results.<br>• Works to meet a standard set by management. | • Makes specific changes in the system or in own work methods to improve performance.<br>• Makes considerations of cost benefit and return on investment. | • Makes decisions.<br>• Set priorities.<br>• Sets priorities and acts to reach challenging goals.<br>• Identifies potential obstacles. |
| **4. Improvement & Innovation Orientation** | | | | | |
| Degree of Innovation | • Is comfortable with routine ways and means. | • Tries to improve upon old methods of accomplishing tasks. | • Improves performance by doing something new and different. | • Adopts methodologies to tackle new or complex problems.<br>• Generates new ideas and assesses their practicality.<br>• Explores un-conventional solutions. | • Uses breadth and depth of knowledge to provide fresh perspectives.<br>• Responds positively to innovation and creativity in others. |
| Analytical Thinking | • Does each thing as it comes up.<br>• Responds to an immediate need or request. | • Aligns current action with goals.<br>• Breaks problem into simple lists of tasks or activities. | • Analyses relationship between a few parts of a problem or situation.<br>• Makes simple causal links.<br>• Sets priorities for tasks in order of importance.<br>• Grasps essence and underlying structure of problems or processes. | • Analyses relationships among several parts of a problem or situation.<br>• Breaks down a complex job into manageable tasks.<br>• Recognises several likely causes of events or consequences of actions.<br>• Anticipates obstacles and thinks ahead. | • Breaks down a complex problem or process into component parts.<br>• Uses several techniques to break apart complex problems to reach a solution.<br>• Makes long chains of causal connections.<br>• Uses knowledge of trends to make value-added decisions. |

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| | | | | | • Works with complex and varied information to provide clear advice on policy, files or issues.<br>• Considers medium and long term implications of policy. |
| Conceptual Thinking | • Thinks very routinely. | • Use rules of thumb, common sense and past experience to identify problems or situations.<br>• Sees essential similarities between current and past situations. | • Observes discrepancies, trends and interrelationships in data.<br>• Links parts of a problem to a broader set of issues.<br>• Sees patterns or trends when looking at information. | • Applies complex concepts like root cause analysis and portfolio analysis.<br>• Applies knowledge of past discrepancies, trends and relationships.<br>• Applies and modifies complex concepts or methods.<br>• Uses alternative ways of looking at issues.<br>• Makes complex ideas or situations clear and simple. | • Pulls together ideas, issues and observations into a single concept or a clear presentation.<br>• Identifies a key issue in a complex situation.<br>• Formulates explanation for complex problems.<br>• Identifies problems and situations not obvious to others.<br>• Identifies several solutions and weighs the value of each. |
| **5. Quality Consciousness** | | | | | |
| Time Management | • Needs follow-up and monitoring to achieve targets. | • Does work at his own pace.<br>• Is unable to take initiative. | • Persists / takes steps to overcome obstacles.<br>• Does not give up easily when things do not go smoothly.<br>• Deadline driven. | • Recognises and acts on present opportunities and problems.<br>• Acts quickly and decisively in a situation (‘where the norm is to wait, ‘study’, and ‘hope problem will resolve itself’). | • Creates opportunities.<br>• Minimises potential problems by extra effort. |
| Customer Orientation | • Makes negative comments about customers. | • Unclear about customer’s need. | • Follows through on customer enquiries/ | • Distributes helpful information to | • Helps out with the customer through a |

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| | • Blames customers for negative outcomes.<br>• Does not perceive customer as important. | • Gives immediate response to customer without probing details. | requests/ complaints.<br>• Keeps customer up to date on the progress of the same.<br>• Considers customer's views and feedback in decision-making. | internal/external customer.<br>• Gives friendly, cheerful service.<br>• Corrects customer service problems promptly and un-defended. | crisis.<br>• Gives the customer a home phone number or means of easy access.<br>• Spends extra time with the customer.<br>• Makes a concrete attempt to add value to the customer.<br>• Expresses positive expectations of the customer. |
| Concern for quality, clarity and accuracy | • Lacks concern for order.<br>• Causes problem due to disorder. | • Maintains general order to work.<br>• Wants roles and tasks clearly spelt out, preferably in writing. | • Monitors quality of work.<br>• Checks to ensure that procedures are followed.<br>• Keeps clear and detailed records of activities. | • Monitors progress of project against deadline.<br>• Monitor data and discovers missing data.<br>• Seeks out information to keep order. | • Develops systems.<br>• Uses systems to organise and keep track of information. |
| Networking | • Does not maintain a network of contacts. | • Maintains an established network of contacts for general information.<br>• Keeps in touch with internal issues. | • Uses network to seek information of strategic importance.<br>• Gains access to sources of influence in order to support departmental objectives. | • Seeks to broaden network of contacts.<br>• Uses contacts to promote departmental image and ensure success of long-range goals. | • Uses a broadening network to create future opportunities for the department. |
| Organisational Commitment | • Does the minimum required to keep the job. | • Makes an active effort to fit in.<br>• Respects organisational norms. | • Shows loyalty.<br>• Willingly helps colleagues complete their tasks.<br>• Respects to those in authority. | • Understands and actively supports organisation mission and goals.<br>• Aligns own activities and priorities to meet organisational needs. | • Puts organisational needs before personal needs.<br>• Stands by unpopular decisions if they benefit the organisation.<br>• Sacrifices own department's goals for long term goal of the organisation. |

*Source: Competency Dictionary, NALCO, 2012.*

## 7.3 TATA STEEL ALLOYS LIMITED

Tata Steel has been endeavoured to be an 'employer of choice' by fostering an environment of continuous improvement and innovation that facilitates development of its employees. The organisation has always considered its employees to be one of its greatest assets, which can be viewed by the various policies undertaken for this purpose, such as systematic goal setting, continuous improvement processes, rigorous health and safety policies, corporate responsibilities, etc. The organisation recognises the essentiality of competency mapping to equip the employees with adequate skills and knowledge to carry out their tasks with the optimum level of precision. Tata Steel Alloys Limited (TS Alloys Ltd.), being a 100% subsidiary of Tata Steel has imbibed the competency framework by the parent company.

To create a high performing organisation, the company has implemented new HR systems such as: a) each person must add measurable value to the organisation job and beyond, b) development of people as a key competitive edge to survive in the new environment, c) new reward programmes must reinforce both individual competencies and performances, as well as those of the team and organisation, d) people becoming a real investment for the organisation. The organisation has taken efforts to develop a competency based performance system to increase the productivity index of the employees and the overall organisation. The organisation had taken the help of external consultants i.e. Hay Management Consultants to develop a competency mapping system for the employees. The system was perceived to be performance driven, which would institutionalise desired behaviour of the employees and reinforce teamwork at all levels.

### 7.3.1 Competency Mapping at TS Alloys Limited

The competency mapping is a continuous process that has been undertaken by the organisation. The process of competency mapping has been subdivided into various phases so that the implementation can be effective. The phases of competency mapping are as follows:

1) In the initial phase of the process, the job positions of the employees are identified and the mapping of competencies is carried out accordingly. The job position, roles and tasks of the employees are systematically determined and listed. The category of

employees carrying out similar job roles within the organisation is bunched together into grades, both for the executives and non-executives. The minimum educational qualifications, past and present work experiences, significant contribution towards the organisational performance, etc. are also notified at this stage.

2) The second phase deals with identification of competencies for employees of each grade. To carry out the process some steps are followed such as:
   a) Identification of key performance areas (KPA) and key result areas (KRA). In case of executives, the KRA's for the employees are sub-divided into various categories such as Safety, Customers, Internal Business Process, Financial, and People and Development.
   b) Linking of KPA's and KRA's to the organisational and departmental objectives.
   c) The targets and weightage of each component of the KRA's and KPA's are determined.
3) The essential competencies of the employees are identified in the third phase of the competency mapping process. Competency framework is developed considering the present and future competency needs of the employees.
4) Competency gaps are identified in the fourth phase through the competency assessment process. The competency assessment is carried out by the organisation through various methods such as;
   a) 360 degree feedback
   b) Benchmarking and case study method
   c) Structured experience
   d) Simulation exercise
   e) Top performer's surveys
5) In the fifth phase of the competency mapping process, various developmental and training programs are developed to fill up the competency gaps of employees identified in the previous phase of the process. In accordance to the competency requirements of the employees a training schedule is developed consisting of various training programmes and developmental interventions. The training programmes mix of soft skills and hard skills based on the levels and need. The planning stage of the training programme consists of five major steps such as:

a) *Calendar Preparation*: The first step of developing a systematic training programme is to prepare the training calendar for the current financial year based on the identified needs of the employees. The calendar consists of the programme name, date and venue, trainer, total number of participants and the cost; which is made available to all the employees on request.

b) *Intimation to respective departments/units*: In the second step, the HR department will send a mail/note/notice to the respective departments/units about the schedule/content/trainer. The HR department is responsible to send communication on the programme to the employees and their immediate superiors (reporting officer) at least two weeks in advance to enable them to plan and schedule their work accordingly. In case there is any change of dates of the programme, the same is communicated to the relevant departments through the notice board/e-mail and confirmation is received.

c) *Nomination*: In the third step, the identified employee's immediate superior is required to nominate the employee based on the need/critical skill development objectives. In case the nomination is cancelled, it has to be immediately notified to the HR department with justification for the cancellation.

d) *Faculty/content fixation*: The fourth step involves the selection of training faculties and finalisation of training content for the programmes. The HR department and the respective department are jointly responsible for fixing the faculty/content. The vendors /trainers are to be communicated about the training requirements and are asked to submit their proposals (Content/Bill) for the same. The trainer/content is finalised by HR in consultation with departments for specific /critical skill development objectives. In case of soft skill/ behavioural training, the panel members of faculty and experts of content assessment are members belonging to the department of human resources. Whereas, in case of any functional/technical training, the panel members for faculty and experts of content assessment are the HOD's of the members from the specific departments. The training module and trainer have to be certified by respective department head's after finalisation.

e) *Facility arrangement*: The HR department is responsible for intimating the administration department regarding the facilities needs for the training programmes.

The external resources required to conduct the training programmes are arranged accordingly.

6) In the final stage of the process, the effectiveness of the training programme, the trainers and the trainees are evaluated. A training feedback form is given to each participant to write their comments on the content/method of training/ the way it is organised, etc. Similarly, the trainer is also given a feedback form to comment on facility management/course content/ level of participation and so on. The immediate reporting authority of the employees who received the training are also asked for their feedback; in terms of improvement or changes in the trainee's performance particularly in the areas in which they have received the training. The training and development undertaken by the employees are reviewed in the appraisal system as part of the competency assessment process, so that each employee receives the requisite job specific skills for performance excellence.

### 7.3.2 Executive Competency Clusters

The competency mapping process for the employees of TS Alloys Ltd. are done on two levels. The first level of competency mapping is done for functional competency mapping and the second for leadership competency mapping of the employees. The functional competency clusters that are identified for the executives are broadly divided into the core competencies and competencies specific to job family group. The core competencies are sub-divided into three competencies such as; a) achievement orientation, b) customer orientation and c) teamwork and cooperation. The competencies specific to job family group are sub-divided into four competencies such as; a) problem solving, b) knowledge sharing, c) concern for quality and order, and d) Commitment. The competencies of the employees are separately rated for each key function on a scale of 0-2 where 0 indicates "competency is not evident", 1 is "partial competent" and 2 is "full competent". At the end of this exercise, the competency gaps exist for those functions where the score is less than 2. Based on the scores obtained, the employees are identified for the training programmes. The functional competencies for performance excellence are as follows;

a) *Achievement Orientation*: A concern for working well or for surpassing a standard of excellence. The standards may be one's own past performance (striving for

improvement); an objective measure (result orientation); outperforming others (competitiveness); challenging goals one has set; or even what anyone has ever done (innovation). The key behaviours of this competency area; punctual in meeting deadlines and no delays of assignments, attaining the pre-specified goal requirements, cooperation in implementation of the change processes, timeliness and regularities of output, thoroughness, accuracy and excellence of work output.

b) *Customer Orientation*: Implies a desire to help or serve customers to meet their needs. It means focusing one's efforts on discovering and meeting the customer or client's needs. The key indicators of this competency area are mentioned below:

- *Follow-Up*: Follows through on customer inquiries, requests, and complaints. Keeps customer up-to-date about the progress of inquiries (but may not probe customer's underlying issues).
- *Maintains Clear Communication*: Maintain clear communication with customer regarding mutual expectations, monitors customer's satisfaction. Distributes helpful information to customer's satisfaction. Distributes helpful information to customers. Gives friendly, cheerful service.
- *Takes Personal Responsibility*: Takes personal responsibility for correcting customer-service problems. Corrects problems promptly and un-defended.
- *Takes Action for the Customer*: Makes self fully available, especially when the customer is going through a critical period. For example, providing the customer a home or vacation phone number or other means or easy access, or may spend extra time at the customer's location. Takes actions beyond normal expectations.
- *Addresses Underlying Customer Needs*: Knowing the customer's business and/or seeks information about the real underlying need of the customer, beyond those expressed initially. Matches these to available or customised products.
- *Uses a Long-Term Perspective*: Works with a long-term perspective in addressing a customer's problem. May trade off immediate costs of the stake for the long-term relationship. Looks for long-term benefits to the customer. Acts as a trusted advisor becomes involved in the customer's decision-making

process. Builds and independent opinion on client needs, problems or opportunities and possibilities for implementation. Acts on this opinion e.g., recommends approaches which are new and different from those requested by the client.

c) *Teamwork and Cooperation*: Implies the intention to work cooperatively with others, to be part of a team, to work together, as opposed to working separately or competitively. For this competency to be effective, the intention should be genuine. Teamwork and cooperation may be considered whenever the subject is a member of a group to people functioning as a team. The key indicators of this competency are:

- *Cooperation*: Participates willingly and supports team decisions, is a 'good team player', doses his share of the work. As a member of the team; keeps other team members informed and up-to-date about the group process, individual actions, or influencing events; shares all relevant or useful information.
- *Express Positive Expectations of Team*: Expressed positive expectations of others in terms of their abilities, expected contributions; speaks of team members in positive terms. Shows respect for others intelligence by appealing to reason.
- *Solicits Inputs*: Genuinely values others input and expertise, exhibiting a willingness to learn from others (including subordinates and peers). Solicits ideas and opinions to help from specific decisions or plans and promotes team cooperation.
- *Encourages Others*: Publicly credits others who have performed well encourages and empowers others, makes them feel strong and important.
- *Builds Team Spirit*: Acts to promote a friendly climate, good morale and cooperation, e.g., holds parties and get-together, creates symbols of group identity. Resolves team conflicts. Protects or promotes the group's reputation with outsiders.

d) *Problem Solving*: The capability to understand a problem or situation, relating to the employees area of responsibility, by breaking it apart into smaller pieces, or tracing the implications of a problem or situation in a step-by-step way to find a solution.

This includes organising the parts of a problem in a systematic way, making systematic comparisons of different features or aspects, setting priorities on a rational basis identifying time sequence, causal relationship or if – then relationship. The key indicators of such competency are:

- *Break Down Problems*: Breaks problems into simple lists of tasks or activities without assigning values. Lists down problems with no particular order or set of priorities.
- *See Basic Relationships*: Takes apart problems into pieces. Links together pieces with a single link. Sorts out a list of solutions/tasks in an order or importance.
- *See Multiple Relationships*: Breaks down a problem into smaller parts. Makes multiple causal links: several potential causes or events, several consequences of actions, or multiple-part chains or events (A leads to B; B leads to C; and C leads to D). Analyses relationships among several parts of a problem or situation and finds the solution.
- *Makes Complex Plans or Analyses*: Uses several analytical techniques to break apart complex problems into component parts (this is more than the linear breaking down or problems in level 3). Uses several analytical techniques to identify several solutions and weigh the value of each. Anticipates obstacles and thinks ahead about next steps.

e) *Knowledge sharing*: The intention is to have adequate job knowledge to demonstrate technical/professional expertise, awareness of the latest development in a functional discipline, familiarity with system policies and procedure, safety consciousness and willingness to accept different jobs as well as to share the experiences with the fellow co-workers.

f) *Concern for Quality and Order*: Reflects an underlying drive to maintain the standard of quality or order. It is expressed in such forms as insisting on clarity of information, monitoring and checking work, schedules, to ensure accuracy, quality or safety standards. The key indicators of this competency are:

- *Keeps an Organised Workspace*: Maintain an orderly workspace to comply with operational and safety standards or rules and regulations, 'good housekeeping' as a habit, consistently adheres to good operating practice.
- *Checks Own Works*: Believes in prevention rather than detection. Double-checks the accuracy of information or quality or own work to be in line with pre-specified standards, e.g. 'error-free output', 'no major accident', 'zero accident', '100% delivery compliance', etc.
- *Monitors other's Works*: Monitors quality of others work, check to ensure that procedure are followed and standards are met, or keeps clear, detailed records of others' activities, shows general concern for order in existing systems.
- *Monitors Data or Projects*: Monitors progress of work against milestones or schedules to ensure compliance, timely delivery, monitors data, discovers weaknesses or missing data and seeks out information to keep order.
- *Develop Systems*: Develops and uses systems to organise and keep track or information, monitors compliance with rules and regulations for the purpose of maintaining schedule, quality and standards.

g) *Commitment*: Indicates acceptance and a sense of duty and responsibility, diligence, loyalty towards the company and the ability to remain unflustered by work pressures.

The leadership competency is basically formulated for the potential assessment and growth of the executives of the organisation. The leadership competency clusters are developed with the intention to improve the job performance of the executives effectively. The leadership competency chart and the associated key attributes are illustrated in table 7.4, which are evaluated on the five proficiency levels. The five proficiency levels for evaluating the leadership competencies are:

a) *Yet to demonstrate*: Exhibits absence of or negative behaviours/ traits on the competency, characterised by "I do not see this competency or I see negative traits of this competency".
b) *Learner*: The competency is not fully developed and is applied under the guidance, characterised by falling "I see an effort for displaying this competency at times".

c) *Practitioner*: The competency is developed and has been applied without guidance, characterised by "I see his competency being displayed often".

d) *Leader*: The competency is well developed, and is applied well in complex situations, characterised by "I see this competency being displayed consistently".

e) Expert: The competency is developed in superior fashion and proficiently practiced. Somebody who can mentor others in improving their level in this competency, characterised by a feeling "Is a natural talent and is the best in class".

The leadership competencies identified for the executives of the organisation are sub-divided into four groups such as:

a) *Organisational Values*: Enabling the organisation to have a uniform value system. This would promote behaviour that would help us sustain our responsibility towards our stakeholders and society at large.

b) *Leadership of People*: Qualities and behaviours that allow one to have an impact on their employee's contribution, development, and understanding of their role. It refers to aligning an individual's behaviour to the organisation's vision as well as manages oneself effectively within the organisation to coach and mentor for achieving individual and organisational objectives.

c) *Leadership of Business*: Assessing the situation and developing strategies and plans that are responsive for long term needs of the business and doing well thought out decisions which are aligned to the organisation's strategic direction.

d) *Leadership of Results*: Establishing and achieving high performance goals and standards by continuously learning and adapting the changes in business environment thus enabling to innovate and lead. The intention is to use one's cognitive ability to research, analyse and constantly strives to have an effective relationship with all the stakeholders.

**Table 7.4: Competency Groups and Key Attributes**

| Sl. No. | Competency Groups | Parameters | Key Behavioural Attributes |
|---|---|---|---|
| 1 | Organisational Values | Organisational Values | Integrity, Trusteeship, Respect for individual, Credibility, Having a larger purpose |
| 2 | Leadership of People | Interpersonal Effectiveness | Teamwork, Conflict management, Withstanding pressure |
| | | Coaching and Mentoring | People development, Empathy |
| | | Change Orientation | Adapting to change, Cross cultural management |
| 3 | Leadership of Business | Decision-making | Decision-making, Problem solving, Dealing with ambiguity |
| | | Business Acumen | Business sense, Strategic thinking |
| 4 | Leadership of Results | Drive for Results | Achievement orientation, Planning and organising skills, Courage to dream big and being passionate about it. |
| | | Customer Orientation | Customer Focus, Customer Care |
| | | Professional Excellence | Learning, Innovation, Persistence, Quest for Knowledge |
| | | Influencing and Networking | Influencing, Networking, Communication skills, Manage external environment |

*Source: Compiled by HRD, TS Alloys, Ltd., 2011.*

## 7.4 IMPLICATIONS

Competency mapping is gradually becoming one of the vital activities that are being carried out by the human resource department in view to the personnel development initiative. Capability building and skill development exercises are gaining its momentum; as the manufacturing units have realised that human capital can assist in achieving overall competitive advantage and productivity increments. The current competency based performance management practices and procedures that are applicable to the manufacturing units impart various beneficial managerial insights such as:

- Business strategy and objectives are synced with the competency attributes in the competency framework; so as to get the executives realisation and capitalise the strategic opportunities that are beneficial to the units satisfied.
- Development of leadership pipeline within the organisation is one of the common factors in a majority of the competency frameworks. The units are focused on developing the leadership competency of the executives so as to create a leadership pool that would be beneficial during the promotion and succession planning activities.

Executive cadre employees, mostly deal with the day to day operation and administration; for the smooth functioning of the activities within the organisation, leadership capability is proving to very vital.

- Decision-making and professional expertise, is one of the major components in the competency framework. The executives need to take some work related decisions on a daily basis, which has a direct and indirect impact of the performance level of the individuals and the organisation as a whole. Professional expertise, business acumen and business knowledge help in tackling problems and in taking apt decisions at the right time. Functional and cognitive competencies of the executives come into the forefront in the duration of accomplishing the pre-determined tasks and goals set by the organisation.
- Profitability and productivity are the two wheels on which an organisation functions. An organisation needs to showcase remarkable results in order to sustain in the market, therefore, result-oriented behaviour is expected among the executives on the units. Setting up of priorities and deducing actions to accomplish those goals are part and parcel of an executive job role. Therefore, result oriented competencies have been an essential element in the competency framework of the research units.
- The attributes of social competencies such as relationship building, coordination, networking ability, etc. are included in the competency frameworks. The executive transacts with the customers, stakeholders, subordinates, colleagues, superiors, etc. on a regular basis. For successful transaction process it is essential that the executives possess extensive social competencies, to maintain a people centric conducive environment within and outside the organisation for performance increment.

## 7.5 CONCLUSION

The competency mapping initiatives taken up by the research units of this study indicates that the manufacturing organisations recognise the importance of executive capacity building in achieving performance excellence. The organisations have made considerable effort to formulate an extensive competency framework, in accordance to the specificity of the organisational objective and goal. External consultants have been engaged in the competency mapping process to make the competency mapping process more systematic and objective.

The competency framework is differentiated with respect to the job position and the roles of the job incumbents within the organisation. This chapter gives an insight on the tools and frameworks on competency mapping that are presently practiced by the manufacturing research units of this study. The competency parameters and attributes used by the units, has helped in the development of the competency based performance management model that is proposed to be viable for both theoretical and practical purposes.

# CHAPTER VIII

# DATA ANALYSIS

## (Based on Primary Data)

# DATA ANALYSIS

## 8.0 INTRODUCTION

The performance of the executives is highly dependent on the level of accuracy in performing the varied duties and roles allotted to them over a period of time within an organisation. The competencies are the standardised requirement of an individual, comprising of knowledge, skills, abilities and behaviours which are necessary for performing a specific job adequately as well as improves the overall individual performance within an organisational set up. Therefore, a competent workforce of an organisation is directly linked to competitive advantage for an organisation, as it is difficult to replicate. The recent studies have highlighted the need of appropriate competencies within manufacturing industries, which are increasing across occupations due to increment in scientific and technological advances, automation, regulatory requirements and due to drive for continuous improvement. These factors are initiating the demand for enhancement and upgradation of skills for the existing workforce as well as ensuring that the skills supplied by mainstream education and training are sufficient and relevant to industry requirements. The thrust for the competent executives has instigated the need to identify the essential executive competencies that can promote executive performance within manufacturing industries. Though the manufacturing industries have realised the importance of executive competencies in relation to the overall performance of the firm, still there is a lack of adequate measurement scale to evaluate the essential competencies directly with executive performance.

This study explores the competencies critical to the success of the executives in the manufacturing sector. Three manufacturing, research units had been considered for conducting this study. The core focus of this study was to carry out an empirical investigation on the competency based executive performance assessment in manufacturing units and the relationship between executive competencies and their role in executive effectiveness and organisational excellence. The main emphasis was given to the competency requirements of middle and lower level executives within the manufacturing units, as they are critical to successful strategy implementation within an organisation. Therefore, their level of competence has got a significant impact on the overall performance of an organisation. The central research objective was to provide the executives of the manufacturing sector a tool to

determine the critical competencies which are essential for the current and future accomplishment of the goals of an organisation.

## 8.1 DEMOGRAPHIC PROFILES OF THE SAMPLES

To measure the effectiveness of executive competencies on executive performance, a self-designed, pre-tested questionnaire has been implemented to collect primary data from the middle and lower level executives of the selected research units. A total of 750 questionnaires was distributed, out of which only 516 usable responses from the respondents have been included. Around 516 questionnaires were only used for the study and the remaining of the questionnaires was excluded due to non-responsiveness of the participants and incomplete data entries, thus the response rate was 68.8%. The research units had a cadre system in which executive having (E0-E6) level belongs to middle and lower level executives, whereas (E7 and above) belong to higher level executives. Therefore to conduct the study, only executives from E0-E6 levels were considered. The demographic profile of the respondents has been tabulated in table 8.1 which reveals that out of the total respondents 440 (85.3%) were male, while 75 (14.7%) were female, thus showcasing a skewed profile of executives working in manufacturing units, which comprises the majority of males. The age group of the respondents included in the study varies between 18-60 years; about 172 (33.3%) of the samples belong to the age group of 26-35 years, 149 (28.9%) belong to the age group of 36-45 years, 112 (21.7%) to 18-25 years, 72 (14%) to 46-55 years and about 11 (2.1%) of the samples belong to the age group of 56-60 years. The years of experience among the respondents ranges from 00-21 years and above. But 158 (30.6%) of the respondents have an experience of 06-10 years, 155 (30%) have 00-05 years, 101 (19.6%) have 11-15 years, 52 (10.1%) have 16-20 years and 50 (9.7%) of the respondents have an experience of 21 and above years of experience in their field of work. The departments of the respondents were divided into five segments such as Marketing, Production and Technology, Logistics and Operations, Raw Materials and Systems and Finance and Human Resource. Out of 516 samples, 198 (38.4%) of the respondents belong to the Department of Logistics and Operations, 158 (30.6%) belong to Production and Technology, 84 (16.2%) belong to Raw Materials and Systems, 42 (8.1%) belong to Marketing and 34 (6.7%) of the respondent belong to the Department of Finance and Human Resource.

To test of the relationship between the independent variables (executive competencies) to the dependent variable (performance), the demographic profile of the respondents is treated as control variables in this study. According to Chen and Klahr, (1999), "control of variables is the fundamental idea underlying the design of un-confounded experiments from which valid, causal, inferences can be made". Therefore, the demographic profile depicts only the categories from which the samples were extracted for data discrimination purpose.

**Table 8.1: Demographic Profile**

| Category | Items | No. of Samples | Percentage |
|---|---|---|---|
| Gender | Male | 440 | 85.3 |
| | Female | 76 | 14.7 |
| Age | 18-25 | 112 | 21.7 |
| | 26-35 | 172 | 33.3 |
| | 36-45 | 149 | 28.9 |
| | 46-55 | 72 | 14.0 |
| | 56-60 | 11 | 02.1 |
| Experience | 00-05 | 155 | 30.0 |
| | 06-10 | 158 | 30.6 |
| | 11-15 | 101 | 19.6 |
| | 16-20 | 52 | 10.1 |
| | 21-Above | 50 | 09.7 |
| Departments | Marketing | 42 | 08.1 |
| | Production and Technology | 158 | 30.6 |
| | Logistics and Operations | 198 | 38.4 |
| | Raw Materials and Systems | 84 | 16.2 |
| | Finance and Human Resource | 34 | 06.7 |

## 8.2 MEASUREMENT VARIABLES

The questionnaire of the study was prepared through extensive review of related literature and through focused interviews with industrial experts dealing with competency based performance management processes. Qualitative content analysis was initially conducted to obtain significant variables that can represent the constructs of the study adequately. Several rounds of discussions with the industry experts, references from various forms of print media such as articles, books, manuals, etc. were taken into consideration; at the time of framing of the questionnaire. According to Downe-Wamboldt (1992: 314), the goal of content analysis is "to provide knowledge and understanding of the phenomenon under study". All the items included in the questionnaire were framed to suit the developmental needs of the middle and lower level executives belonging to the manufacturing sectors, as well as the objectives of the present study. The questionnaire of the study consisted of 124 items in total. The

responses of the participants were collected through five point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scales of measurement were adequately tested for its inter-scale reliability, as illustrated in the table 8.2, which depicts the reliability coefficient (Cronbach alpha) for all the fourteen measured constructs. The reliability coefficients of all the constructs were found to be reliable as they range from 0.822 to 0.917. Nunnaly (1978), has indicated that a value of 0.7 and above as acceptable values of Cronbach alpha for measurement of the internal consistency of a test or scale. The various constructs taken into consideration for this study are as follows:

1. Organisational Culture (CUL): To understand the effects of organisational culture in identification of executive competencies, the works of Hofstede and McCrae, 2004; Triandis, 2004; Ravasi and Schultz, 2006 and others have contributed in the development of 8 items in this construct and found as a reliable construct ($\alpha$ = 0.835).
2. Organisational Strategy (ST): To explore the organisational strategy of the research units and their impact on the development of executive competencies, 7 items identified and included under this construct by taking prior literature reviews into consideration such as: Hamel and Prahalad 1989; Mele and Guillen, 2006; Cardy and Selvarajan, 2006 and Manikutty, 2010. The reliability coefficient for this construct is ($\alpha = 0.871$).
3. Entrepreneurial Competency (EC): A 9-items scale was developed by considering some of the notable works on entrepreneurial competency by Drucker, 1985; Lumpkin and Dess, 1996; Kotter, 2001; Mitchelmore, 2010 and others, but this was found reliable as $\alpha = 0.841$.
4. Meta Competency (MC): A 7-items scale was developed on the basis of the notable works on meta competency by Reynolds, 1988; Oldham and Cummings, 1996; Zhou, 2003 and others, the items under this construct was found reliable ($\alpha = 0.854$).
5. Functional Competency (FC): A total of 11-items included under this by taking into consideration of the notable works on functional competency by Knight, 1967; Hitt and Ireland, 1985; Reed and Defillippi, 1990; Hansson, 2001 and others. But, it was found that all items are reliable as $\alpha = 0.822$.

6. Social Competency (SC): Only 11-items included under this by taking into consideration of the notable works on social competency by Tsang, 1998; Greene and Burleson, 2003; Bass and Riggio, 2006 and others, which indicates all items are reliable ($\alpha = 0.917$).
7. Intellectual/Cognitive Competency (CC): The questionnaire contains 11-items relating to this and identified from the works on intellectual/cognitive competency by Farkas and Vicknair, 1996; Premuzic and Furnham, 2005; Bell, 2007 and the value of Cronbach alpha ($\alpha = 0.876$) which indicates all items under this construct are reliable.
8. Personal Competency (PC): Based on the previous works on personal competency by Kegan, 1994; Kram, 1996; Gharehbaghi, 2003 and others, 11-items relating to this construct are found reliable as $\alpha = 0.894$.
9. Leadership Competency (LC): Only 8-items specific to this construct added to the questionnaire by taking into consideration of the notable works on leadership by Katz and Kahn, 1978; Waldman and Yammarino, 1999; Reynolds and Ceranic, 2007 and others, that are found reliable as $\alpha = 0.841$.
10. Result Oriented Competency (RC): This construct have 13-items relating to the notable works on result oriented competencies by Zingheim, 1996; Becker et al., 2001 and found reliable as $\alpha = 0.907$.
11. Ethical Competency (ETC): From the previous works on ethical competency by Kahn, 1990; Kavathatzopoulos, 2002; Preston, 2007 and others, only 6-items taken into consideration and found reliable ($\alpha = 0.821$).
12. Developmental Interventions (DI): The developmental intervention has considered as a moderator that has considerable influence on executive performance, which has been examined through the 7-items identified from the works of Cianni and Wnuck, 1997; McCauley, 2001; Day, 2007 and others. The construct was found reliable as $\alpha = 0.915$.
13. Executive Performance (EP): To explore the impact of executive competencies on organisational performance, 6-items included in the questionnaire and all are found reliable as $\alpha = 0.852$.
14. Organisational Performance (OP): The effect of overall organisational performance is examined through identification of 9-items and found reliable as $\alpha = 0.864$.

**Table 8.2: Inter-Scales Reliability Statistics**

| Sl. No. | Constructs | No. of Items | Cronbach alpha (α)* |
|---|---|---|---|
| 1 | Organisational Culture (CUL) | 8 | 0.835 |
| 2 | Organisational Strategy (ST) | 7 | 0.871 |
| 3 | Entrepreneurial Competency (EC) | 9 | 0.841 |
| 4 | Meta Competency (MC) | 7 | 0.854 |
| 5 | Functional Competency (FC) | 11 | 0.822 |
| 6 | Social Competency (SC) | 11 | 0.917 |
| 7 | Intellectual/Cognitive Competency (CC) | 11 | 0.876 |
| 8 | Personal Competency (PC) | 11 | 0.894 |
| 9 | Leadership Competency (LC) | 8 | 0.841 |
| 10 | Result Oriented Competency (RC) | 13 | 0.907 |
| 11 | Ethical Competency (ETC) | 6 | 0.821 |
| 12 | Developmental Interventions (DI) | 7 | 0.915 |
| 13 | Executive Performance (EP) | 6 | 0.852 |
| 14 | Organisational Performance (OP) | 9 | 0.864 |

** Note: Nunnaly (1978) has indicated that a value of 0.7 and above as an acceptable value of Cronbach alpha.*

## 8.3 DATA ANALYSIS AND RESULTS

The performance of the executives is highly dependent on the level of accuracy in performing the varied duties and roles allotted to them over a period of time within an organisation. The competencies are the standardised requirement of an individual, comprising of knowledge, skills and behaviours which are necessary for performing a specific job adequately as well as improves the overall individual performance within an organisational set up. Therefore, a pool of competent talent of an organisation is directly linked to competitive advantage for an organisation, as it is difficult to replicate it. The recent study highlights the need of appropriate competencies within manufacturing industries, which are increasing across occupations due to increment in scientific and technological advances, automation, regulatory requirements and due to drive for continuous improvement. These factors are initiating the demand for acquiring and up-gradation of skills for the executives as well as ensuring that the skills supplied by mainstream education and training are sufficient and relevant to industry requirements. The thrust for having competent executives has instigated the need to identify the essential executive competencies that can promote better performance within manufacturing industries. Though, the manufacturing industries have realised the importance of executive competencies in relation to the overall performance of the firm, still there is a lack of adequate measurement scale to evaluate the essential competencies directly with executive performance.

This study explores the competencies critical to the success of the executives in the manufacturing sector. Three manufacturing units have been considered as research units for conducting this study. The core focus of this study was to carry out an empirical investigation on the competency based executive performance assessment in manufacturing units and the relationship between executive competencies, executive performance and organisational performance. The main emphasis was given to the competency requirements of middle and lower level executives of the manufacturing units, as they are critical to successful strategy implementation within an organisation. Therefore, their level of competence has got a significant impact on the overall performance of an organisation. The research objective was to provide the executives of the manufacturing sector, a tool to ascertain the critical competencies which are vital to the current and future accomplishment of an organisation.

The data collected from the respondents were analysed with the help of statistical packages such as SPSS 22 and AMOS 22. Simple descriptive statistics, multiple regression and factor analysis were initially carried out on each construct to examine the influence of the several competencies on executive performance. The strength of the hypothesised conceptual model formulated in accordance with the findings of the existing literature is assessed thoroughly with Structural Equation Modelling (SEM) with AMOS 22. The interpretation of the results is illustrated in detail in the subsequent sections.

### 8.3.1 Organisational Culture

Previous research illustrated that there are commonly held human values that transcends the culture of an organisation which exceeds to incorporate the executive competencies. Therefore, the organisational culture has got a significant impact on defining the required level of executive competencies. The descriptive analysis revealed in the table 8.3 showcases the means, standard deviations and Pearson correlations of the independent variables and the dependent variable (competency requirement). The results of the calculated mean reflect the most contributing variable towards competency requirement (CR) is “Encouragement for up gradation of employee knowledge” (V7) as its value is 3.89 which is higher than other variables in the construct. Figure 8.1 indicates the role of organisational culture towards identification of competency requirements for the executives towards better performance. Most of the respondents identified organisational culture as an important element in the

identification of competencies as the mean scores of all items under this are above 3.5. The lower mean scores exhibit the gaps that are needed to be filled to achieve absolute benefit from the organisational culture in identification of executive competencies. The value of standard deviation is slightly greater than 1 in most of the variables except for "The organisation gives equal freedom to explore all their potentials aptly" (V3), "Strong communication regarding company issues is maintained" (V4) and "Ample opportunities given to initiate and lead people" (V5). The value of Pearson's correlation coefficient (r) indicates the strength and direction of a relationship between the two variables in a study. The independent variables (V1, V2, V3 and V4) have better positive correlation with the dependent variable (CR) as compared to the other independent variables (V5, V6, and V7) at a significance of .01 level.

The regression analysis is a statistical process for estimating the relationships among variables, where the focus is on the relationship between a dependent variable and one or more independent variables. The table gives the value of the coefficient of determination ($R^2$), which is the proportion of variance of the dependent variable (CR), explained by the independent variables. In this construct (CUL), the value of $R^2$ is 0.629, which implies that 63% of the variance in the dependent variable is explained by the predictor variables. Adjusted $R^2$ is modified measure and it indicates the fitness of the model, its value should ideally be equal to or near the value of $R^2$. In this model, the value of adjusted $R^2$ is 0.624, which is close to the value of $R^2$ (0.629), thus indicating the fitness of the model. A small standard error of 0.624 is good enough to imply reliable prediction of the model. The value of F is 123.223 is significant ($p < 0.001$), which makes the model statistically significant.

The regression coefficient table showcases a range of unstandardised and standardised coefficients. The standardised coefficients refer to how many standard deviations a dependent variable will change when the standard deviation increases for each independent variable, as all the independent variables have been standardised so that their variance are 1 (Hair et al., 2010). In the table 8.4, the results depict that all the variables are significant as $p<.05$. The highest beta coefficient is "Proper recognition to individual contribution and achievements by the organisation" (V1) with value 0.363, with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The t-statistics indicates a measure of the precision

with which the regression coefficient is measured. The highest t-value in this table is for V1 followed by V2, V5 and V7. The collinearity statistics shows that the values of tolerance and VIF are in their acceptable level, which indicates that there is no multicollinearity problem in this construct.

**Table 8.3: Mean, Standard Deviation, Correlations and Model Summary (CUL)**

| | Mean | Std. Deviation | CR | V1 | V2 | V3 | V4 | V5 | V6 | V7 |
|---|---|---|---|---|---|---|---|---|---|---|
| **CR** | 3.45 | 1.100 | 1 | | | | | | | |
| **V1** | 3.55 | 1.051 | .764** | 1 | | | | | | |
| **V2** | 3.60 | 1.086 | .650** | .701** | 1 | | | | | |
| **V3** | 3.66 | 0.894 | .564** | .657** | .618** | 1 | | | | |
| **V4** | 3.70 | 0.995 | .494** | .659** | .686** | .776** | 1 | | | |
| **V5** | 3.70 | 0.890 | .273** | .283** | .342** | .650** | .383** | 1 | | |
| **V6** | 3.85 | 1.005 | .265** | .307** | .222* | .468** | .326** | .429** | 1 | |
| **V7** | 3.89 | 1.008 | .188* | .228** | .112* | .229** | .174** | .249** | .427** | 1 |

R = .793, $R^2$ = .629, Adjusted $R^2$ = .624; Std. Error of Estimate = .675, F = 123.223, Sig. = .000

*** Significant at .01 level, * Significant at .05 level.*

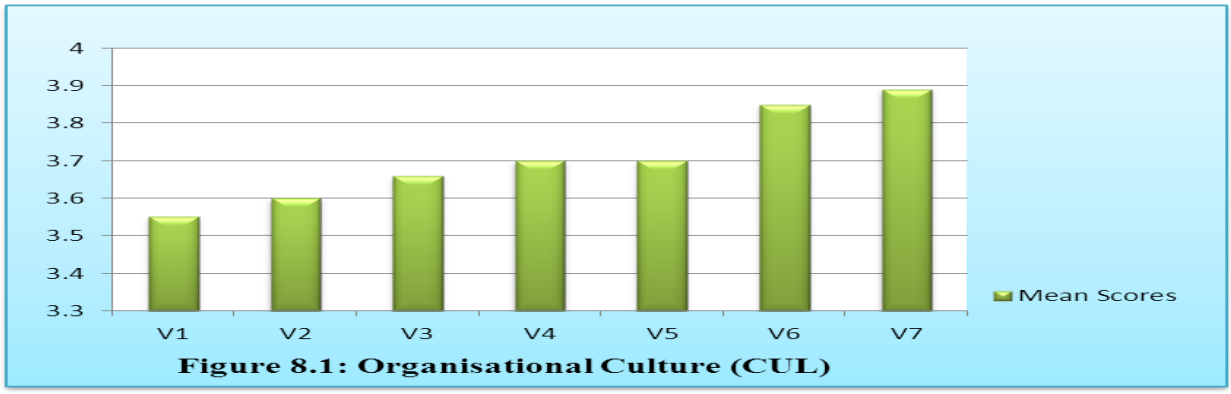


**Figure 8.1: Organisational Culture (CUL)**

**Table 8.4: β Coefficients and Collinearity Statistics**

| Model | Unstandardised Coefficients | | Standardised Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| (Constant) | -.076 | .193 | | -.396 | .192 | | |
| V1 | .363 | .045 | .063 | 14.370 | .000 | .491 | 2.037 |
| V2 | .167 | .044 | .149 | 6.091 | .000 | .454 | 2.203 |
| V3 | .136 | .049 | .128 | 2.233 | .000 | .430 | 2.326 |
| V4 | .150 | .046 | .143 | 2 .106 | .000 | .670 | 1.493 |
| V5 | .054 | .041 | .046 | 3.299 | .000 | .752 | 1.330 |
| V6 | .020 | .034 | .089 | 1.468 | .000 | .653 | 1.531 |
| V7 | .197 | .030 | .124 | 3.220 | .001 | .487 | 2.053 |

### 8.3.2 Organisational Strategy

Studies on organisational strategy has illustrated its role in identification of appropriate competencies to achieve the pre-determined goals for the organisation, which is depicted in the table 8.5 and evidenced the means, standard deviations and Pearson correlations of the independent variables under the construct organisational strategy and dependent variable (competency requirements). The results of the calculated mean show that the most contributing variable towards competency requirements (CR) is "Regular formal meetings with the departmental head"(V11) as its value is 4.01 which higher than other variables in this construct. Figure 8.2 indicates the strategic initiatives taken by the organisation towards identification and acquiring of relevant competencies by the respondents. Most of the respondents identified organisational strategy as an important element in the identification of relevant competencies as all of the mean scores is above 3.5. The lower mean scores exhibit about specific actions those are to be taken by the organisation in identification of appropriate executive competencies. The values of the standard deviations are slightly greater than 1 in most of the variables except for "Superiors and subordinates jointly setting the tasks and standards." (V8). The Pearson's correlation coefficient (r) reveals that all the variables in the construct are positively correlated at a significance of .05 level. The independent variables (V8, V9, V12 and V13) have better correlation with the dependent variable (CR) as compared to the other independent variables (V10, and V11) at a significance of .01 level. The table 8.5 illustrates the value of $R^2$= 0.619, which implies that 62% of the variance in the dependent variable is explained by the predictor variables. In this model the value of adjusted $R^2$ is 0.614, which is close to the value of $R^2$ (0.619), thus indicating the fitness of the model. A small standard error of 0.602 is good enough to imply reliable prediction of the model. The value of F is 137.750 ($p < 0.001$), which makes the model more significant.

In table 8.6, the results depict that all the variables are significant in this study with an alpha value of 0.05. The highest beta coefficient is "Superiors and subordinates jointly setting the tasks and standards" (V8) with value 0.433, with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of influence by the predictors is positive. The highest t-value in the table is for V8 followed by V10 and V13. In the collinearity table the values of tolerance and VIF are in their acceptable level, which indicates that there is no multicollinearity problem in this construct.

| Table 8.5: Mean, Standard Deviation, Correlations and Model Summary (ST) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Mean** | **Std. Deviation** | **CR** | **V8** | **V9** | **V10** | **V11** | **V12** | **V13** |
| **CR** | 3.61 | 0.970 | 1 | | | | | | |
| **V8** | 3.92 | 0.995 | .698** | 1 | | | | | |
| **V9** | 3.61 | 1.166 | .647** | .589** | 1 | | | | |
| **V10** | 3.61 | 1.183 | .528** | .421** | .553** | 1 | | | |
| **V11** | 4.01 | 1.024 | .458** | .615** | .409* | .344** | 1 | | |
| **V12** | 3.78 | 1.167 | .599** | .553** | .744** | .452** | .502** | 1 | |
| **V13** | 3.82 | 1.190 | .578** | .516** | .558** | .401* | .501** | .682** | 1 |
| $R = .787$, $R^2 = .619$, Adjusted $R^2 = .614$, Std. Error of Estimate = .602, F = 137.750, Sig. = .000 | | | | | | | | | |

** Significant at .01 level, * Significant at .05 level.


**Figure 8.2: Organisational Strategy (ST)**

| Table 8.6: β Coefficients and Collinearity Statistics | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Model** | **Unstandardised Coefficients** | | **Standardised Coefficients** | | | **Collinearity Statistics** | |
| | B | Std. Error | **Beta** | t | Sig. | Tolerance | VIF |
| (Constant) | .202 | .125 | | 3.206 | .001 | | |
| V8 | .433 | .039 | .122 | 10.925 | .000 | .455 | 2.198 |
| V9 | .183 | .038 | .152 | 3.979 | .000 | .670 | 1.493 |
| V10 | .169 | .027 | .138 | 5.053 | .000 | .558 | 1.792 |
| V11 | .185 | .022 | .130 | 3.890 | .000 | .431 | 2.320 |
| V12 | .155 | .040 | .146 | 2.162 | .000 | .489 | 2.045 |
| V13 | .176 | .032 | .143 | 4.494 | .000 | .476 | 2.101 |

### 8.3.3 Entrepreneurial Competency

Research in the field of entrepreneurial competencies suggests that by understanding the competency requirement of the changing role of the entrepreneur through the different phases of development of the business will support the development of competence, and in turn it would consequently lead towards successful business growth (Sathe, 2003; Hayton, 2006; Mitchelmore, 2010). Table 8.7 illustrated the results of the calculated mean of contributing variables towards better executive performance (EP) and the mean score for the variable "Have the ability to accomplish a job independently" (V20) is 4.37 which is higher than other variables in this construct. To present the level of entrepreneurial competencies acquired by the respondents in the figure 8.3, a radar graph was used. The radar chart is a chart or plot that consists of a sequence of equiangular spokes, called radii, with each spoke representing one of the variables. The data length of a spoke is proportional to the magnitude of the variable for the data point relative to the maximum magnitude of the variable across all data points. A line is drawn connecting the data values for each spoke (Chamber et al., 1983). It is used to display the strengths and weaknesses of the items included in each competency construct. Most of the respondents identified entrepreneurial competencies as an important element in enhancing executive performance in an organisation, as all of the mean scores are above 3.5. The values of standard deviation are slightly greater than .80 in most of the variables except for "Possess the competitive spirit to excel" (V19) which is 0.719. The Pearson's correlation coefficient (r) reveals that all the independent variables in the construct are positively correlated with the dependent variable (EP) at a significance of .05 level. The independent variables (V14 and V15) have better correlation with the dependent variable (EP) as compared to the other independent variables (V16, V17, V18, V19, V20 and V21) at a significance of .01 level. The value of $R^2 = 0.523$, which implies that 52% of the variance in the predicted variable is explained by the predictor variables. In this model the value of adjusted $R^2$ is 0.516, which is close to the value of $R^2$ (0.523), thus indicating the fitness of the model. A small standard error of 0.650 is good enough to imply reliable prediction of the model. The value of F is 69.626 is significant at ($p < 0.001$), which makes the model significant.

In table 8.8, the figures reflected that all the variables are significant in this study with an alpha value of 0.05. The highest beta coefficient is "Have the vision to spot opportunities"

(V14) with value 0.624, with a significance of 0.000 levels. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The highest t-value in the table is for V14 followed by V18 and V16. In the collinearity table the values of tolerance and VIF are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

**Table 8.7: Mean, Standard Deviation, Correlations and Model Summary (EC)**

| | Mean | Std. Deviations | EP | V14 | V15 | V16 | V17 | V18 | V19 | V20 | V21 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.77 | .935 | 1 | | | | | | | | |
| **V14** | 3.91 | .903 | .664** | 1 | | | | | | | |
| **V15** | 3.96 | .966 | .526** | .648** | 1 | | | | | | |
| **V16** | 3.93 | .843 | .444** | .535** | .567** | 1 | | | | | |
| **V17** | 4.01 | .878 | .371* | .570** | .562** | .484** | 1 | | | | |
| **V18** | 3.88 | .861 | .369** | .235** | .338** | .428** | .245** | 1 | | | |
| **V19** | 4.15 | .719 | .216** | .142* | .100* | .294** | .165** | .245** | 1 | | |
| **V20** | 4.37 | .839 | .203** | .242** | .176** | .428** | .148** | .165* | .547** | 1 | |
| **V21** | 4.35 | .845 | .315** | .418** | .416** | .439** | .245** | .148** | .488** | .649** | 1 |

$R = .724$, $R^2 = .523$, Adjusted $R^2 = .516$; Std. Error of Estimate = .650, F = 69.626, Sig. = .000

** Significant at .01 level, * Significant at .05 level.

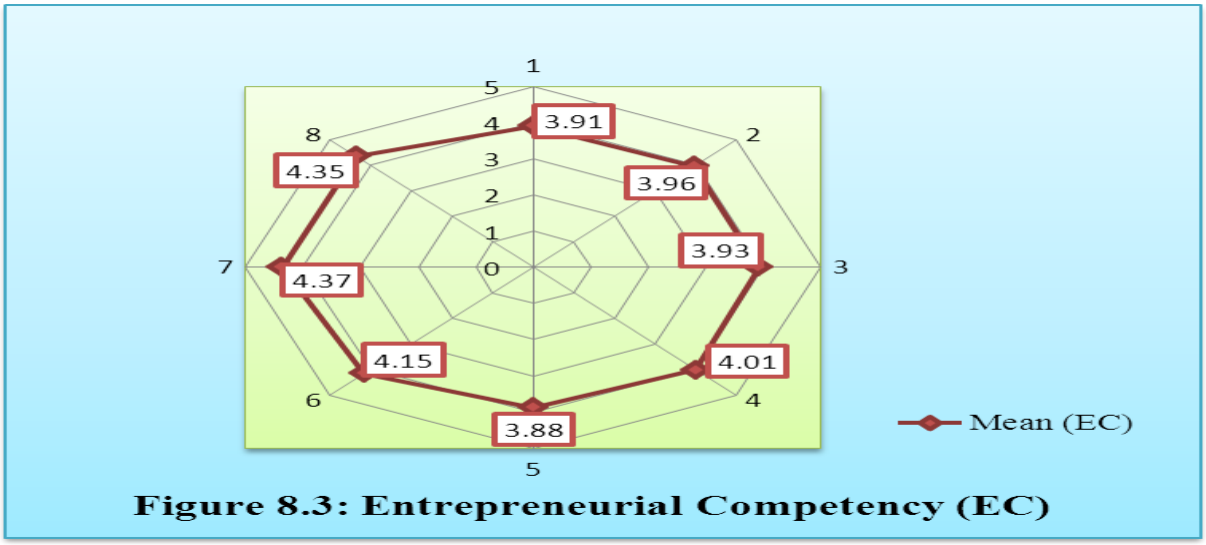


**Figure 8.3: Entrepreneurial Competency (EC)**

**Table 8.8: β Coefficients and Collinearity Statistics**

| Model | Unstandardised Coefficients | | Standardised Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| (Constant) | .080 | .219 | | .365 | .115 | | |
| V14 | .624 | .047 | .024 | 13.859 | .000 | .464 | 2.155 |
| V15 | .180 | .046 | .174 | 3.807 | .000 | .421 | 2.375 |
| V16 | .018 | .047 | .032 | 4.889 | .000 | .493 | 2.028 |
| V17 | .111 | .032 | .110 | 2.236 | .000 | .475 | 2.105 |
| V18 | .042 | .040 | .063 | 6.528 | .000 | .683 | 1.464 |
| V19 | .137 | .043 | .123 | 3.184 | .002 | .626 | 1.597 |
| V20 | .151 | .045 | .139 | 2.189 | .000 | .436 | 2.294 |
| V21 | .183 | .045 | .175 | 2.590 | .000 | .423 | 2.364 |

### 8.3.4 Meta Competency

Possession of meta-competencies help with reinforcement of other competencies, as an individual is able to learn, adapt, anticipate and create, rather than being able to demonstrate that one has the ability to do, thus initiating increased executive performance (Fleming, 1991; Cheetham, 1996; Zhou, 2003). Table 8.9 illustrates the results of the calculated mean that is most contributing variable towards executive performance (EP) is "Open to new and diverse people and ideas" (V27) as its value is 4.02 which higher than other variables in the construct. The figure 8.4 presents the importance of meta- competencies for performance improvement as opined by the respondents. Most of the respondents identified meta-competency as an important element in enhancing executive performance within an organisation; as all of the mean scores are above 3.5. The lower mean scores exhibit the gaps relating to the competencies under this construct and the organisations must take appropriate means for bridging of such gaps towards better performance drives. The values of standard deviation are slightly greater than .80 in most of the variables except for "Open to new and diverse people and ideas" (V27) which is slightly greater than 1. The independent variables (V22, V23, V24 and V25) have better correlation with the dependent variable (EP) as compared to the other independent variables (V26 and V27) at a significance of .01 level. From the table 8.9 it is quite visible that 60% of the variance in the dependent variable is explained by the predictor variables as $R^2 = 0.609$. In this model the value of adjusted $R^2$ is 0.604, which is close to the value of $R^2$ (0.609), thus indicating the fitness of the model. A

small standard error of 0.579 is good enough to imply reliable prediction of the model. The value of F is 131.964 and is significant ($p < 0.001$), which makes the model quite acceptable.

In table 8.10, the highest beta coefficient for the variable "Creatively undertakes a given task" (V22) is 0.472 with a significance of 0.000 levels. The beta values of all the variables are positive except for the variable "Understand yourself and your goals and abilities" (V25) which depicts that it has a negative influence on the predictor variable. The highest t-value in the table is for V22 followed by V23 and V24. Moreover, the values of tolerance and VIF are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

**Table 8.9: Mean, Standard Deviation, Correlations and Model Summary (MC)**

| | Mean | Std. Deviation | EP | V22 | V23 | V24 | V25 | V26 | V27 |
|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.71 | 1.079 | 1 | | | | | | |
| **V22** | 3.83 | 0.964 | .702** | 1 | | | | | |
| **V23** | 3.79 | 0.980 | .643** | .596** | 1 | | | | |
| **V24** | 3.94 | 0.847 | .550** | .544** | .542** | 1 | | | |
| **V25** | 3.95 | 0.924 | .449** | .544** | .634** | .492** | 1 | | |
| **V26** | 3.76 | 0.929 | .365* | .322** | .745** | .372** | .204** | 1 | |
| **V27** | 4.02 | 1.060 | .171** | .321** | .169* | .453** | .301** | .422** | 1 |

$R = .780$, $R^2 = .609$, Adjusted $R^2 = .604$; Std. Error of Estimate = .579, F = 131.964, Sig. = .000

** Significant at .01 level, * Significant at .05 level.

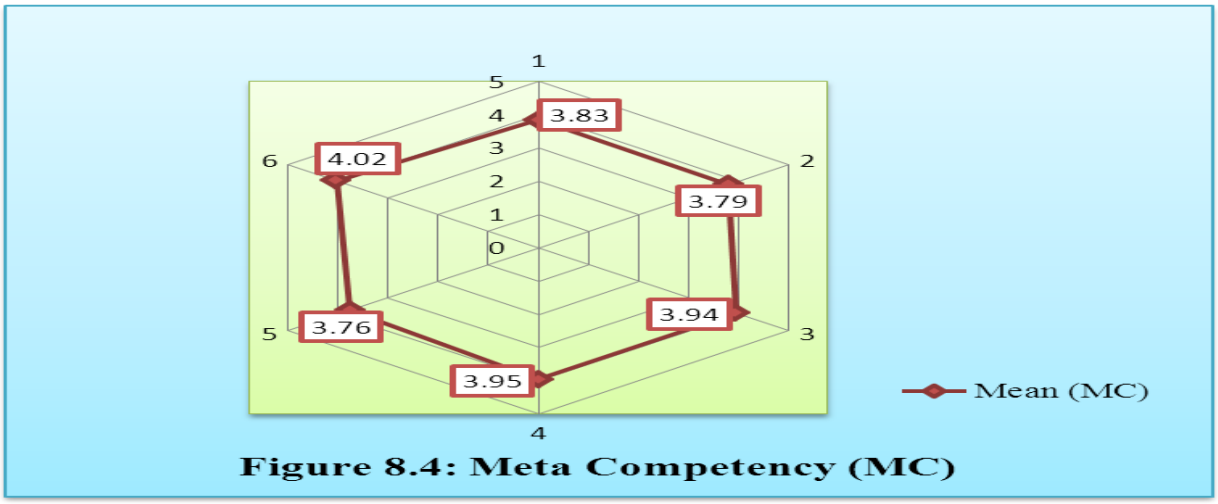


**Figure 8.4: Meta Competency (MC)**

**Table 8.10: β Coefficients and Collinearity Statistics**

| Model | Unstandardised Coefficients | | Standardised Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | **Beta** | t | Sig. | Tolerance | VIF |
| (Constant) | -.093 | .177 | | -.523 | .301 | | |
| V22 | .472 | .042 | .072 | 12.505 | .000 | .455 | 2.198 |
| V23 | .104 | .046 | .096 | 6.570 | .000 | .670 | 1.493 |
| V24 | .149 | .048 | .196 | 5.150 | .000 | .558 | 1.792 |
| V25 | -.069 | .045 | -.059 | -1.527 | .106 | .431 | 2.320 |
| V26 | .139 | .038 | .120 | 3.676 | .000 | .489 | 2.045 |
| V27 | .152 | .035 | .149 | 4.375 | .000 | .476 | 2.101 |

### 8.3.5 Functional Competency

Functional competencies refer to job-specific competencies that differ from role to role and drive high-performance and quality results for a given position within a firm as well as being a source of competitive advantage for an organisation. Research on the functional competencies portrays that inculcation of these competencies has got significant influence on executive performance and propels towards organisational excellence (Droge, 1994; Barber, 2004; Chen, 2005; Dubey, 2011). Table 8.11 illustrates the results of the calculated mean that is most contributing variable towards executive performance (EP) is "Cross-functional assignment is an appropriate mechanism towards individual development" (V37) as its value is 3.95 which is higher than other variables in the construct. The figure 8.5 reflects on the importance of functional competencies as perceived by the respondents. Most of the respondents identified functional competency as an important element in enhancing executive performance within an organisation; as all of the mean scores are above 3.5. The lower mean scores exhibit the gaps those are needed to be filled by the organisation through appropriate means in order to acquire the higher degree of functional competencies by the respondents. The values of standard deviation are slightly greater than .80 in most of the variables except for "Usefulness of innovating ideas to get the work done" (V28), "Has the professional expertise to carry out a job successfully" (V32) and "Takes responsibilities for their given tasks" (V33) which slightly greater than 1. The independent variables (V28, V29 and V30) have better correlation with the dependent variable (EP) as compared to the other independent variables (V31, V32, V33, V34, V35, V36 and V37) at a significance of .01 level. As the value of $R^2$ is 0.617, which implies that 62% of the variance in the dependent

variable is explained by the predictor variables. In this model the value of adjusted $R^2$ is 0.610, which is close to the value of $R^2$ (0.617), thus indicating the fitness of the model. A small standard error of 0.657 is good enough to imply reliable prediction of the model. The value of F is 81.414 ($p < 0.001$), which makes the regression model significant.

In table 8.12, the results depict that all the variables are significant in this study with an alpha value of 0.05. The highest beta coefficient for the variable "Delegation is a key to enhancing subordinate's knowledge and skills" (V36) is 0.314 with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The highest t-value in the table is for V29 followed by V28 and V30 while the values of tolerance and VIF are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

### 8.3.6 Social Competency

Social competency is the foundation upon which the prospects for future interaction with others are built within an organisation. For enriched executive performance it is essential for the employees to encompass the attributes of social competencies within an organisation (Bass and Riggio, 2006). The table 8.13 illustrates the results of the calculated mean that is most contributing variable towards executive performance (EP) is "Has the ability to adapt to stressful situations successfully" (V47) as the value is 4.25 which is higher than other variables in the construct. The figure 8.6 reflects about several acquired competencies under this competency based on the responses of the respondents. Most of the respondents identified social competency as an important element in enhancing executive performance within an organisation; as most of the mean scores of the competencies under this construct are above 3.5. The lower mean scores exhibit competency gaps and attempts to be made by the organisation for bridging of the competency gaps of the respondents towards a high degree of social relations within an organisation. The value of standard deviation is slightly greater than .80 in most of the variables except for "Has the ability to adapt to stressful situations successfully" (V47), which is 0.790. The independent variables (V38, V39 and V40) have better correlation with the dependent variable (EP) as compared to the other independent variables (V41, V42, V43, V44, V45, V46 and V47) at a significance of .01 level. The value of $R^2$ (0.645), which implies that 64% of the variance in the dependent

variable is explained by the predictor variables. In this model the value of adjusted $R^2$ is 0.638, which is close to the value of $R^2$ (0.645), thus indicating the fitness of the model. A small standard error of 0.662 is good enough to imply reliable prediction of the model. The model is significant as the value of F is 91.712 ($p < 0.001$).

In table 8.14, the highest beta coefficient for the variable "Has a positive impact on people" (V38) is 0.668, with a significance of 0.000 level. The beta values of all the variables are positive, except for "Shows compassion and sensitivity towards the feelings of others" (V40) which indicates that it has a negative influence on the predicted variable. The highest t-value in the table is for V38 followed by V39 and V41. In the collinearity table the values of tolerance and VIF are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

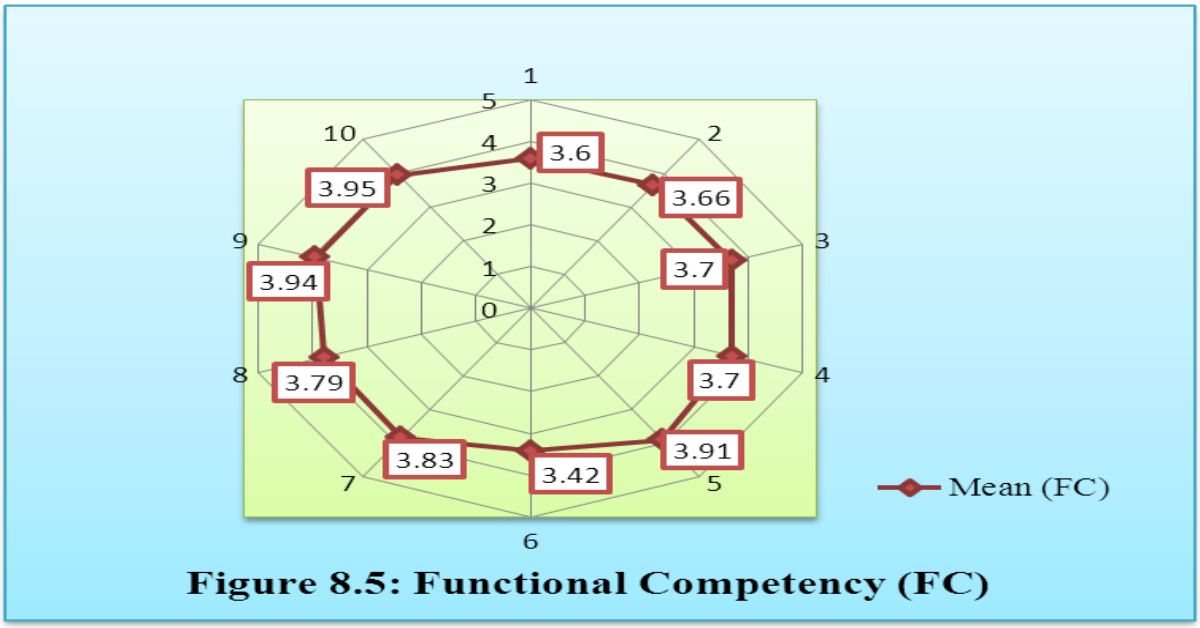


**Figure 8.5: Functional Competency (FC)**

**Table 8.11: Mean, Standard Deviation, CorrelationsandModel Summary (FC)**

| | Mean | Std. Deviation | EP | V28 | V29 | V30 | V31 | V32 | V33 | V34 | V35 | V36 | V37 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.55 | 1.051 | 1 | | | | | | | | | | |
| **V28** | 3.60 | 1.086 | .701** | 1 | | | | | | | | | |
| **V29** | 3.66 | 0.894 | .657** | .618** | 1 | | | | | | | | |
| **V30** | 3.70 | 0.995 | .659** | .786** | .576** | 1 | | | | | | | |
| **V31** | 3.70 | 0.890 | .283* | .342** | .450** | .383* | 1 | | | | | | |
| **V32** | 3.91 | 1.150 | .480** | .494** | .494** | .396** | .459** | 1 | | | | | |
| **V33** | 3.42 | 1.200 | .358** | .152** | .307** | .480** | .531** | .163** | 1 | | | | |
| **V34** | 3.83 | 0.964 | .207** | .233* | .202** | .331** | .345** | .314** | .501** | 1 | | | |
| **V35** | 3.79 | 0.980 | .146* | .144** | .325** | .105* | .237** | .221* | .549** | .596** | 1 | | |
| **V36** | 3.94 | 0.847 | .371** | .286** | .269** | .221** | .249* | .165** | .386** | .544** | .542** | 1 | |
| **V37** | 3.95 | 0.924 | .284* | .168** | .444** | .180** | .328** | .131** | .278** | .544** | .634** | .492** | 1 |
| R = .786, $R^2$ = .617, Adjusted $R^2$ = .610; Std. Error of Estimate = .657, F = 81.414, Sig. = .000 | | | | | | | | | | | | | |

** Significant at .01 level, * Significant at .05 level.

**Table 8.12: β Coefficients and Collinearity Statistics**

| Model | Unstandardised Coefficients | | Standardised Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| (Constant) | .310 | .499 | | .310 | .157 | | |
| V28 | .191 | .035 | .106 | 7.029 | .000 | .491 | 2.037 |
| V29 | .263 | .062 | .202 | 7.700 | .000 | .463 | 2.160 |
| V30 | .253 | .028 | .227 | 6.606 | .001 | .753 | 1.328 |
| V31 | .238 | .066 | .199 | 3.126 | .000 | .638 | 1.567 |
| V32 | .189 | .025 | .108 | 3.128 | .000 | .889 | 1.125 |
| V33 | .137 | .061 | .122 | 3.079 | .000 | .537 | 1.862 |
| V34 | .265 | .050 | .229 | 2.783 | .002 | .465 | 2.151 |
| V35 | .191 | .061 | .101 | 4.014 | .000 | .591 | 1.692 |
| V36 | .314 | .064 | .114 | 3.386 | .000 | .537 | 1.862 |
| V37 | .142 | .043 | .137 | 3.991 | .002 | .410 | 2.439 |

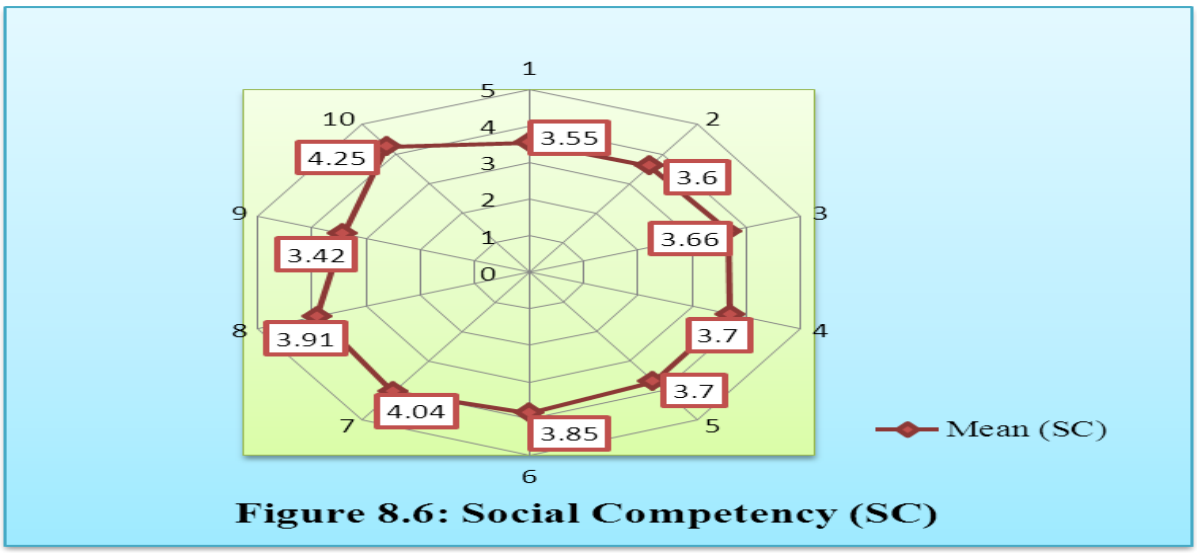


**Figure 8.6: Social Competency (SC)**

**Table 8.13: Mean, Standard Deviation, Correlations and Model Summary (SC)**

| | Mean | Std. Deviation | EP | V38 | V39 | V40 | V41 | V42 | V43 | V44 | V45 | V46 | V47 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.45 | 1.100 | 1 | | | | | | | | | | |
| **V38** | 3.55 | 1.051 | .764** | 1 | | | | | | | | | |
| **V39** | 3.60 | 1.086 | .650** | .701** | 1 | | | | | | | | |
| **V40** | 3.66 | 0.894 | .564** | .657** | .618** | 1 | | | | | | | |
| **V41** | 3.70 | 0.995 | .494** | .659** | .686** | .576** | 1 | | | | | | |
| **V42** | 3.70 | 0.890 | .273** | .283** | .342** | .450** | .383** | 1 | | | | | |
| **V43** | 3.85 | 1.005 | .273** | .307** | .222** | .368** | .326** | .429** | 1 | | | | |
| **V44** | 4.04 | 0.901 | .264* | .401** | .348** | .504** | .463** | .445** | .695** | 1 | | | |
| **V45** | 3.91 | 1.150 | .343** | .480** | .494** | .494** | .396** | .359** | .627** | .807** | 1 | | |
| **V46** | 3.42 | 1.200 | .144* | .258** | .152* | .207** | .280** | .231** | .360** | .274* | 163** | 1 | |
| **V47** | 4.25 | 0.790 | .188** | .154* | .214** | .200** | .184** | .170** | .164** | .171** | 172* | 212** | 1 |
| $R = .803$, $R^2 = .645$, Adjusted $R^2 = .638$; Std. Error of Estimate = .662, F = 91.712, Sig. = .000 | | | | | | | | | | | | | |

** Significant at .01 level, * Significant at .05 level.

**Table 8.14: β Coefficients and Collinearity Statistics**

| Model | Unstandardised Coefficients | | Standardised Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | **Beta** | t | Sig. | Tolerance | VIF |
| (Constant) | -.029 | .231 | | -.127 | .299 | | |
| V38 | .668 | .045 | .139 | 14.821 | .000 | .505 | 1.980 |
| V39 | .091 | .049 | .087 | 5.975 | .000 | .428 | 2.336 |
| V40 | -.013 | .050 | -.183 | -2.056 | .108 | .485 | 2.061 |
| V41 | .074 | .047 | .057 | 3.681 | .000 | .672 | 1.488 |
| V42 | .040 | .040 | .032 | 2.996 | .000 | .466 | 2.145 |
| V43 | .068 | .043 | .053 | 3.945 | .003 | .432 | 2.314 |
| V44 | .199 | .032 | .109 | 1.628 | .005 | .463 | 2.159 |
| V45 | .017 | .053 | .012 | 2.129 | .000 | .829 | 1.206 |
| V46 | .079 | .028 | .053 | 1.828 | .000 | .887 | 1.127 |
| V47 | .060 | .023 | .039 | 2.127 | .004 | .479 | 2.087 |

### 8.3.7 Intellectual/Cognitive Competency

Intellectual competencies provide meaningful interaction between purposeful action, reasoning and effective learning with that of the environment. Previous researchers have found that intellectual competencies are significantly contributing towards executive performance improvement in an organisational set up (Ackerman, 1997; Premuzic, 2005). Table 8.15 illustrates the results of the calculated mean that is most contributing variable towards executive performance (EP) is "Aware of the circumstances persisting within the organisation" (V54) as its value is 4.15 which is higher than other variables in the construct. The figure 8.7 reflects on the importance of intellectual competencies for performance enhancement as opined by the respondents. Most of the respondents identified intellectual competency as an important element in enhancing executive performance within an organisation; as all of the mean scores are above 3.5. The value of standard deviation is slightly greater than .80 in most of the variables except for "Always ready to learn new things and is learning oriented" (V53), "Ability to identify and integrate key external factors into the work activities" (V55) and "Has technical expertise and is computer literate" (V56); which is slightly greater than 1. The independent variables (V48, V49 and V50) have better correlation with the dependent variable (EP) as compared to the other independent variables (V51, V52, V53, V54, V55, V56 and V57) at a significance of .01 level. The estimated value of $R^2 = 0.717$, which implies that 71% of the variance in the dependent variable is explained by the predictor variables. In this model the value of adjusted $R^2$ is 0.712, which is close to the value of $R^2$ (0.717), thus indicating the

fitness of the model. A small standard error of 0.579 is good enough to imply reliable prediction of the model. The value of F is 128.064 ($p < 0.001$), which makes the model acceptable.

In table 8.16, the results depict that all the variables are significant in this study with an alpha value of 0.05. The highest beta coefficient is 0.528 for the variable "Collection of relevant information for completion of tasks" (V48) with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The highest t-value in the table is for V48 followed by V56 and V50. The values of tolerance and VIF are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

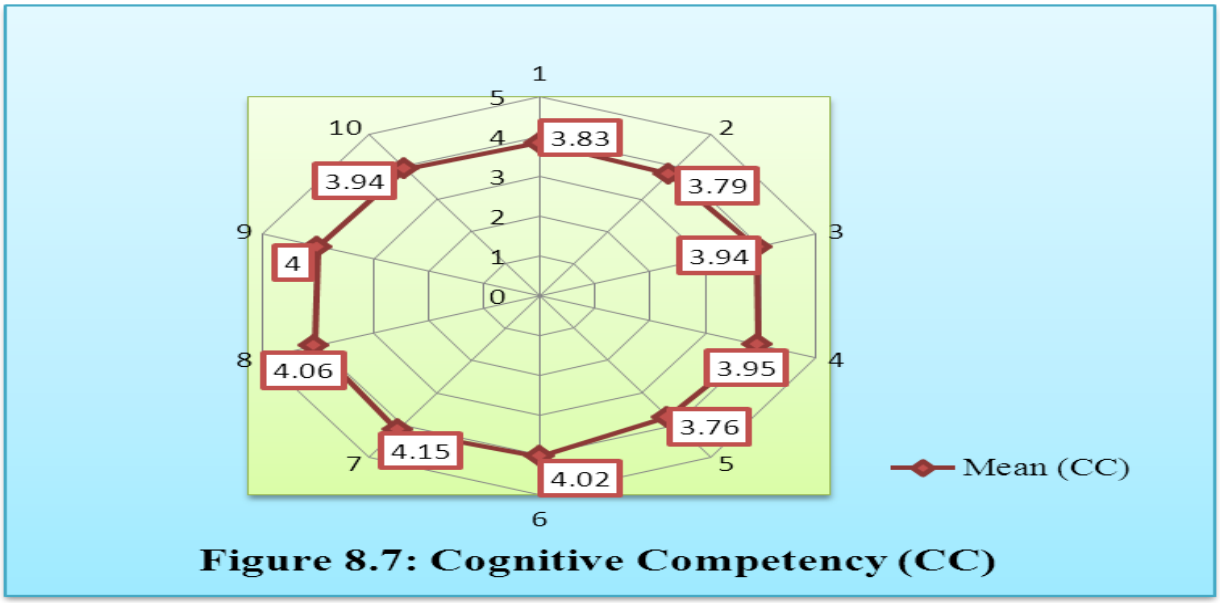


**Figure 8.7: Cognitive Competency (CC)**

**Table 8.15: Mean, Standard Deviation, Correlations and Model Summary (CC)**

| | Mean | Std. Deviation | EP | V48 | V49 | V50 | V51 | V52 | V53 | V54 | V55 | V56 | V57 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.71 | 1.079 | 1 | | | | | | | | | | |
| **V48** | 3.83 | 0.964 | .702** | 1 | | | | | | | | | |
| **V49** | 3.79 | 0.980 | .643** | .596** | 1 | | | | | | | | |
| **V50** | 3.94 | 0.847 | .550** | .544** | .542** | 1 | | | | | | | |
| **V51** | 3.95 | 0.924 | .449** | .544** | .634** | .492** | 1 | | | | | | |
| **V52** | 3.76 | 0.929 | .365** | .322** | .345** | .372** | .204** | 1 | | | | | |
| **V53** | 4.02 | 1.060 | .171** | .321** | .169* | .453** | .301** | .422** | 1 | | | | |
| **V54** | 4.15 | 0.981 | .120* | .302** | .282** | .422** | .323** | .360** | .737** | 1 | | | |
| **V55** | 4.06 | 1.120 | .197** | .385** | .281** | .388** | .294** | .381** | .661** | .763** | 1 | | |
| **V56** | 4.00 | 1.122 | .496** | .228** | .445** | .221** | .213** | .181* | .126** | .182** | .141* | 1 | |
| **V57** | 3.94 | 0.847 | .170** | .145* | .250** | .117* | .148** | .129* | .265* | .130** | .231** | .343** | 1 |
| $R = .847$, $R^2 = .717$, Adjusted $R^2 = .712$; Std. Error of Estimate = .579, F = 128.064, Sig. = .000 | | | | | | | | | | | | | |

** Significant at .01 level, * Significant at .05 level.

**Table 8.16: β Coefficients and Collinearity Statistics**

| Model | Unstandardised Coefficients | | Standardised Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | **Beta** | t | Sig. | Tolerance | VIF |
| (Constant) | -.190 | .247 | | -1.979 | .048 | | |
| V48 | .528 | .038 | .112 | 13.786 | .000 | .437 | 2.288 |
| V49 | .050 | .045 | .037 | 3.352 | .001 | .495 | 2.020 |
| V50 | .161 | .043 | .135 | 8.165 | .000 | .505 | 1.981 |
| V51 | .066 | .039 | .057 | 1.698 | .002 | .690 | 1.449 |
| V52 | .113 | .033 | .091 | 1.114 | .008 | .458 | 2.083 |
| V53 | .024 | .040 | .004 | 2.603 | .000 | .496 | 2.016 |
| V54 | .132 | .042 | .129 | 3.659 | .000 | .430 | 2.325 |
| V55 | .124 | .040 | .112 | 5.631 | .011 | .608 | 1.646 |
| V56 | .204 | .029 | .195 | 9.725 | .000 | .815 | 1.228 |
| V57 | .080 | .043 | .049 | 1.873 | .037 | .477 | 2.094 |

### 8.3.8 Personal Competency

Personal competencies are better predictors of increased executive performance as seen in the table 8.17, which illustrates the results of the calculated mean. The most contributing variable towards executive performance (EP) is "Has the ability to complete tasks and reach goals successfully" (V63) as its value is 4.35 which is higher than other variables in the construct. The figure 8.8 shows the importance of several competencies under this construct for better performance as perceived the respondents. Most of the respondents identified personal competency as an important element in enhancing executive performance within an organisation; as all of the mean scores are above 3.5. The value of standard deviation is closer to 1 in the case of most of the variables. The independent variables (V58, V59 and V60) have better correlation with the dependent variable (EP) as compared to the other independent variables (V61, V62, V63, V64, V65, V66 and V67) at a significance of .01 level. The table illustrates about 70% of the variance in the dependent variable is explained by the predictor variables as the value of $R^2$ = 0.701. In this model the value of adjusted $R^2$ is 0.695, which is close to the value of $R^2$ (0.701), thus indicating the fitness of the model. A small standard error of 0.595 is good enough to imply reliable prediction of the model. The value of F is 118.137 ($p < 0.001$), which reconfirms about the validity of the model.

In table 8.18, the results depict that all the variables are significant in this study with an alpha value of 0.05. The highest beta coefficient is 0.599 for the variable "Have the knowledge,

skills and ability to adapt to various situations properly" (V58) with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The highest t-value in the table is for V58 followed by V66, V60, V67, V59 and V62. In the collinearity table the values of tolerance and VIF are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

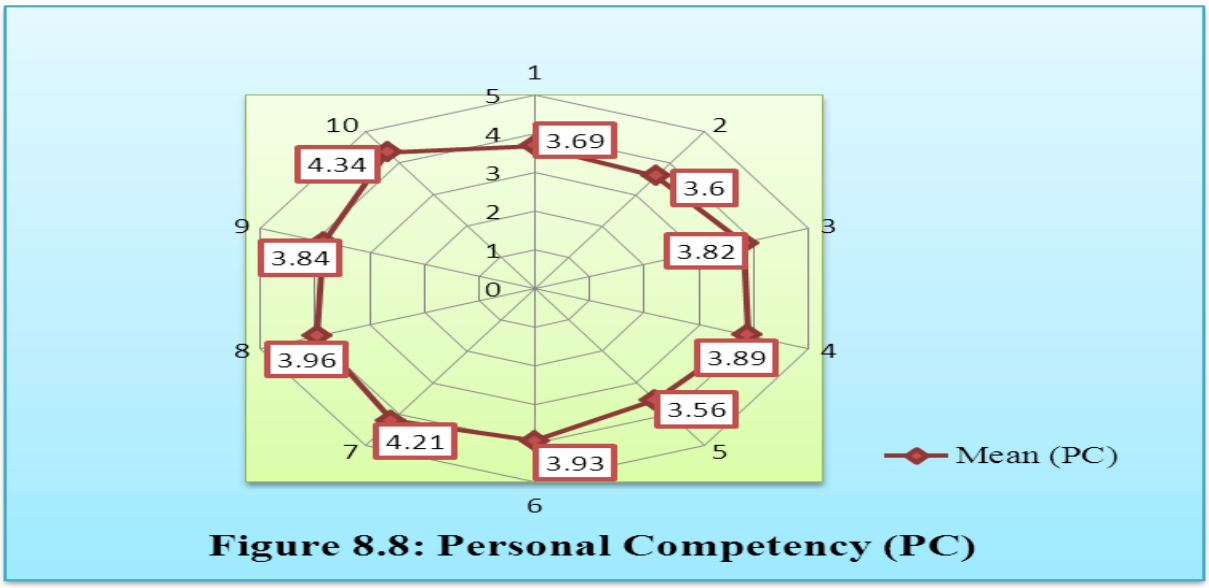


**Figure 8.8: Personal Competency (PC)**

**Table 8.17: Mean, Standard Deviation, Correlations and Model Summary (PC)**

| | Mean | Std. Deviation | EP | V58 | V59 | V60 | V61 | V62 | V63 | V64 | V65 | V66 | V67 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.47 | 1.076 | 1 | | | | | | | | | | |
| **V58** | 3.69 | 1.012 | .697** | 1 | | | | | | | | | |
| **V59** | 3.60 | 1.015 | .639** | .629** | 1 | | | | | | | | |
| **V60** | 3.82 | 0.810 | .499** | .650** | .436** | 1 | | | | | | | |
| **V61** | 3.89 | 0.932 | .440** | .580** | .636** | .439** | 1 | | | | | | |
| **V62** | 3.56 | 0.886 | .313** | .273** | .219** | .349** | .106** | 1 | | | | | |
| **V63** | 3.93 | 1.098 | .178** | .303* | .208** | .404** | .283* | .308** | 1 | | | | |
| **V64** | 4.21 | 0.961 | .108** | .348** | .270** | .480** | .437** | .407** | .786** | 1 | | | |
| **V65** | 3.96 | 1.160 | .260* | .344** | .265** | .426** | .311** | .312** | .672** | .840** | 1 | | |
| **V66** | 3.84 | 1.200 | .430** | .131* | .511** | .200** | .262** | .189* | .195** | .134** | .279** | 1 | |
| **V67** | 4.34 | 0.987 | .149** | .048* | .169** | .167** | .148** | .162** | .203* | .351** | .378* | .178* | 1 |

$R = .837$, $R^2 = .701$, Adjusted $R^2 = .695$, Std. Error of Estimate = .595, F = 118.137, Sig. = .000

** Significant at .01 level, * Significant at .05 level.

**Table 8.18: β Coefficients and Collinearity Statistics**

| Model | Unstandardised Coefficients | | Standardised Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| (Constant) | .198 | .246 | | 3.644 | .000 | | |
| V58 | .599 | .045 | .075 | 8.861 | .000 | .459 | 2.178 |
| V59 | .042 | .051 | .029 | 4.783 | .000 | .421 | 2.375 |
| V60 | .138 | .050 | .105 | 6.779 | .000 | .427 | 2.342 |
| V61 | .155 | .043 | .148 | 1.280 | .006 | .658 | 1.519 |
| V62 | .115 | .036 | .105 | 3.159 | .000 | .485 | 2.061 |
| V63 | .084 | .045 | .075 | 1.873 | .010 | .553 | 1.808 |
| V64 | .111 | .040 | .109 | 1.584 | .000 | .496 | 2.016 |
| V65 | .199 | .046 | .185 | 1.740 | .000 | .443 | 2.257 |
| V66 | .181 | .033 | .163 | 8.547 | .003 | .683 | 1.464 |
| V67 | .115 | .045 | .127 | 5.821 | .000 | .431 | 2.320 |

### 8.3.9 Leadership Competency

The initiation of developing leadership competencies among the employees enables them to tackle the day to day problem within the organisation independently and efficiently (Salaman, 2004; Battilana, 2010, Quintana et al., 2014). The table 8.19 illustrates the results of the calculated mean that is most contributing variable towards executive performance (EP) is "Proper emphasis on team dynamics and resolving conflicts" (V74) as its value is 4.22 which higher than other variables in the construct. The figure 8.9 indicates the importance of the acquired and required competencies under this construct as perceived by the respondents for performance improvement. Most of the respondents identified leadership competency as an important element in enhancing executive performance within an organisation; as most of the mean scores are above 3.5. The values of standard deviation are slightly greater than 1, in most of the variables except for "Capable enough to assess subordinates performance" (V70), "Providing adequate information for team performance and leading the team towards the desired end" (V71), "Have the ability to motivate and develop others" (V72) and "Proper emphasis on team dynamics and resolving conflicts" (V74). The independent variables (V68 and V69) have better correlation with the dependent variable (EP) as compared to the other independent variables (V70, V71, V72, V73 and V74) at a significance of .01 level. The model summary and ANOVA shown in the table, illustrates the value of $R^2$ = 0.624, which implies that 62% of the variance in the dependent variable is explained by the predictor variables. In

this model the value of adjusted $R^2$ is 0.619, which is close to the value of $R^2$ (0.624), thus indicating the fitness of the model. A small standard error of 0.664 is good enough to imply reliable prediction of the model. The value of F is 120.621 ($p < 0.001$), which makes the model significant.

In table 8.20, the results depict that all the variables are significant in this study with an alpha value of 0.05. The variable "Proper emphasis on team dynamics and resolving conflicts" (V74) has the highest beta coefficient value (0.450) with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The highest t-value in the table is for V68 followed by V69, V74 and V72. In the collinearity table the values of tolerance and VIF are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

**Table 8.19: Mean, Standard Deviation, Correlations and Model Summary (LC)**

| | Mean | Std. Deviation | EP | V68 | V69 | V70 | V71 | V72 | V73 | V74 |
|---|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.47 | 1.076 | 1 | | | | | | | |
| **V68** | 3.69 | 1.012 | .697** | 1 | | | | | | |
| **V69** | 3.60 | 1.015 | .639** | .629** | 1 | | | | | |
| **V70** | 3.82 | 0.810 | .492** | .650** | .436** | 1 | | | | |
| **V71** | 3.89 | 0.932 | .440** | .580** | .636** | .439** | 1 | | | |
| **V72** | 3.56 | 0.886 | .313* | .273** | .219* | .349** | .106** | 1 | | |
| **V73** | 3.93 | 1.099 | .178** | .303** | .208** | .404* | .283* | .308* | 1 | |
| **V74** | 4.22 | 0.961 | .108* | .348** | .270** | .480** | .437** | .407** | .786** | 1 |

R = .790, $R^2$ = .624, Adjusted $R^2$ = .619, Std. Error of Estimate = .664, F = 120.621, Sig. = .000

** Significant at .01 level, * Significant at .05 level.

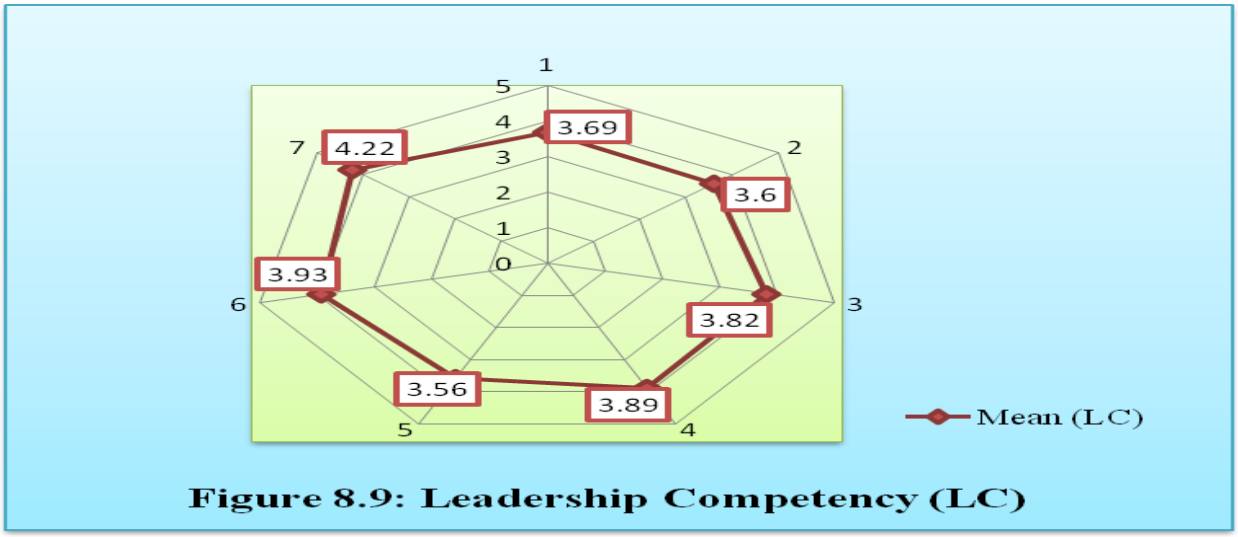


**Figure 8.9: Leadership Competency (LC)**

| Table 8.20: β Coefficients and Collinearity Statistics | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Model** | **Unstandardised Coefficients** | | **Standardised Coefficients** | | | **Collinearity Statistics** | |
| | B | Std. Error | **Beta** | t | Sig. | Tolerance | VIF |
| (Constant) | .207 | .180 | | 1.150 | .001 | | |
| V68 | .135 | .047 | .112 | 9.316 | .000 | .479 | 2.277 |
| V69 | .089 | .046 | .086 | 8.815 | .038 | .586 | 1.706 |
| V70 | .148 | .051 | .112 | 2.887 | .000 | .495 | 2.020 |
| V71 | .120 | .046 | .118 | 1.440 | .014 | .462 | 2.164 |
| V72 | .131 | .038 | .110 | 6.092 | .000 | .757 | 1.321 |
| V73 | .059 | .049 | .037 | 3.150 | .020 | .498 | 2.008 |
| V74 | .450 | .048 | .102 | 7.736 | .000 | .474 | 2.109 |

### 8.3.10 Result Oriented Competency

Through proper utilisation of result oriented competencies, one can improve his/her performance through specific changes in work methods and skills as well as create own measures of excellence (Zingheim, 1996; Mankins, 2005). Table 8.21 illustrates the results of the calculated mean that is the most contributing variable towards executive performance (EP) is "Highly capable enough to solve work related problems" (V84) as its value is 4.25 which is higher than other variables in the construct. The figure 8.10 presents the importance of result oriented competencies for better performance results. Most of the respondents identified result oriented competency as an important element in enhancing executive performance within an organisation; as most of the mean scores are above 3.5. The value of standard deviation is slightly greater than 1, in most of the variables except for "Can take risks to get a work done properly" (V77), "Has the ability to make decisions quickly and effectively" (V78), "Concerned for goal clarity and drives for achieving excellence" (V79), "Committed towards the well-being of the organisation" (V81), "Highly capable enough to solve work related problems" (V84) and "Providing timely feedback to the subordinates" (V86). The independent variables (V75, V76, V77 and V78) have better correlation with the dependent variable (EP) as compared to the other independent variables (V79, V80, V81, V82, V83, V84, V85 and V86) at a significance of .01 level. The table shows the value of $R^2$ (0.645), which implies that 64% of the variance in the dependent variable is explained by the predictor variables. In this model the value of adjusted $R^2$ is 0.636, which is close to the value of $R^2$ (0.645), thus indicating the fitness of the model. A small standard error of 0.663 is good enough to imply reliable

prediction of the model and the value of F is 76.127 ($p < 0.001$) confirms the model is significant.

In table 8.22, the results depict that all the variables are significant in this study with an alpha value of 0.05. The highest value of the beta coefficient is 0.669 for the variable "Adoption of the means like fairness and openness towards dealing with people" (V75) with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The highest t-value in the table is for V75 followed by V76, V80 and V78, and the collinearity statistics (tolerance and VIF) are in their acceptable levels, which indicate that there is no multicollinearity problem in this construct.

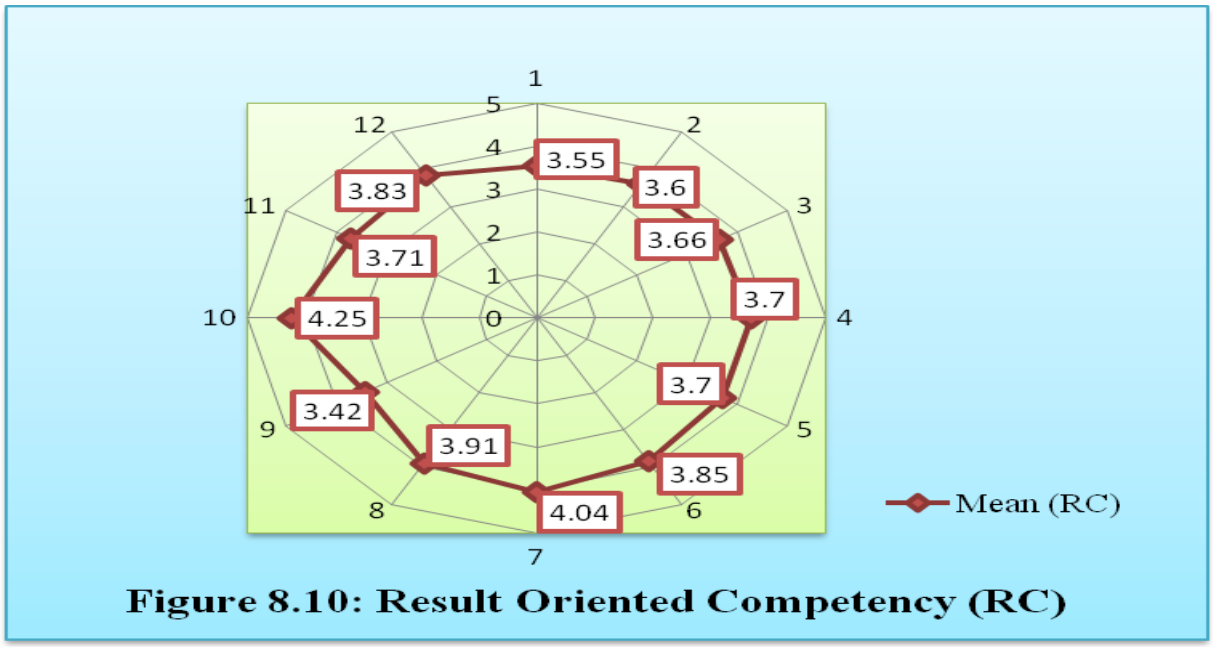


**Figure 8.10: Result Oriented Competency (RC)**

**Table 8.21: Mean, Standard Deviation, Correlations and Model Summary (RC)**

| | Mean | Std. Deviation | EP | V75 | V76 | V77 | V78 | V79 | V80 | V81 | V82 | V83 | V84 | V85 | V86 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **EP** | 3.65 | 1.101 | 1 | | | | | | | | | | | | |
| **V75** | 3.55 | 1.051 | .764** | 1 | | | | | | | | | | | |
| **V76** | 3.60 | 1.086 | .650** | .701** | 1 | | | | | | | | | | |
| **V77** | 3.66 | 0.894 | .564** | .657** | .618** | 1 | | | | | | | | | |
| **V78** | 3.70 | 0.995 | .594** | .659** | .686** | .576** | 1 | | | | | | | | |
| **V79** | 3.70 | 0.890 | .473** | .283* | .342** | .450** | .383** | 1 | | | | | | | |
| **V80** | 3.85 | 1.005 | .273** | .307** | .222* | .368** | .326** | .429** | 1 | | | | | | |
| **V81** | 4.04 | 0.902 | .264** | .401** | .348** | .504** | .463** | .445** | .695** | 1 | | | | | |
| **V82** | 3.91 | 1.150 | .343* | .480** | .494** | .494* | .396** | .359** | .627** | .807** | 1 | | | | |
| **V83** | 3.42 | 1.200 | .144** | .158** | .152** | .307** | .280** | .231** | .460** | .374** | .163** | 1 | | | |
| **V84** | 4.25 | 0.890 | .188** | .154* | .214* | .200* | .184** | .270** | .164** | .171** | .172* | .212** | 1 | | |
| **V85** | 3.71 | 1.079 | .212** | .116** | .241** | .155** | .186** | .341** | .141* | .264** | .195* | .361* | .349** | 1 | |
| **V86** | 3.83 | 0.964 | .309** | .107* | .133** | .102** | .231** | .145** | .153** | .300** | .214** | .201** | .209** | .702** | 1 |

$R = .803$, $R^2 = .645$, Adjusted $R^2 = .636$, Std. Error of Estimate = .663, F = 76.127, Sig. = .000

** Significant at .01 level, * Significant at .05 level.

| Table 8.22: β Coefficients and Collinearity Statistics | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Model** | **Unstandardised Coefficients** | | **Standardised Coefficients** | | | **Collinearity Statistics** | |
| | B | Std. Error | **Beta** | t | Sig. | Tolerance | VIF |
| (Constant) | -.039 | .258 | | -.153 | .379 | | |
| V75 | .669 | .045 | .139 | 14.736 | .000 | .576 | 1.736 |
| V76 | .191 | .049 | .187 | 5.949 | .000 | .403 | 2.481 |
| V77 | .172 | .050 | .143 | 2.046 | .041 | .427 | 2.341 |
| V78 | .165 | .048 | .158 | 3.661 | .000 | .480 | 2.083 |
| V79 | .140 | .040 | .132 | 2.990 | .012 | .671 | 1.639 |
| V80 | .068 | .043 | .053 | 3.917 | .000 | .461 | 2.169 |
| V81 | .149 | .068 | .129 | 1.611 | .038 | .531 | 1.883 |
| V82 | .163 | .053 | .138 | 2.116 | .000 | .429 | 2.331 |
| V83 | .049 | .027 | .023 | 1.806 | .007 | .820 | 1.219 |
| V84 | .160 | .045 | .137 | 1.324 | .000 | .886 | 1.128 |
| V85 | .012 | .039 | .002 | 1.055 | .019 | .483 | 2.070 |
| V86 | .101 | .043 | .091 | 1.021 | .026 | .491 | 2.036 |

### 8.3.11 Ethical Competency

Being ethical involves taking action to ensure that the practices applied to the day-to-day business situations are fair and consistent (Orme and Ashton, 2003). The most contributing variable towards executive performance (EP) is "Compliance of legal provisions" (V90) as its value is 3.72 which higher than other variables in the construct (table 8.23). The figure 8.11 presents the opinions of the respondents regarding the importance of ethical competencies towards performance expectation. Most of the respondents identified ethical competency as an important element in enhancing executive performance within an organisation; as most of the mean scores are above 3.5. The value of standard deviation is slightly greater than 1, in most of the variables except for "Encouragement of acceptable behaviour within the organisation" (V89), "Compliance of legal provisions" (V90), and "Safety consciousness towards self and others" (V91). The independent variables (V87, V88 and V89) have better correlation with the dependent variable (EP) as compared to the other independent variables (V90 and V91) at a significance of .01 level. The table depicts the value of $R^2$ (0.620), which implies that 62% of the variance in the dependent variable is explained by the predictor variables. In this model the value of adjusted $R^2$ is 0.617, which is close to the value of $R^2$ (0.620), thus indicating the

fitness of the model. A small standard error of 0.681 and the value of F (166.625, $p < 0.001$) are good enough to imply reliable prediction of the model.

In table 8.24, the results depict that all the variables are significant in this study with an alpha value of 0.05. The variable "The company's values reflect in your work transactions" (V87) has highest beta coefficient value (0.658) with a significance of 0.000 level. The beta values of all the variables are positive which indicates that the direction of the influence for all the predictors is positive. The highest t-value in the table is for V87 followed by V88 and V90, and the values of tolerance and VIF indicates the absence of the multicollinearity problem in this construct.

**Table 8.23: Mean, Standard Deviation, Correlations and Model Summary (ETC)**

| | Mean | Std. Deviation | EP | V87 | V88 | V89 | V90 | V91 |
|---|---|---|---|---|---|---|---|---|
| **EP** | 3.45 | 1.100 | 1 | | | | | |
| **V87** | 3.55 | 1.051 | .764** | 1 | | | | |
| **V88** | 3.60 | 1.086 | .650** | .701** | 1 | | | |
| **V89** | 3.66 | 0.894 | .564** | .657** | .618** | 1 | | |
| **V90** | 3.72 | 0.995 | .494** | .659** | .686** | .776** | 1 | |
| **V91** | 3.71 | 0.891 | .273* | .283** | .342** | .450** | .383** | 1 |

$R = .788$, $R^2 = .620$, Adjusted $R^2 = .617$, Std. Error of Estimate = .681, F = 166.625, Sig. = .000

** Significant at .01 level, * Significant at .05 level.

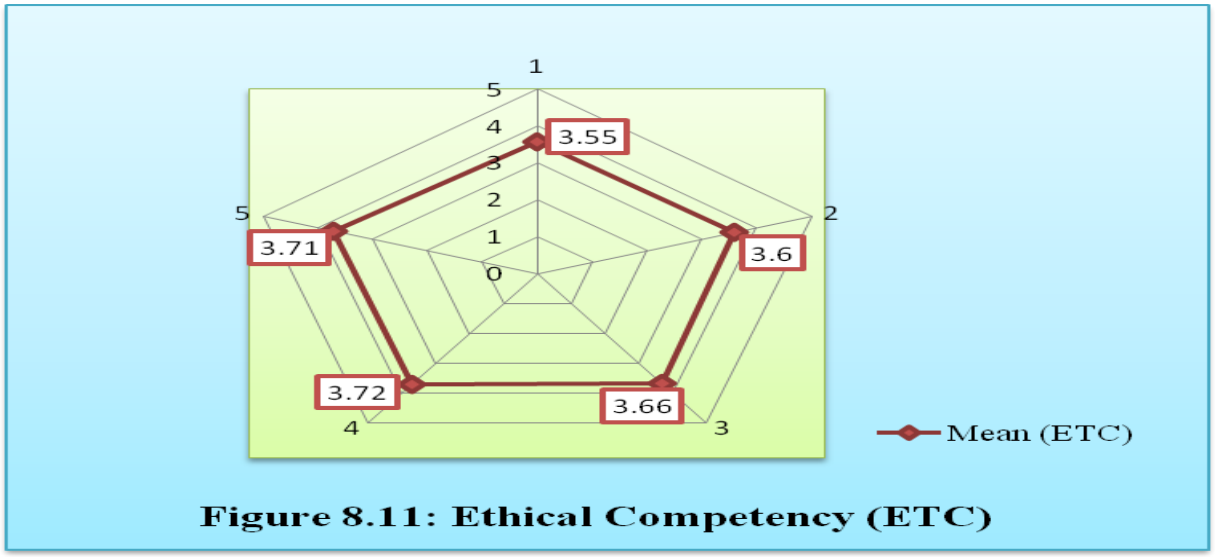


**Figure 8.11: Ethical Competency (ETC)**

| Table 8.24: β Coefficients and Collinearity Statistics | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Model** | **Unstandardised Coefficients** | | **Standardised Coefficients** | | | **Collinearity Statistics** | |
| | B | Std. Error | **Beta** | t | Sig. | Tolerance | VIF |
| (Constant) | .240 | .154 | | 2.212 | .027 | | |
| V87 | .658 | .046 | .129 | 14.419 | .000 | .592 | 1.689 |
| V88 | .166 | .044 | .163 | 6.090 | .002 | .410 | 2.439 |
| V89 | .172 | .049 | .158 | 1.452 | .032 | .461 | 2.169 |
| V90 | .164 | .045 | .148 | 3.609 | .000 | .443 | 2.257 |
| V91 | .144 | .039 | .136 | 1.144 | .016 | .763 | 1.310 |

### 8.3.12 Developmental Interventions

According to Sang et al., (2014), "Training plays a key role in…. increasing individual and organisational competencies as well as bridging the gap between the actual levels of performance and the desired levels of performance". Management development programmes contribute towards "improved business performance by developing executive competencies and, thereby, raising the organisation's capability of achieving the objectives necessary to satisfy the critical success factor"(Winterton and Winterton, 1997). Previous studies support the theory that developmental interventions act as catalysts in the executive development process of an organisation (London, 1983; Rothwell et al., 1995; Becker and Huselid, 1998; Cullen and Turnbull, 2005; Armstrong, 2009). Taking this fact into consideration, it can be proposed as a developmental intervention will play the moderating role between the identified competencies and executive performance.

Table 8.25 illustrates the results of the calculated mean that is most contributing variable towards executive performance (EP) is "Sponsoring the executives to workshops, seminars and conferences and MDPs" (V96) as its value is 4.26 which is higher than other variables in the construct. The figure 8.12 reflects the responses of the respondents towards realisation of the need for developmental interventions and their role towards performance enhancement. Most of the respondents identified developmental interventions as appropriate mechanisms for enhancement of individual performance within an organisation; as most of the mean scores are above 3.5. The value of standard deviation is slightly greater than 1, in most of the variables except for "Entrepreneurial training and developmental guidance is available to all" (V92), "Sponsoring the executives to workshops, seminars and conferences and MDPs" (V96), and

"Emphasis on social and behavioural skills" (V97). The independent variables (V92, V93 and V97) have better correlation with the dependent variable (EP) as compared to the other independent variables (V94, V95 and V96) at a significance of .01 level.

**Table 8.25: Mean, Standard Deviation and Correlations (DI)**

| | Mean | Std. Deviation | EP | V92 | V93 | V94 | V95 | V96 | V97 |
|---|---|---|---|---|---|---|---|---|---|
| EP | 3.71 | 1.079 | 1 | | | | | | |
| V92 | 3.85 | 1.006 | .641** | 1 | | | | | |
| V93 | 4.04 | 0.902 | .564** | .695** | 1 | | | | |
| V94 | 3.91 | 1.150 | .495* | .627** | .827** | 1 | | | |
| V95 | 3.43 | 1.201 | .261** | .360** | .374** | .163** | 1 | | |
| V96 | 4.26 | 0.890 | .149** | .164** | .171* | .172** | .212** | 1 | |
| V97 | 3.83 | 0.964 | .702** | .153** | .220** | .114** | .101* | .209** | 1 |

** Significant at .01 level, * Significant at .05 level.

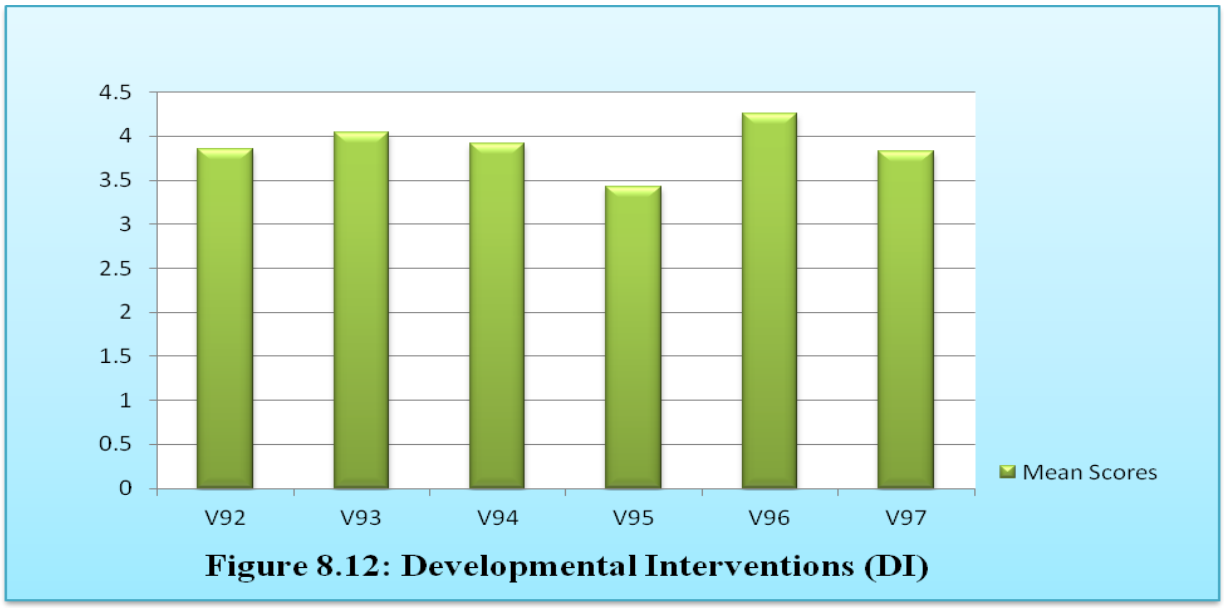


**Figure 8.12: Developmental Interventions (DI)**

### 8.3.13 Executive Performance

Based on the findings of the existing studies, inculcation of executive competencies has a positive effect on the overall individual performance. The study of Boyatzis (1982: 20) has defined "job competency" as "an underlying characteristic of a person which results in effective and/or superior performance in a job". Spencer and Spencer (1993: 09) have defined competency as "an underlying characteristic of an individual that is causally related to

criterion-referenced effective and/or superior performance in a job or situation". The relationship between executive competencies and performance has been elaborated in the works of Pickett (1998: 112) as "managerial competencies provide a sound basis for an effective performance management programme…information obtained during the review of competencies required by the job and those possessed by the person performing that job, can be integrated for determination of objectives". From the table 8.26, it can be deduced that all the variables in the executive performance construct are agreeable to the respondents of the research units as the mean is greater than 3.5. The most contributing variable towards organisational performance as per the calculated mean score is "Possession of desired level of competencies" (V102) with value 4.05. The figure 8.13, presents the level of executive performance as attached by the respondents. The value of standard deviation for all the variables is slightly greater than 1, except "Risk taking and accepting challenges" (V100), "Strives for organisational excellence" (V101), "Possession of desired level of competencies" (V102) and "Incentives for achieving results" (V104). The independent variables (V98, V99, V101 and V102) have better correlation with the dependent variable (OP) as compared to the other independent variables (V100, V103, V104 and V105) at a significance of .01 level.

**Table 8.26: Mean, Standard Deviation and Correlations (EP)**

| | Mean | Std. Deviation | OP | V98 | V99 | V100 | V101 | V102 | V103 | V104 | V105 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OP | 3.65 | 1.101 | 1 | | | | | | | | |
| V98 | 3.55 | 1.051 | .764** | 1 | | | | | | | |
| V99 | 3.92 | 1.086 | .750** | .701** | 1 | | | | | | |
| V100 | 3.66 | 0.894 | .664** | .657** | .618** | 1 | | | | | |
| V101 | 3.70 | 0.995 | .704** | .659** | .686** | .576** | 1 | | | | |
| V102 | 4.05 | 0.891 | .773** | .583** | .342** | .450** | .383** | 1 | | | |
| V103 | 3.85 | 1.006 | .573** | .507** | .222** | .368** | .326** | .429** | 1 | | |
| V104 | 3.71 | 0.902 | .664** | .601** | .348** | .504** | .463** | .445** | .695** | 1 | |
| V105 | 3.60 | 1.150 | .643** | .580** | .494** | .494** | .396** | .359** | .627** | .807** | 1 |

** Significant at .05 level.


**Figure 8.13: Executive Performance (EP)**

### 8.3.14 Organisational Performance

The cumulative evidence of past studies suggests that enhanced individual performance has got a significant positive effect on the overall organisational performance (Moorman, 1995; Zahra and Nielsen, 2002; Germain and Iyer, 2006 and Choo et al., 2007). From the table 8.27, it can be deduced that all the variables in the organisational performance construct are agreeable outcomes of organisational performance as per the opinion of the respondents; as the mean is greater than 3.5. The major indicator of organisational performance as per the calculated mean score is "higher profit margin" (V107) with value 3.94. The figure 8.14 presents the outcomes of organisational performance as opined by the respondents. The value of standard deviation for all the variables is slightly greater than 1, except "continuous achievement of production target" (V106).

**Table 8.27: Mean and Standard Deviation (OP)**

| | Mean | Std. Deviation |
|---|---|---|
| **OP** | 3.91 | 0.996 |
| **V106** | 3.87 | 0.975 |
| **V107** | 3.94 | 1.108 |
| **V108** | 3.70 | 1.150 |
| **V109** | 3.77 | 1.033 |
| **V110** | 3.85 | 1.067 |

** Significant at .05 level.

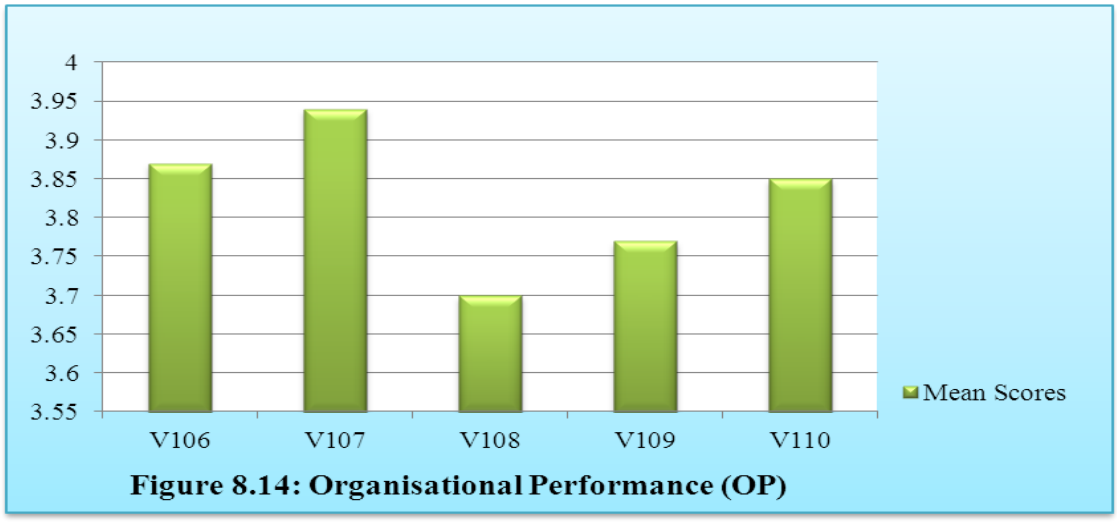


**Figure 8.14: Organisational Performance (OP)**

The results of the study indicate that organisational culture (CUL) and strategy (ST) significantly influences the need for competency requirements (CR) as the $R^2$ value of both the constructs are above .60; which implies that 60% of variance in the dependent variable (CR) is explained by the predictor variables (CUL and ST). Both of the constructs are significant at .01 levels. Thus, depicting that organisational culture and strategy contributes in identification of essential executive competencies for the executives. Nine executive competencies were individually assessed to prove its influence of executive functioning. It was found that all the identified executive competencies have significant influence on individual functioning. The average scores of the variables in the constructs range from 3.5 to 4.37. The $R^2$ values of all the executive competencies range from .52 to .71; indicating that over 50% of the variance in the dependent variable (EP) is explained by the predictor variables (executive competencies). All the variables of the predicting constructs were found to be significant at .01 levels. The table 8.28 illustrates the regression equation, $R^2$ value and F values of all the predicting constructs of this study. The results indicate that the constructs and behavioural indicators of competencies have significant and positive influence on the performance measure of the respondents. The respondents consider that application of executive competencies can aid in enhanced organisational outcomes which are indicated by the variables, i.e. continuous achievement of production target (V106); higher profit margin (V107); proper utilisation of human and material resources (V108); becoming competitive in the market (V109) and employee satisfaction (V110). The mean scores of the organisational outcome measures range from 3.70

to 3.94. Thus, implying that acquiring executive competencies leads to both individual and organisational performance excellence.

**Table 8.28: Regression Equations of The Predicting Constructs**

| Constructs | Regression Equations | $R^2$ - Value | F-Value |
|---|---|---|---|
| Organisational Culture (CUL) | Identification of Competency Requirements (CR) = -. 076 (constant) + .363 (recognition for individual contribution) + .167 (treats fairly) + .136 (equal freedom to explore potential aptly) + .150 (strong communication) + .054 (opportunities given to initiate) + .020 (encourages innovation) + .197 (Encourages up gradation of employee knowledge) + (error) | .629* | 123.223* |
| Organisational Strategy (ST) | Identification of Competency Requirements (CR) = .202 (constant) + .433 (jointly setting tasks and standards) + .183 (strong feedback and evaluation scheme) + .169 (invests in T&D for employee skill up gradation) + .185 (formal meetings with departmental heads) + .155 (performance based succession planning) + .176 (organisational long term objectives are transparent) + (error) | .619* | 137.750* |
| Entrepreneurial Competency (EC) | Executive Performance (EP) = .080 (constant) + .624 (vision to spot opportunities) + .180 (awareness regarding business strategies) + .018 (integration of functional with business strategy) + .111 (understand your competitors) + .042 (understand market drivers) + .137 (possess a competitive spirit) + .151 (ability to accomplish a job independently) + .183(proactive measures for success) + (error) | .523* | 69.626* |
| Meta Competency (MC) | Executive Performance (EP) = -.093 (constant) + .472 (creativity) + .104 (flexibility to adapt uncertain situations) + .149 (ability to balance work skills) +.139 (anticipate changes) + .152 (open to diverse people and ideas) + (error) | .609* | 131.964* |
| Functional Competency (FC) | Executive Performance (EP) = .310 (constant) + .191 (innovating ideas to get work done) + .263 (comfortable to take work related decisions) + .253 (utilisation of knowledge embodied in individuals) + .238 (understand ways in which business works) + .189 (professional expertise) + .137 (taking responsibilities) + .265 (self-awareness about customer needs) + .191 (handle work stress effectively) +.314 (delegation) + .142 (cross functional assignments for individual development) + (error) | .617* | 81.414* |
| Social Competency (SC) | Executive Performance (EP) = -.029 (constant) + .668 (positive impact on people)+ .091 (ability to persuade and influence others) + .074 (information sharing) + .040 (build proper relationship) + .068 (negotiation for value addition) + .199 (develop strong network connections) + .017 (pleasing personality) + .079 (interpersonal understandings) + .060 (adapt stressful situations successfully) + (error) | .645* | 91.712* |

| | | | |
|---|---|---|---|
| Intellectual/Cognitive Competency (CC) | Executive Performance (EP) = -.190 (constant) + .528 (collection of relevant information) + .050 (finding solutions to problems) + .161 (utilise numerical data efficiently) + .066 (judge situations effectively) + .113 (proper planning) + .024 (learning orientation) + .132 (aware of circumstances persisting within the organisation) + .124 (identify and integrate key external factors) + .204 (technical expertise) + .080 (problem solving) + (error) | .717* | 128.064* |
| Personal Competency (PC) | Executive Performance (EP) = .198 (constant) + .599 (have knowledge, skills and ability to adapt situations properly) + .042 (ability to improve oneself) + .138 (showcase integrity and veracity) + .155 (self-motivation) + .115 (tolerate stressful situations) + .084 (ability to complete tasks effectively) + .111 (manage own operations effectively) + .199 (appropriate means towards situational demand) + .181 (self-confidence to achieve goals) + .115 (ability to complete tasks successfully) + (error) | .701* | 118.137* |
| Leadership Competency (LC) | Executive Performance (EP) = .207 (constant) + .135 (organize tasks effectively) + .089 (empowerment of team members) + .148 (assess subordinate's performance) + .120 (leading the team towards desired goal) + .131 (motivate and develop others) + .059 (sense of shared leadership) + .450 (team dynamics and resolving conflicts) + (error) | .624* | 120.621* |
| Result Oriented Competency (RC) | Executive Performance (EP) = -.039 (constant) + .669 (fair and open towards dealing with people) + .191 (enthusiasm to accomplish goal) + .172 (risk taking) + .165 (ability to make decisions effectively) + .140 (goal clarity) + .068 (sense of ownership) + .149 (commitment towards well-being of the organisation) + .163 (build trust and commitment among teammates) + .049 (timely adoption of appropriate means for goal attainment) + .160 (capable to solve work related problems) + .012 (effective time management) + .101 (providing timely feedbacks) + (error) | .645* | 76.127* |
| Ethical Competency (ETC) | Executive Performance (EP) = .240 (constant) + .658 (company values reflect in work transaction) + .166 (adhere company code of conduct) + .172 (encourage acceptable behaviour) + .164 (compliance of legal provisions) + .144 (safety consciousness) + (error) | .620* | 166.625* |

* Significant at .01 level

## 8.4 VALIDATION OF THE HYPOTHESISED MODEL

In this present study, through systematic review of literature, a conceptual model was formulated in the preceding chapter (Chapter – III) and an attempt has been made towards validation of this model. The main objective of this study was identifying the essential executive competencies for middle and lower level executives that can elicit performance excellence. In order to carry out this task, an opinion survey was conducted through which the

responses of the respondents were collected by administering a questionnaire. The data was normalised and various statistical tools were utilised for empirical analysis. To validate the hypotheses empirically, various constructs were deduced and were subjected to structural equation modelling (SEM) to determine the model fit of the proposed model. Kaplan (2000:1) proposes, that "structural equation modelling can perhaps best be defined as a class of methodologies that seeks to represent hypotheses about the means, variances and covariance of observed data in terms of a smaller number of 'structural' parameters defined by a hypothesised underlying model". The advantage of SEM is its "ability to model latent variables, correct for measurement error, specify errors and their covariance structures and estimate entire theories simultaneously" (Oke et al., 2012). According to Ullman (2007), the hypothesised model has to go through two parts of model verification, such as; measurement model and structural model. Prior to testing the measurement model, extraction of significant variables is essential for assessing goodness-of-fit. The sample data was tested for its appropriateness before exploratory factor analysis. Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity are conducted to measure the sampling adequacy. According to Kaiser (1974), a value of 0.50 or more in KMO test indicates that the data is adequate for factor analysis. Bartlett's test of sphericity relates to the significance of the study and thereby shows the validity and suitability of the responses collected for the problem being addressed through this study, as well as tests the presence of correlations among variables. A small value less than 0.05 of significance level has been recommended suitable for the study (Kline, 1994). The KMO statistics of the sample are 0.879, while chi-square statistics of Bartlett's Spherical test is 82528.425 with the degree of freedom of 5460, which implies that the total number of samples is significant to carry out factor analysis (table 8.29). The communalities represent the amount of systematic variation for each variable that is accounted for by the set of factors in a study and the value ranges from 0 to 1. According Zillmer and Vuz (1995) communalities with a value below .30 suggests that few variables are associated and thus a suitable factor model may not emerge. Therefore, such values need to be removed from the scale. In this study all the values of the communalities (t able 8.30) are above .60, thus indicating that the variables provide a sufficient explanation for the factor solution. The value of the communalities in the table ranges from .65 to .87. Exploratory factor analysis was conducted, utilising a principal axis factoring extraction method, with a varimax rotated solution, suppressing coefficients below 0.60, and selecting

factors which had eigenvalues more than 1.00. Fourteen factors have been extracted for this study whose eigenvalue is greater than 1, as they explain nearly 65% about the total variables taken into account. The first factor accounts for considerably more variance than the remaining thirteen factors (Table 8.31). The rotation sums of squared loadings shown in the table represent the distribution of the variance after the varimax rotation. Varimax rotation is an orthogonal rotation, which is commonly used, as it tries to maximise the variance of each of the factors in such a way that the total amount of variance accounted for is redistributed over the fourteen extracted factors. The factor loadings after varimax rotation are illustrated in table 8.32. The table 8.33 depicts the thirteen extracted variables that were obtained through factor analysis and used for further analysis. According to (Ho, 2014), "it is preferable to employ a relatively small number of "good" indicators than to delude oneself with a relatively large number of "poor" ones". To get a better model fit for this study, various variables were dropped systematically by taking into consideration only those variables that had higher standardised regression weights and greater influence on the measured constructs. According to Robert Ho, "The standardised coefficient allows the researcher to compare directly the relative relationship between each independent variable and the dependent variable" (2014: 440).

**Table 8.29: KMO and Bartlett's Test**

| | |
|---|---|
| Kaiser-meyer-olkin measure of sampling adequacy | .879 |
| Bartlett's test of sphericity | |
| Approximate chi - square | 82528.425 |
| df | 5460 |
| Sig | 0.000 |

**Table 8.30: Communalities**

| Loaded Items | Communalities |
|---|---|
| V1 | .706 |
| V2 | .809 |
| V3 | .756 |
| V4 | .717 |
| V5 | .798 |
| V6 | .762 |
| V7 | .800 |
| V8 | .757 |
| V9 | .785 |
| V10 | .752 |
| V11 | .702 |
| V12 | .815 |

| | |
|---|---|
| V13 | .695 |
| V14 | .756 |
| V15 | .746 |
| V16 | .650 |
| V17 | .702 |
| V18 | .740 |
| V19 | .747 |
| V20 | .876 |
| V21 | .861 |
| V22 | .811 |
| V23 | .855 |
| V24 | .832 |
| V25 | .849 |
| V26 | .824 |
| V27 | .802 |
| V28 | .790 |
| V29 | .767 |
| V30 | .768 |
| V31 | .824 |
| V32 | .827 |
| V33 | .807 |
| V34 | .806 |
| V35 | .705 |
| V36 | .791 |
| V37 | .789 |
| V38 | .802 |
| V39 | .743 |
| V40 | .801 |
| V41 | .818 |
| V42 | .840 |
| V43 | .753 |
| V44 | .737 |
| V45 | .778 |
| V46 | .717 |
| V47 | .741 |
| V48 | .733 |
| V49 | .729 |
| V50 | .788 |
| V51 | .820 |
| V52 | .769 |
| V53 | .745 |
| V54 | .713 |
| V55 | .653 |
| V56 | .789 |
| V57 | .765 |
| V58 | .780 |

| | |
|---|---|
| V59 | .777 |
| V60 | .758 |
| V61 | .750 |
| V62 | .737 |
| V63 | .793 |
| V64 | .725 |
| V65 | .749 |
| V66 | .864 |
| V67 | .826 |
| V68 | .766 |
| V69 | .839 |
| V70 | .857 |
| V71 | .841 |
| V72 | .851 |
| V73 | .816 |
| V74 | .800 |
| V75 | .815 |
| V76 | .813 |
| V77 | .837 |
| V78 | .859 |
| V79 | .817 |
| V80 | .817 |
| V81 | .824 |
| V82 | .836 |
| V83 | .785 |
| V84 | .815 |
| V85 | .800 |
| V86 | .773 |
| V87 | .795 |
| V88 | .838 |
| V89 | .738 |
| V90 | .811 |
| V91 | .714 |
| V98 | .817 |
| V99 | .810 |
| V100 | .762 |
| V101 | .818 |
| V102 | .801 |
| V103 | .814 |
| V104 | .792 |
| V105 | .824 |
| V106 | .775 |
| V107 | .790 |
| V108 | .795 |
| V109 | .766 |
| V110 | .725 |

**Table 8.31: Factors Extracted through Principal Component Analysis**

| *Components* | *Initial Eigenvalues* | | | *Extraction Sums of Squared Loadings* | | | *Rotation Sums of Squared Loadings* | | |
|---|---|---|---|---|---|---|---|---|---|
| | *Total* | *% of Variance* | *Cumulative %* | *Total* | *% of Variance* | *Cumulative %* | *Total* | *% of Variance* | *Cumulative %* |
| 1 | 10.340 | 17.526 | 17.526 | 10.340 | 17.526 | 17.526 | 4.604 | 7.804 | 7.804 |
| 2 | 4.720 | 8.001 | 25.526 | 4.720 | 8.001 | 25.526 | 3.309 | 5.609 | 13.413 |
| 3 | 3.048 | 5.167 | 30.693 | 3.048 | 5.167 | 30.693 | 2.914 | 4.938 | 18.351 |
| 4 | 2.778 | 4.708 | 35.401 | 2.778 | 4.708 | 35.401 | 2.755 | 4.670 | 23.022 |
| 5 | 2.594 | 4.396 | 39.797 | 2.594 | 4.396 | 39.797 | 2.703 | 4.581 | 27.602 |
| 6 | 2.505 | 4.246 | 44.043 | 2.505 | 4.246 | 44.043 | 2.646 | 4.485 | 32.087 |
| 7 | 2.241 | 3.798 | 47.841 | 2.241 | 3.798 | 47.841 | 2.637 | 4.469 | 36.556 |
| 8 | 1.782 | 3.021 | 50.862 | 1.782 | 3.021 | 50.862 | 2.612 | 4.428 | 40.984 |
| 9 | 1.746 | 2.960 | 53.822 | 1.746 | 2.960 | 53.822 | 2.547 | 4.316 | 45.300 |
| 10 | 1.587 | 2.689 | 56.512 | 1.587 | 2.689 | 56.512 | 2.543 | 4.309 | 49.610 |
| 11 | 1.401 | 2.375 | 58.887 | 1.401 | 2.375 | 58.887 | 2.482 | 4.206 | 53.816 |
| 12 | 1.324 | 2.245 | 61.132 | 1.324 | 2.245 | 61.132 | 2.357 | 3.994 | 57.810 |
| 13 | 1.248 | 2.115 | 63.247 | 1.248 | 2.115 | 63.247 | 2.261 | 3.832 | 61.642 |
| 14 | 1.175 | 1.991 | 65.238 | 1.175 | 1.991 | 65.238 | 2.121 | 3.596 | 65.238 |

**Figure 8.32: Factor loadings After Varimax Rotation**

| Loaded Items | Factor Loadings | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| V1 | .850 | | | | | | | | | | | | |
| V2 | .616 | | | | | | | | | | | | |
| V4 | .763 | | | | | | | | | | | | |
| V5 | .620 | | | | | | | | | | | | |
| V6 | .763 | | | | | | | | | | | | |
| V7 | .661 | | | | | | | | | | | | |
| V9 | | .694 | | | | | | | | | | | |
| V10 | | .730 | | | | | | | | | | | |
| V12 | | .730 | | | | | | | | | | | |
| V13 | | .678 | | | | | | | | | | | |
| V15 | | | .718 | | | | | | | | | | |
| V17 | | | .733 | | | | | | | | | | |
| V18 | | | .784 | | | | | | | | | | |
| V20 | | | .826 | | | | | | | | | | |
| V23 | | | | .831 | | | | | | | | | |
| V25 | | | | .898 | | | | | | | | | |
| V27 | | | | .879 | | | | | | | | | |
| V30 | | | | | .743 | | | | | | | | |
| V32 | | | | | .625 | | | | | | | | |
| V34 | | | | | .686 | | | | | | | | |
| V37 | | | | | .655 | | | | | | | | |
| V39 | | | | | | .796 | | | | | | | |
| V41 | | | | | | .785 | | | | | | | |
| V44 | | | | | | .672 | | | | | | | |
| V50 | | | | | | | .775 | | | | | | |
| V52 | | | | | | | .600 | | | | | | |
| V53 | | | | | | | .633 | | | | | | |
| V56 | | | | | | | .693 | | | | | | |
| V58 | | | | | | | | .886 | | | | | |
| V62 | | | | | | | | .945 | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| V64 | .909 | | | | |
| V69 | .820 | | | | |
| V71 | .703 | | | | |
| V73 | .822 | | | | |
| V78 | | .635 | | | |
| V82 | | .709 | | | |
| V84 | | .689 | | | |
| V85 | | .800 | | | |
| V87 | | | .863 | | |
| V88 | | | .916 | | |
| V90 | | | .886 | | |
| V99 | | | | .769 | |
| V100 | | | | .636 | |
| V101 | | | | .688 | |
| V102 | | | | .705 | |
| V106 | | | | | .653 |
| V107 | | | | | .698 |
| V110 | | | | | .734 |

**Table 8.33: Extracted Variables**

| Constructs | Extracted Variables |
|---|---|
| Organisational Culture (CUL) | V1, V4, V6 and V7 |
| Organisational Strategy (ST) | V9, V10 and V12 |
| Entrepreneurial Competency (EC) | V15, V17, V18 and V20 |
| Meta Competency (MC) | V23, V25 and V27 |
| Functional Competency (FC) | V30, V32, V34 and V37 |
| Social Competency (SC) | V39, V41 and V44 |
| Intellectual/Cognitive Competency (CC) | V50, V53 and V56 |
| Personal Competency (PC) | V58, V62 and V64 |
| Leadership Competency (LC) | V69, V71 and V73 |
| Result Oriented Competency (RC) | V78, V82 and V85 |
| Ethical Competency (ETC) | V88 and V90 |
| Executive Performance (EP) | V99, V101 and V102 |
| Organisational Performance (OP) | V106, V107 and V110 |

The measurement model comprises of the relationship of observed variables with their respective latent constructs. As seen in figure 8.15, the measurement model consists of 13 latent variables and 41 observed variables. The latent construct validity and distinctiveness were examined for accepting measurement model in table 8.34. The face validity of the items in the construct was established prior to the theoretical testing. The loadings of the standardised estimates indicate reliability, as all the observed variables are above .5 (Hair et al., 2010). Composite reliability (CR) measures the sum of a latent variable's factor loading relative to the sum of the factor loadings plus error variance and its value ranges from 0 to 1. As a thumb rule, a CR value above .60 is acceptable for validity of a construct. According to Raykov (2004), "Cronbach's alpha is not dependable to estimate reliability, as it tends to over or underestimate the population value". The composite reliability of all the variables ranges from .71 to .91, thus depicting a strong convergent validity. The average variance extracted (AVE) was also calculated for the measurement model, which measures the mean, variance extracted from the item loadings on a construct and is a summary indicator of convergence. According to Fornell and Larcker (1981), AVE for a set of indicators should have a value that is greater than .50. In this study all the measured variables have AVE value ranging from .50 to .78. Thus, it can be concluded that all the latent constructs are reliable and valid. Divergent

validity helps to establish, construct validity by demonstrating that the constructs are distinct from each other (Campbell and Fiske, 1959). In this study, the divergent validity was duly established. The first step of conducting SEM is to confirm the measurement model through confirmatory factor analysis (CFA). CFA is highly essential in SEM as it is used to confirm or reject the measurement theory. After, confirming the model, SEM is carried out on the measurement model to achieve goodness of fit. The degree of model fit, adequacy of the factor loadings, standardised residuals and explained variances for the measured variables is determined through this process.

**Table 8.34: Measurement Model Results**

| Constructs | Measurement Items | Standardised Estimates | AVE | CR | p Value |
|---|---|---|---|---|---|
| CUL | V1 | .851 | 0.608 | 0.861 | .000 |
| | V4 | .757 | | | .000 |
| | V6 | .713 | | | .000 |
| | V7 | .791 | | | .000 |
| ST | V9 | .768 | 0.687 | 0.868 | .000 |
| | V10 | .825 | | | .000 |
| | V12 | .889 | | | .000 |
| EC | V15 | .795 | 0.528 | 0.817 | .000 |
| | V17 | .762 | | | .000 |
| | V18 | .653 | | | .000 |
| | V20 | .689 | 0.719 | 0.884 | .000 |
| MC | V23 | .844 | | | .000 |
| | V25 | .953 | | | .000 |
| | V27 | .733 | | | .000 |
| FC | V30 | .741 | 0.500 | 0.789 | .000 |
| | V32 | .765 | | | .000 |
| | V34 | .653 | | | .000 |
| | V37 | .665 | 0.780 | 0.913 | .000 |
| SC | V39 | .853 | | | .000 |
| | V41 | .987 | | | .000 |
| | V44 | .799 | | | .000 |
| CC | V50 | .836 | 0.606 | 0.819 | .000 |
| | V53 | .621 | | | .000 |
| | V56 | .857 | | | .000 |

| | | | | | |
|---|---|---|---|---|---|
| PC | V58 | .861 | | | .000 |
| | V62 | .892 | 0.711 | 0.880 | .000 |
| | V64 | .772 | | | .000 |
| LC | V69 | .698 | | | .000 |
| | V71 | .700 | 0.505 | 0.726 | .000 |
| | V73 | .734 | | | .000 |
| RC | V78 | .723 | | | .000 |
| | V82 | .684 | 0.522 | 0.747 | .000 |
| | V85 | .761 | | | .000 |
| ETC | V88 | .750 | 0.559 | 0.717 | .000 |
| | V90 | .745 | | | .000 |
| EP | V99 | .736 | | | .000 |
| | V101 | .778 | 0.636 | 0.839 | .000 |
| | V102 | .872 | | | .000 |
| OP | V106 | .680 | | | .000 |
| | V107 | .719 | 0.528 | 0.728 | .000 |
| | V110 | .779 | | | .000 |

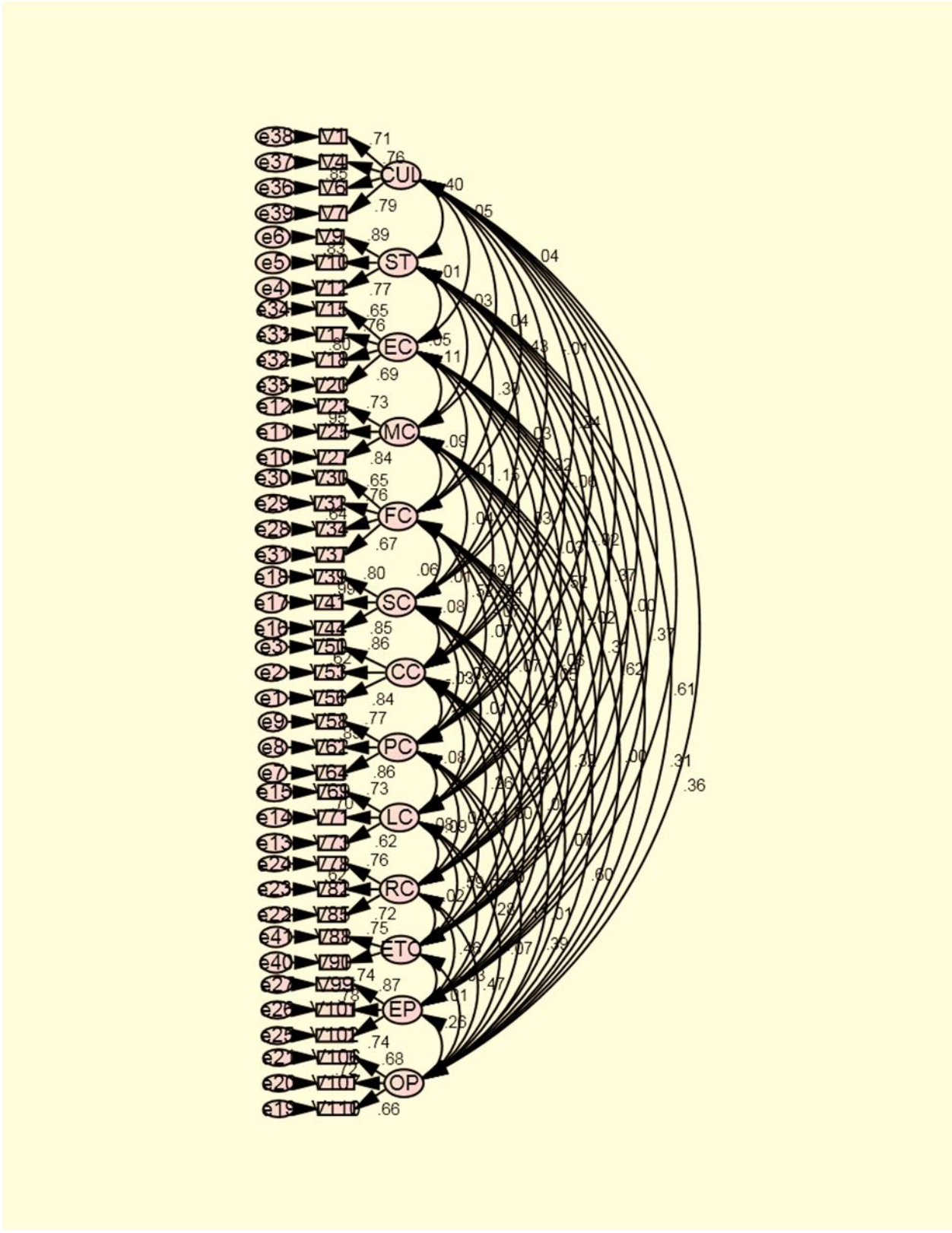


**Figure 8.15: Measurement Model (MM)**

The criterion of goodness of fit indexes of measurement model is illustrated in table 8.35. According to Ho (2014), the goodness-of-fit measures can be classified into three types; absolute fit measures, incremental fit measures and parsimonious fit measures. The absolute fit measures can be determined by the degree to which the proposed model predicts/fits the observed covariance matrix. The absolute fit measures are tested and reported in this study through chi-square statistic, the goodness-of-fit statistic, and the root mean square error of approximation. The chi-square ($\chi^2$) test indicates the amount of difference between expected and observed covariance matrices. There are certain limitations to the chi-square ($\chi^2$) test such as; "this test assumes multivariate normality and severe deviations from normality may result in model rejections even when the model is properly specified, it is sensitive to sample size due to which it rejects the model when large samples are used as well when small sample size is used it fails to discriminate between good fitting models and poor fitting models" (Hooper et al., 2008). To counter the restrictiveness of the model chi-square ($\chi^2$), the relative/normed chi-square ($\chi^2$/df) measure is used for measuring model fit (Wheaton et al., 1977). The acceptable ratio for this statistic is a value less than 5.0, though some researchers consider value less than 2.0 to be a better model fit (Tabachnick and Fidell, 2007; Kline, 2005). The goodness of fit (GFI) measures, illustrates how much better the model fits compared with no model at all; its value ranges from 0 to 1 wherein, values closer to 1 indicates a better fit (Jöreskog and Sörbom, 1993; Hair et al., 2010; Ho, 2014). The adjusted goodness of fit index (AGFI) tries to take into account differing degrees by adjusting GFI by a ratio of the degrees of freedom used in a model to the total degrees of freedom available. The value of AGFI is typically lower than GFI value. The root mean square error of approximation (RMSEA) is related to residual in the model, which measures the discrepancy per degree of freedom; its value ranges from 0 to 1 wherein, values ranging from 0.05 to 0.08 are deemed acceptable while values ranging from 0.08 to 0.10 indicate mediocre fit and those greater than 0.10 indicate a poor fit (Hu and Bentler, 1999; Hair et al., 2010). The incremental fit measures depict the improvement achieved by a proposed model over the null model. The incremental fit measures are reported by the Normed Fit Index (NFI), Comparative Fit Index (CFI), Relative Fit Index (RFI), Incremental Fit Index (IFI) and Tucker-Lewis Index (TLI). The values of these indices range from 0 to 1, wherein values above .90 is indicative of a good model fit. (Hair et al., 2010). Parsimony-corrected fit indices are relative fit indices that are adjustments to most of the fit

indices mentioned above. These measures favours the simpler model to complex ones, therefore complex the model, lower the fit index. Parsimony-adjusted Comparative Fit Index (PCFI) is reported in this study that based on the CFI measurement index wherein value closer to 1 indicates better model fit. According to Hoelter (1983), "any number above 200 is understood to provide sufficient statistical power for data analysis". Hoelter's index depicts a sample size below which the difference in the models would be non-significant.

The table of measurement model fit indices indicates that all the values are within the acceptable limit (GFI=0.893, NFI=.877, IFI=.940, TLI=.929, CFI=.939, RMSEA=.040), making the model a good fit. As the measurement model is concluded to be acceptable and the second stage of SEM was carried to develop a structural model in order to verify hypotheses for the causal relationships between variables in accordance with the literature. As seen in figure 8.16, the structural model depicts the relationship between the executive competencies with individual performance and the executive performance with that of organisational performance. The structural model consists of 81 variables in total, of which 34 are observed variables and 47 are unobserved variables. These measurable variables consist of 595 sample moments. A total of 114 parameters is estimated which includes 33 regression weights, 36 covariances and 45 variances; due to which the degree of freedom for this model is 481 (595–114). The model fit indices were computed, which illustrated that the model was acceptable and fitted adequately. The chi-square value was adequate with ($N = 516$, $df = 481$, $\chi^2 = 1030.807$, $p < .01$). The structural model fit indices are depicted in table 8.35. The baseline comparisons fit indices of NFI, RFI, IFI, TLI, and CFI are within acceptable levels (GFI= .899, NFI= .872, IFI= .927, TLI= .914, CFI=.926, RMSEA=.047) depicting good fit of the hypothesised model. Therefore, we can conclude that inclusion of executive competencies has considerable effect on the executive and organisational performance.

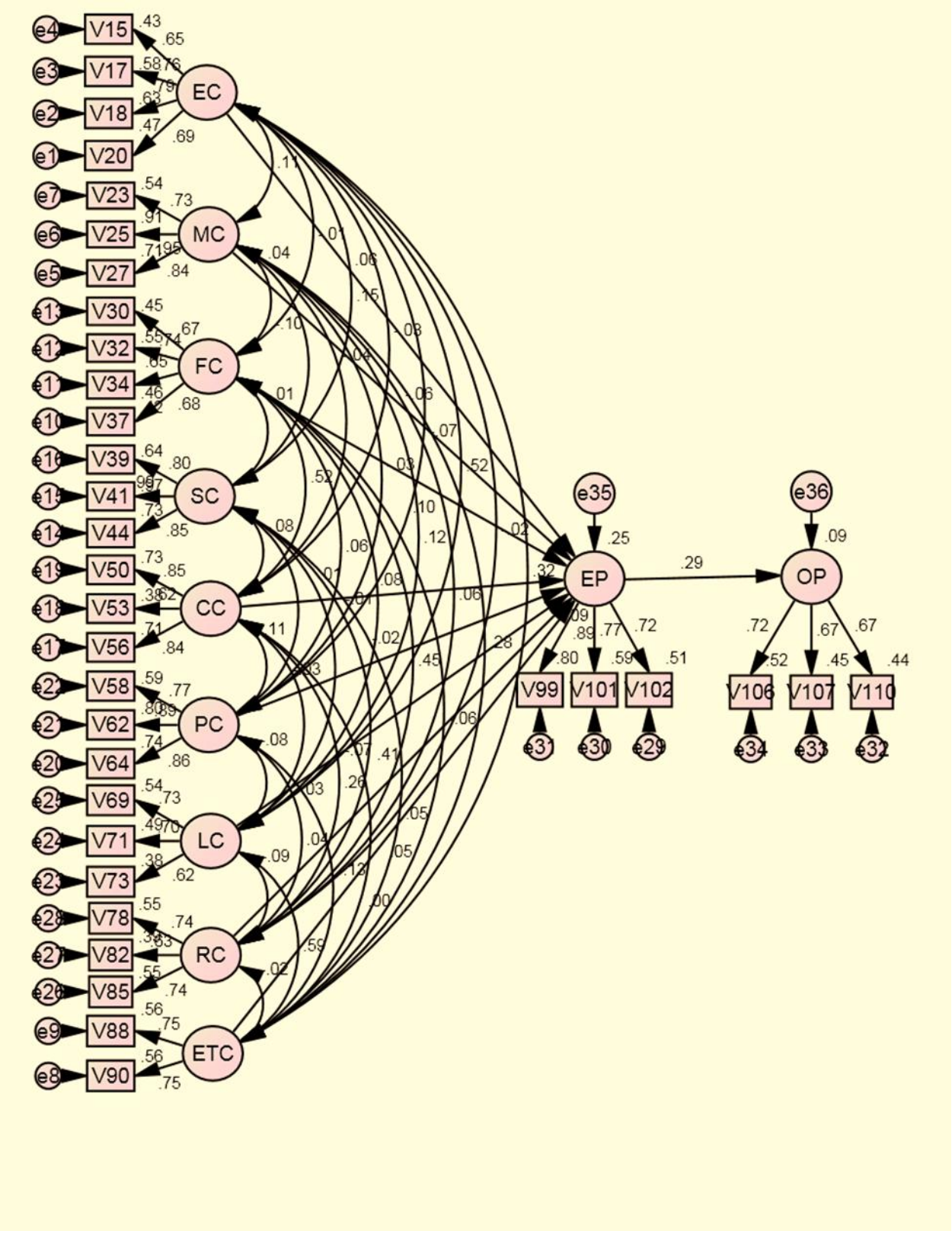


**Figure 8.16: Structural Model (SM) of Executive Competencies and Organisational Performance**

| Table 8.35: Measurement Model (MM) and Structural Model (SM) Fit Indices | | | |
|---|---|---|---|
| **Indices** | **Observed Value (MM)** | **Observed Value (SM)** | **Acceptable Level*** |
| **Chi-Square and df** | $\chi^2$ = 1291.5, df = 701, p = .000 | $\chi^2$ = 1030.807, df = 481, p = .000 | |
| **CMIN/DF** | 1.842 | 2.143 | A Value less than 5 represents good fit |
| **GFI** | .893 | .899 | Values close to .90 represent a good fit |
| **AGFI** | .869 | .875 | Values close to .90 represent a good fit |
| **CFI** | .939 | .926 | Values close to .90 represent a good fit |
| **TLI** | .929 | .914 | Values close to .90 represent a good fit |
| **PCFI** | .803 | .804 | A Value close to .95 is a good fit model and Values above .75 is tolerable |
| **RMSEA** | .040 | .047 | Values should be less than .08 for the model to be a good fit. |
| **HOELTER** | 305 (.05), 316 (.01) | 267 (.05), 278 (.01) | |

*Source: Hair et al., (2010)

The figure 8.17, illustrates the overall hypothesised model developed for the study. The structural model depicts the relationship between organisational strategy (ST) and organisational culture (CUL) with executive competencies (OEC), the relationship between executive competencies (OEC) with executive performance (EP) and the relationship between executive performance (EP) with that of organisational performance (OP). The structural model consists of a 52 variables in total, of which 22 are observed variables and 30 are unobserved variables. These measurable variables consist of 253 sample moments. A total of 53 parameters is estimated which includes 21 regression weights, 5 covariances and 27 variances; due to which the degree of freedom for this model is 200 (253 – 53). The model fit indices were computed, which illustrated that the model was acceptable and fitted adequately. The chi-square value was adequate with (N = 516, df = 200, $\chi$2= 611.023, p < .01). The structural model fit indices are depicted in table 8.36. The baseline comparisons fit indices of NFI, RFI, IFI, TLI, and CFI are within acceptable levels (GFI= .912, NFI= .897, IFI= .928, TLI= .917, CFI= .928, RMSEA= .063) depicting good fit of the hypothesised model. Therefore, it can be concluded that the hypothesised competency based performance

management model has considerable effect on the overall performance excellence of an organisation.

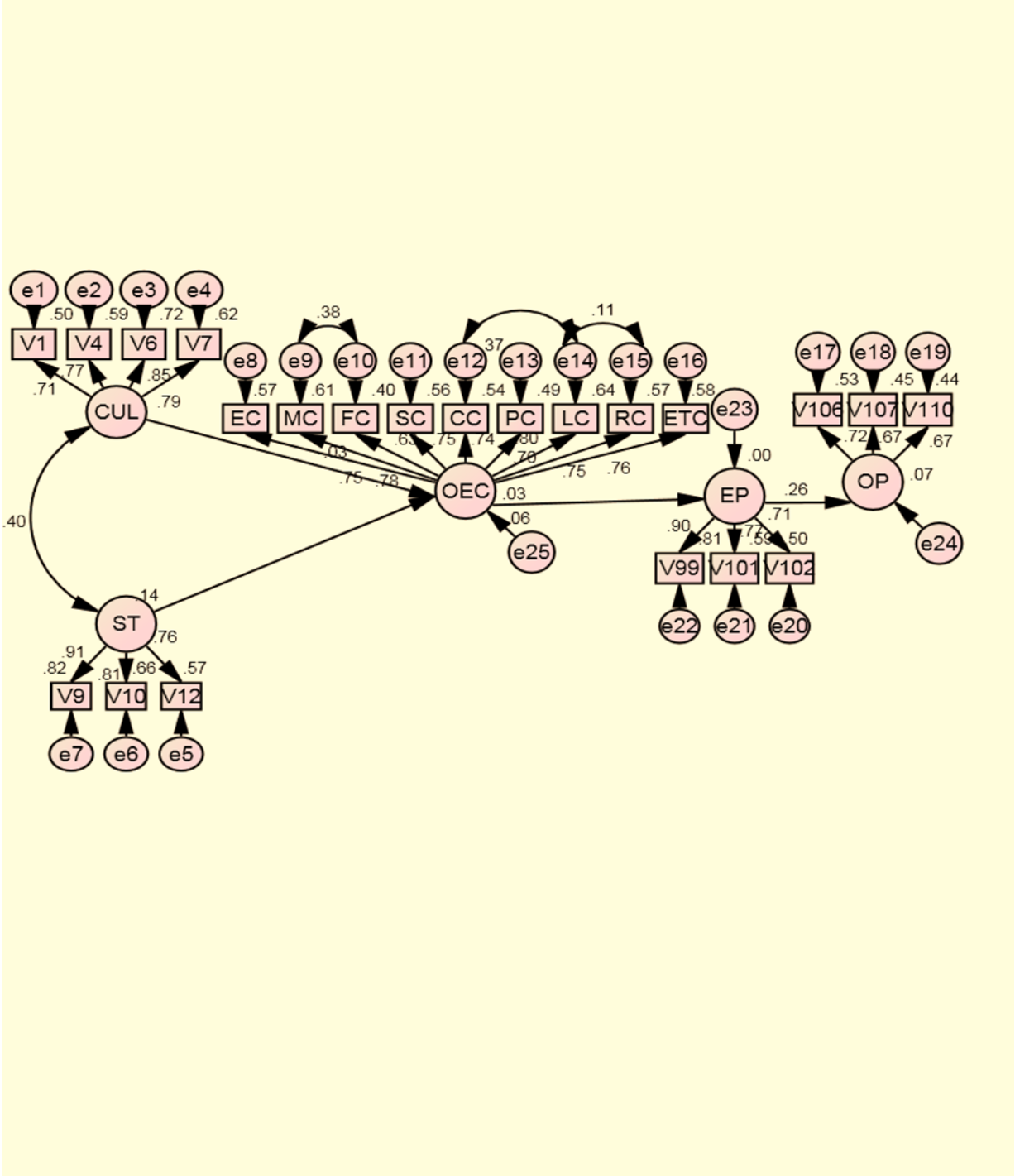


**Figure: 8.17: Structure of the Overall Hypothesised Model**

**Table 8.36: Structural Model Fit Indices**

| Indices | Observed Value | Acceptable Level* |
|---|---|---|
| **Chi-Square and df** | $\chi^2$ = 611.023, df = 200, p = .000 | |
| **CMIN/DF** | 3.055 | A value less than 5 represents good fit |
| **GFI** | .912 | Values close to .90 represent a good fit |
| **AGFI** | .888 | Values close to .90 represent a good fit |
| **CFI** | .928 | Values close to .90 represent a good fit |
| **TLI** | .917 | Values close to .90 represent a good fit |
| **PCFI** | .803 | A value close to .95 is a good fit model and values above .75 is tolerable |
| **RMSEA** | .063 | Values should be less than .08 for the model to be a good fit. |
| **HOELTER** | 198 (.05), 211 (.01) | |

*Source: Hair et al., (2010)

According to Aiken and West (1991), "Moderator variables affect the strength and/or direction of the relation between a predictor and an outcome: enhancing, reducing, or changing the influence of the predictor. Moderating effects are typically discussed as an interaction between factors or variables, where the effects of one variable depend on the level of the other variable in analysis". In this study it has been hypothesised that developmental interventions moderates the positive relationship between executive competencies and executive performance as seen in figure 8.18.

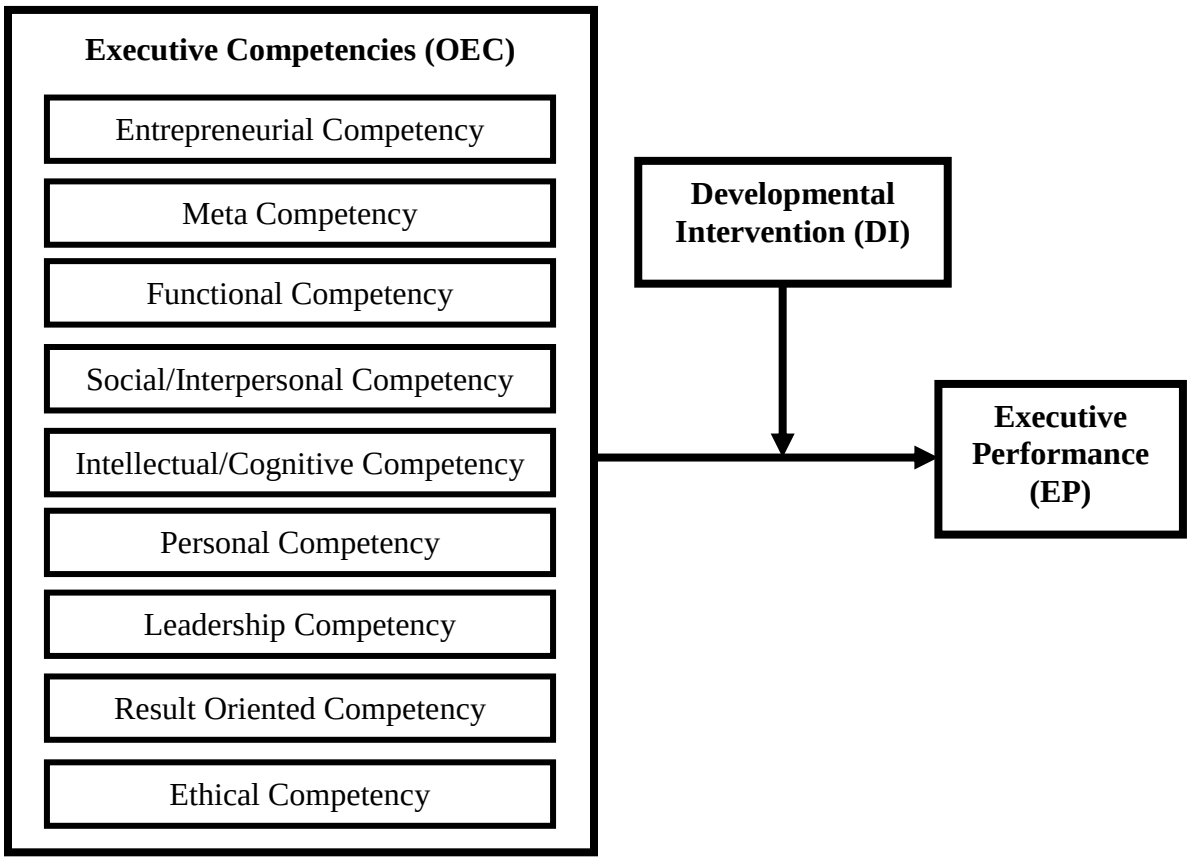


**Figure 8.18: Hypothesised Moderation Model**

To understand the moderating effect of developmental intervention on executive competencies and executive performance, six steps were followed. Firstly, composite variables were created from latent factors in the measurement model through data imputation method in AMOS. By using data imputation, a new data set was created by taking on the weighted average based on the regression weights for all the latent variables used in the measurement model. The new composite variables are based on the indicator loading in AMOS, wherein an indicator having higher loadings receives a greater weighting in the new data set. Secondly, we convert each raw score of latent factors in the new data set to z-scores through SPSS. According to Kreyszig (1979: 880), "the absolute value of z represents the distance between the raw score (x) and the population mean ($\mu$) in units of the standard deviation ($\sigma$). The formula of z value is $\{z = (x- \mu)/\sigma\}$. The value of z is negative when the raw score is below the mean and value is positive when above the mean". Thirdly, emphasis was given on transformation and computation of the 'z score' for all the nine dimensions of executive

competencies to create a new variable 'Executive competencies' (OEC), which is the cumulative score of all the nine dimensions of executive competencies through SPSS. Fourthly, calculation of the 'z score' for developmental intervention (DI) which will act as a moderator in this study. Fifthly, the transformation and computation of the interaction between 'OEC' and 'DI' and got another variable (Combination (CO) = OEC x DI) which depicts the value of interaction between two variables. Sixthly, the analysis of the interaction among OEC and z scores of DI and CO on executive performance (EP) with interaction method was done. The results indicate that there were significant moderation effects of developmental interventions for executive competencies on superior executive performance ($\Delta R^2$=.29, $\Delta F$=65.56, $p$< 0.001). More specifically, developmental interventions turned out to significantly moderate the positive relationship between executive competencies and executive performance ($b_{interaction}$=0.21, $p$<0.01, $M_{developmentalInterbventions}$= 3.80) as seen in figure 8.19. The relationship between executive competencies and executive performance is stronger for firms possessing higher developmental interventions, in contrast to those with lower stages of development interventions. It can be concluded that when the employees have low executive competencies and lower developmental interventions, their executive performance is also consequently lower while, with high executive competencies and higher developmental intervention, it results in higher executive performance for the employees.

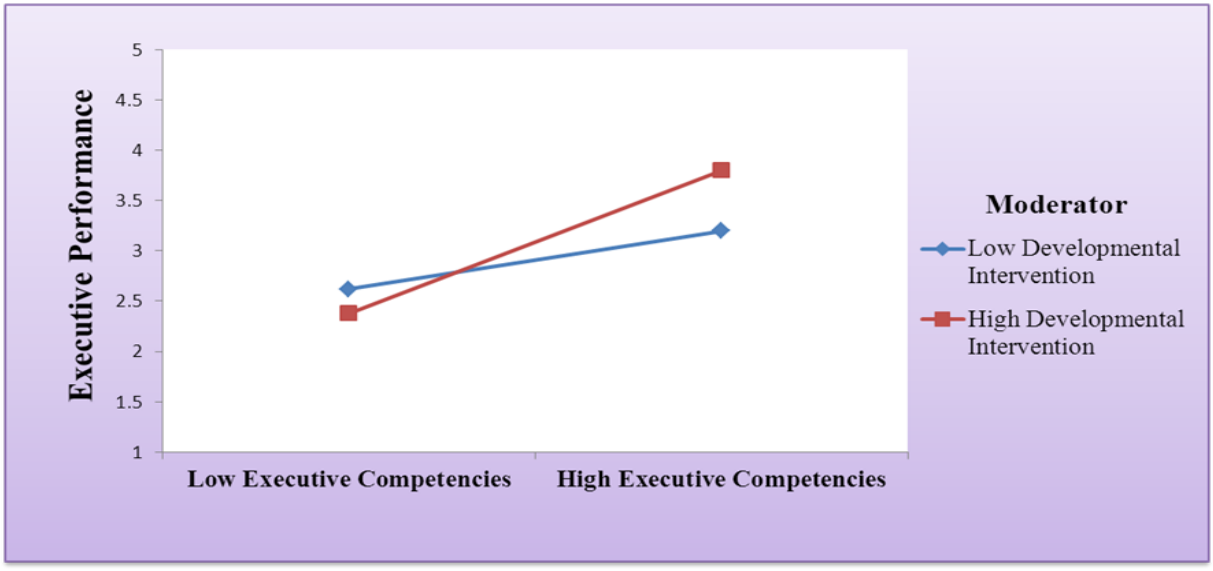


**Figure 8.19: Moderation Effect**

## 8.5 DISCUSSION

In compliance to creation of competitive advantage and to achieve organisational excellence, proper identification and assessment of competencies for middle and lower level executives are highly prerequisite. Lack of specificity of essential executive competencies poses a threat to the overall performance of an organisation, as the middle and lower level executives are responsible for the day-to-day management of these competencies and work management. The present challenging and competitive business environment has turned on the attention of the organisations worldwide towards the importance of executive competencies and their effect on the firm's performance. Though, the awareness of executive competencies is not directly proportional to augmented performance index for the organisation, as they are unable to utilise competencies appropriately. According to Martina (2012), "an efficient utilisation of a competency-based approach is dependent on the correct identification of executive competencies and the subsequent development of a suitable competency model as well as their measuring, evaluation and development". It was felt after reviewing the works of eminent researchers in this field that the organisations have not given proper attention towards acquiring of desired levels of several competencies by the middle and lower level executives. In this study an attempt has been made towards identifying, acquiring and bridging of competency gaps of the executives. Therefore, the implications of this study would be relevant for both academicians and practitioners alike.

The purpose of this study was to empirically investigate whether the identified executive competencies would enhance the performance index of the executives. Hypothesis$_1$ attempts to delve into the relationship between organisational strategy and identification of competency requirements. According to the Brown (2005), the organisations with prospector strategies are more likely to encourage experimentation and innovation, therefore encouraging procurement of competencies and propelling organisational performance. It proposes that, organisational strategy is elemental is identification of executive competencies which can guide an organisation towards performance excellence. The prior research by Bates, et al., (1995), Lee and Yu, (2004), O'Regan and Ghobadian, (2006) and Butler, (2009) support the proposed hypothesis. The findings of this study are analogous to that of the previous research, thus implying that organisational strategy has considerable influence on identification of required competencies for the respondents included in the study.

The organisational culture was taken into consideration for identification of crucial executive competencies that would be beneficial for performance enhancement in a firm. According to the study of Schein (1992); "the understanding of organisational culture is fundamental to examine what goes on in organisations, how to run them and how to improve them". Schwartz and Davis (1981: 47) elucidated that "for better or worse, a corporate culture has a major impact on a company's ability to carry out the objectives and plans". The works of previous researchers had emphasised the importance of organisational culture in its contribution towards achieving long-term organisational goals and maximisation of performance; which supports hypothesis$_2$ (Schneider, 1987; Grunig, 1992; Triandis, 2004; Gay et al., 2005; Van Riel and Fombrun, 2009; Schein, 2010; Marquis and Tilcsik, 2013). The present study supports the findings of the previous researchers. It furnishes the evidence that organisational culture has a significant influence on identification of required competencies for the respondents included in the survey.

The growth and performance of an organisation are highly impacted by the entrepreneurial competencies; as they are a specific group of competencies relevant to the exercise of successful entrepreneurship within an organisation. The birth, survival and growth of a firm are dependent on an executive's entrepreneurial competency (Bird, 1995; Smith and Morse, 2005; Brinckmann, 2008; Mitchelmore and Rowley, 2010). The general consensus of previous researchers is that the individuals having entrepreneurial competencies are indispensable for starting and transforming businesses successfully (Johnson and Winterton, 1999; Man et al., 2002; Sathe, 2003; Hayton and Kelley, 2006; Mascarell et al., 2013) which is supporting evidence for hypothesis$_{3a}$. The proposition of this hypothesis is supported in this study which projects a positive relationship for functional strategy, business strategy, understanding competitors, knowing market opportunities, pro-activeness, knowing the drivers of the market and competition aggressiveness, as the findings point out that entrepreneurial competency has got significantly positive influence on the performance of the respondents both singularly and collectively.

The empirical evidence of the study by Brown and McCartney (1995: 43), illustrates that "meta-competences are the higher-order abilities that are prerequisite for the development of capacities such as judgement, intuition and acumen upon which competence are based and without which competencies cannot flourish". The preceding scholars have conjectured that

meta competencies is one of the important factors that influences executive performance extensively, which had been endorsed by Hypothesis$_{3b}$ (Buckley et al., 2002; Tubbs and Schulz, 2006; Mulder et al., 2006; Asumeng, 2014). Though the evidence of past research emphasis upon the importance of meta competencies as a predictor of performance excellence. The findings illustrate that there is no significant contribution of meta competencies on executive performance for the respondents when evaluated as one of the parameters of executive competencies. But, when they were evaluated solely, it showcased considerable positive influence on individual performance. Thus, implying the meta competencies is one of the required essential executive competencies for performance improvement on an individual form than in a collective form.

Functional competencies are job-specific competencies that are proven to drive high-performance and provide quality results for a given position; as it emphasises the competence required for one's performance (Le Deist et al., 2005). The proposed hypothesis$_{3c}$, examines the relationship between innovativeness, decision-making skills, knowledge management, customer orientation, business sense, stress management, professionalism, effective delegation, cross functional perspective and taking responsibility for their actions as a measure of performance excellence, as evidenced in past studies (Acar, 1993; Haase, 2005; Hansson, 2001; Murray, 2003; Walsh and Linton, 2010**)**. The results of this present study imply that the previous studies on the functional competencies holds strong in this case as well. The response of the respondents indicates, that functional competency has got a significant effect on executive performance.

Social competencies are the abilities and behaviour that are needed to be demonstrated by individuals for cooperation with others in building, maintaining and sustaining different relationships within an organisation (Mallinckrodt and Wei, 2005; Ramo et al., 2009; Ivanova, 2012; Emmerling and Boyatzis, 2012; Carter and Yeo, 2014). The proposed hypothesis$_{3d}$, explore the relationship between creating impact, persuasiveness, sensitivity, flexibility, empathy, negotiation, interpersonal understanding, emotional resilience and relationship building and coordination with an increment of performance index. Supporting evidence for this hypothesis is contributed by numerous researchers, i.e. Hubbard and Coie, (1994); Mayer and Salovey, (1997); Halberstadt et al., (2001); Sunindijo et al., (2007) and Zhang et al., (2013). The results of this study indicate that the findings of the previous researchers are in

coordination with this study. The social competencies of the respondents enable them in enhancing their executive performance within the organisation.

The use of concepts, systems thinking and pattern recognition are forms of intellectual competencies demonstrated by employees in an organisation (Fulmer and Barry, 2004; Boyatzis and Saatcioglu, 2008; Wheeler, 2008; Ryan et al., 2012). The liaison of information collection, problem analysis, judgement, planning, learning orientation, technical expertise, troubleshooting activities, numerical interpretation, organisational awareness, external awareness and IT and computer literacy with executive performance is investigated through $hypothesis_{3e}$. The work of eminent scholars on intellectual competencies are in accordance with the hypothesis formulated for the study (Spencer and Spencer, 1993; Ganzagh, 1998; Premuzic and Furnham, 2005; Summers et al., 2012). The findings illustrate that there is a significant influence of intellectual competencies on executive performance of the respondents of this study.

Personal competencies represent a range of personal attributes and personality traits that are required for effective job performance (Mirabile, 1997; Abraham et al., 2001; Crawford, 2005; Kohli and Chitkara, 2007). The projected $hypothesis_{3f}$, delves into the association between knowledge, skills and ability, independence, adaptability, integrity, self-management, goal seeking, self-confidence, achievement orientation, stress tolerance, resilience, change orientation, self-efficacy and self-improvement with executive performance of the executives. The proposed hypothesis is backed by findings of earlier scholars, i.e. Civelli, (1998); Mui and Mulenburg, (2004); Harris, (2007); Arditi and Balci, (2009) and Othman and Jaafar, (2013). The results of this study are in sync with the previous findings as it illustrates that personal competencies of the executive respondents are significant, in enhancing their performance level within the organisation periphery.

"Leadership competencies, which are often largely closed-ended in nature, are necessary in order that staff can undertake strategic planning, and in this way helps to turn the vision of an organisation, department or team into a reality" (Alimo-Metcalfe and Alban-Metcalfe, 2008: 16). The relationship between organising, empowering and participation, appraising, leading, motivating others, developing others, team building, resolving group conflict, developing the sense of shared leadership and communication with enhanced executive performance for executive is analysed in $hypothesis_{3g}$; which is supported by findings of eminent scholars and

prior researchers (Beinecke and Spencer, 2008; Northouse, 2010; Jantti and Greenhalgh, 2012; Alban-Metcalfe and Alimo-Metcalfe, 2013; Quintana et al., 2014). The results of the study showcase that leadership competencies of the respondents influence their executive performance significantly.

"The people who demonstrate result oriented competency, organise their work or that of others to get results with available resources at the level, skill wherein following up or control is important" (Markus, et al., 2005: 123). The correlation of risk taking, decisiveness, concern for excellence, goal clarity, time management, strategic thinking, problem solving, organisational commitment, openness, energy, building trust and commitment, sense of ownership and acknowledging feedbacks with executive performance are evaluated through $hypothesis_{3h}$. The suggested hypothesis is assisted by prior research works of Woodruffe, (1993); Hondeghem and Vandermeulen, (2000); Chyung, et al., (2006) and Sanghi, (2007). The findings of this study are significant to that of previous works of result oriented competencies. The results depict that the result oriented competencies have got a significant impact on the performance of the respondents.

According to Virtanen (2000), ethical rules and competencies that regulate fair play in competition and give grounds for seeking private interests become important objects of commitment, which is fundamental for enhanced performance measures. The relationship between linked to aligning with company values, adhere to codes of conduct, rewards right behaviour, proper law enforcement and safety consciousness with that of executive competencies is assessed in $hypothesis_{3i}$, which support previous studies (Orme and Ashton, 2003; Jackling et al., 2007; Valentine et al., 2009; Reis, 2010; Ismail, 2014). The findings illustrate that the ethical competencies have got significant contribution on executive performance of the respondents when evaluated singularly. But, when ethical competencies are taken a parameter of executive competencies, then the effect of the ethical competency was found to be insignificant.

Management developmental interventions "ensures the right mix of management competencies to secure competitive positioning…it is a means to develop management competencies to enable the organisation to maintain or shift its competitive position in the future" (Buckley and Kemp, 1989; Garavan et al., 1999). $Hypothesis_4$ investigates whether developmental intervention acts as a moderator between executive competencies and executive

performance of the executives in the manufacturing sector. Research works of previous researchers extend their support towards the hypothesis formulation, i.e. Engelbrecht and Fischer (1995); Guzzo and Dickson, (1996); Bailey and Fletcher, (2002); Lewis and Heckman (2006); Luthans et al., (2007); Swanson and Holton, (2009); Kim et al., (2013); Ellinger and Ellinger, (2014). The findings of the study also support the proposed proposition, which indicates that developmental interventions as a moderator enhances the positive relationship between executive competencies and executive performance for the respondents of this study.

Hypothesis$_5$ examines the relationship between executive performance and organisational performance, which is formulated with the supporting empirical evidence of prior research works (Chandler, 1992; Jennings and Beaver, 1997; Appelbaum, 2000; Choi and Lee, 2003; Kulkarni, et al., 2007, Hays, 2010; Messersmith et al., 2011; Zhang, et al., 2014; Cohen and Olsen, 2015). The results of the study illustrate that executive performance of the respondents has a significant positive influence on the organisational performance.

The present study explores assorted dimensions of executive competencies and its impact on individual and organisational performance measures. Considerable effort had been taken to identify and fill up the gaps in literature, through a holistic model that has been derived in the duration of the study. Data collected were empirically examined to distinguish the essential executive competencies that pose greater impact on the performance index of the middle and lower level executive in the manufacturing sector. The hypotheses developed in this study had been investigated thoroughly, which depicted that out of nine executive competencies only seven competencies were found to be significant enough to impact the performance level positively when evaluated collectively. While, on an individual basis each of the nine competencies constructs were found to be significant indicators of executive performance. The overall findings of the study suggest that there is a positive linkage between executive competencies and executive performance that results in overall enhancement of organisational excellence.

## 8.6 FINDINGS

The current research provides important contributions in the field of competency based performance management system for executives. The first important contribution of this study lies in the development of the conceptual model that integrates the various dimensions of

essential executive competencies which are needed to be instigated into an organisational framework in order to bring upon overall organisational excellence. It provides an insight on the various competency parameters that are able to enhance the performance level of middle and lower level executives. Prior researchers and scholars have investigated on selected competencies for performance improvement of employees within a firm but a research gap still exists. There is a need for the development of the holistic model to identify the required set of competencies for executives of middle and lower level category as they are the key implementer of strategic plans and day to day operations within an organisation. The conceptual model highlights on identifying, acquiring and bridging of executive competencies. The second contribution is related to a group of hypotheses developed to evaluate the dimensions of executive competencies for performance excellence in the manufacturing units. The dimensions of essential executive competencies that have been identified in the duration of this research are entrepreneurial competencies, meta competencies, functional competencies, social competencies, cognitive/intellectual competencies, personal competencies, leadership competencies, result oriented competencies and ethical competencies. These dimensions will act as a guideline for the competency mapping process within an organisational set up. The findings of this study are compatible with the results of past studies which portrays a positive relationship between competencies and performance outcomes. This empirical study also reveals that developmental interventions play a moderating role in enhancing the positive relationship between executive competencies and individual performance, which was a critical gap in the former studies. This study is further strengthened by taking into accordance the existing competency mapping systems followed by the research units, thus adding the value to the practical and theoretical application of executive competency in manufacturing units.

The results of this study indicate that most of the executive competencies have significant influence on the performance outcome of an organisation. The mean scores of variables ranging from 5.00 to 4.00 are deemed to be of higher importance, 3.99 to 3.50 are ranged to be of medium importance and scores below 3.49 are depicted to be of lower importance in this study. The responses of the respondents of this study indicate that most of variables of executive competencies have a mean score of 3.50 and above except for social, personal, leadership and ethical competencies; which indicates that these variables are attached to

medium importance level than other variables included in the study which can be seen in figure 8.20. The gaps are needed to be filled in order to enhance the efficiency level of these constructs within the research units as well to achieve performance excellence for the respondents. The entrepreneurial competencies consist of 8 items, out of which items V18, V14 and V16 were found to have weaker mean scores than the rest, which set down the overall mean score of the construct to 3.77. The meta competencies consist of six items out of which V26, V23 and V22 was found to have lower mean score, which limited the mean score of the construct to 3.71. The mean score of functional competencies having 10 items in the construct is 3.55, due to the lower mean values of V33, V28 and V29. The 10 items construct of social competencies has a lower mean score of 3.45, due to the items V46, V38 and V39. Similarly, intellectual competencies construct of 10 items has got a mean score of 3.71 due to V52 and V49. The personal competencies construct has got 10 items, but the items V62, V59 and V58 have lower mean scores; which brought down the total mean score of the construct to 3.47. Likewise, the mean score of the construct leadership competencies with 7 items has a mean score of 3.47, due to lower values of the items V72 and V69. The 12 items construct result oriented competencies has got a mean score of 3.65, due to weaker mean score of V83, V75 and V76. The 5 items ethical competencies construct has a lower mean value of 3.45 due to the lower scores of items V87 and V88. To achieve the optimum level of the desired result from the constructs, emphasis must be given with proper attention to the variables with lower mean scores so as to enhance the performance outcome of the respondents significantly.

Table 8.37 showcases the empirical validation of the proposed research hypotheses of the study. It was found that most of the variables such as; organisational strategy, organisational culture, entrepreneurial competencies, functional competencies, social competencies, intellectual competencies, personal competencies, leadership competencies and result oriented competencies have significant influence and share a positive relationship with the predicting variable, “executive performance”, thus accepting the hypotheses of these constructs ($H_1$, $H_2$, $H_{3a}$, $H_{3c}$, $H_{3d}$, $H_{3e}$, $H_{3f}$, $H_{3g}$ and $H_{3h}$). Further, the relationship between meta competencies and ethical competencies as parameters of executive competencies with executive performance was found to be positive, but insignificant due to which $H_{3b}$ and $H_{3i}$ were rejected. In comparison with the previous works, it was found that the meta competencies and ethical competencies have significant influence on executive performance, when evaluated as a sole

entity. But, it differs from that notion when evaluated as one of the parameters of executive competencies for middle and lower level executives of manufacturing units. The developmental intervention as a moderator was proved to enhance the positive relationship between executive competencies and executive performance, thus validating $H_4$. Similarly, it was found that executive performance has got a positive and significant relationship with organisational performance, thus accepting $H_5$. Therefore, it can be concluded that proper emphasis must be given ought most care on inculcating executive competencies with the inclusion of developmental interventions for the middle and lower level executives so as to bring about improvement in individual and organisation-wide performance excellence.

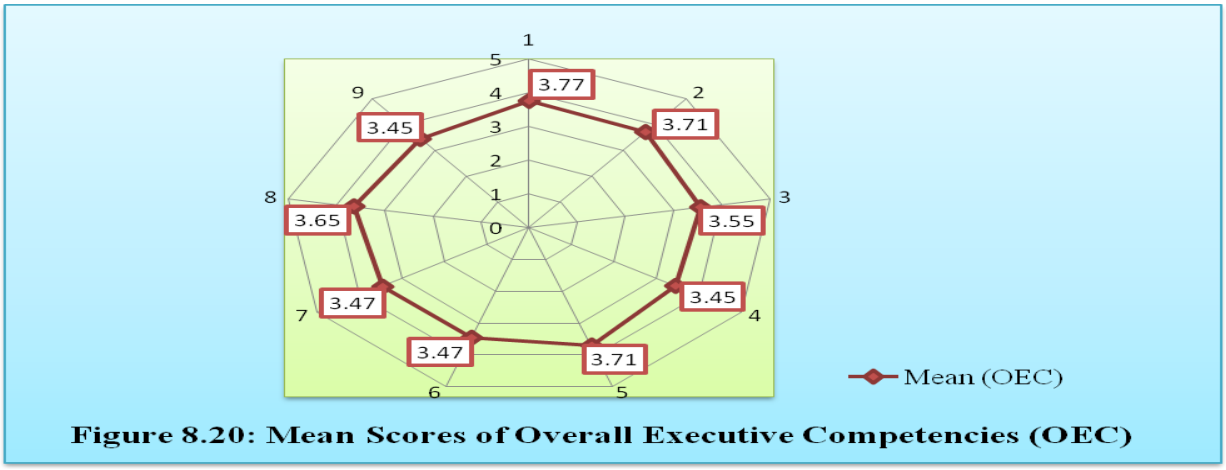


**Figure 8.20: Mean Scores of Overall Executive Competencies (OEC)**

**Table 8.37: Inferences on Validation of Hypotheses**

| Hypotheses | Relationship | Beta Coefficient | p-value | Result |
|---|---|---|---|---|
| $H_1$ | ST → OEC | .145 | ** | Accepted |
| $H_2$ | CUL→ OEC | .393 | ** | Accepted |
| $H_{3a}$ | EC→ EP | .432 | *** | Accepted |
| $H_{3b}$ | MC→ EP | .056 | .236 | Rejected |
| $H_{3c}$ | FC→ EP | .256 | ** | Accepted |
| $H_{3d}$ | SC→ EP | .214 | ** | Accepted |
| $H_{3e}$ | CC→ EP | .472 | *** | Accepted |
| $H_{3f}$ | PC→ EP | .235 | ** | Accepted |
| $H_{3g}$ | LC→ EP | .593 | *** | Accepted |
| $H_{3h}$ | RC→ EP | .327 | *** | Accepted |
| $H_{3i}$ | ETC→ EP | .116 | .144 | Rejected |
| $H_4$ | OEC X DI → EP | .210 | *** | Accepted |
| $H_5$ | EP→ OP | .265 | *** | Accepted |

*** Significant at .01 level, ** Significant at .05 level.

## 8.7 CONCLUSION

This chapter illustrates about the data interpretation of the collected data from the respondents belonging to the middle and lower level executive cadre in the research units. The responses of the respondents were assessed for its reliability and validity before the utilisation of analytical tools of measurement. Descriptive statistics, correlation analysis, multiple regression analysis, exploratory and confirmatory factor analysis, and structural equation modelling were broadly used to validate the model fit of the conceptual model; as well as the hypothesised issues developed during the initiation of this study. The validation and inferences of the hypotheses were documented throughout the study. This chapter is very essential for this thesis as it validates the notion that executive competencies have significant impact on the performance excellence of executives in manufacturing units, as well as put forward a systematic tool of measurement for identifying, acquiring and bridging of executive competencies for manufacturing units.

# CHAPTER IX

# CONCLUSION

# CONCLUSION

## 9.0 INTRODUCTION

The study mainly focuses on the competency requirements for the executives in the manufacturing sector towards superior performance. This work is mainly directed towards the competency requirements of the middle and lower level executives as it is highly linked to the performance outcome of an organisation. The Indian manufacturing industries are dynamic in nature which is plagued with constant changes and intervention from both within and outside the organisational periphery. The day to day operations of the manufacturing units fall heavily on the efficiency of the executives. Therefore, efforts have been put to develop a systematic competency based performance system that includes the crucial executive competency parameters that can lead towards performance excellence. In order to carry out this task, a balance has been created to accommodate the competency parameters of the competency framework and theoretical perspectives, which would have relevance for both the practitioners and academicians alike.

The evolution of competency management has its origin since the early 1960's, but the implementation of this system within the organisation has gained its momentum in recent time only. The global manufacturing industries have already been using the competency mapping process actively for the last decade; whereas the process gradually materialises within the Indian industries as an active HR initiative. Prior research on competency mapping have pointed out the fact, that the competencies of the executives have a positive influence on the performance outcome. An opinion survey had been adopted to examine the essential executive competencies and to evaluate its relationship with performance excellence. Proper identification of the executive competencies was carried out by taking the organisational culture and strategy into consideration. The findings of the survey also clarified the fact that organisation culture and strategy has played a significant role in the process of identification and clarification of executive competencies in an organisational context. To carry out the survey, nine executive competency constructs were identified, such as: entrepreneurial competencies, meta competencies, functional competencies, interpersonal competencies, intellectual competencies, personal competencies, leadership competencies, result oriented competencies and ethical competencies. The findings of the survey showcased that out of the

nine competencies only seven competencies showed a significant contribution towards better performance. The competencies that were found to be crucial for excelled performance outcome were entrepreneurial competencies, functional competencies, interpersonal competencies, intellectual competencies, personal competencies, leadership competencies and result oriented competencies. To fill in the competency gaps of the executives, developmental intervention was taken up as a moderator and it was hypothesised that it would enhance the degree of relation between executive competencies and individual performance. The outcome of the survey was in favour with the hypothesised objective, as it was seen that developmental intervention has indeed got significant positive influence on the referred relationship. Various multivariate tools were used to quantify the results of the survey such as factor analysis, multiple regression analysis, structural equations modelling, etc.

The review of literature and the prevailing competency models of various manufacturing industries have illustrated that competency mapping is vital for the development and growth of the individual executives as well as the organisation. The reviews illustrate that most of the industries face challenges during the identification and assessment of the competencies. The model developed in this study can provide a framework for the organisations to carry out the process systematically. Most of industries lack a competency mapping framework for middle and lower level executive. This study would enable the manufacturing industries to identify and assess the required competencies of the executives adequately. In summation, this research work is an attempt to systematise the competency based performance management process and provide a general framework that is suited for the requirements of the executives belonging to the manufacturing sector.

## 9.1 SUMMARY

The core focus of this study was to carry out an empirical investigation on the competency based executive performance assessment in manufacturing units, the relationship between executive competencies and their role towards organisational effectiveness; with respect to middle and lower level executives. The objectives of the study were laid out in the introductory phase of the thesis and were fulfilled in the duration of the study. The first objective was to identify the competency levels of the executives required for threshold and superior performance in an organisational set up. A competency based performance

management model for executives of manufacturing units was proposed for this purpose. Organisational culture and strategy of the manufacturing units were included to objectively identify the competency level of the executives as well as to identify the essential executive competencies for performance excellence. The second objective was to recognise competencies and capabilities of the executives through competency modelling so as to help identifying and placing the right person in the right job. To fulfil this purpose, nine essential executive competencies such as entrepreneurial competencies, meta competencies, functional competencies, social competencies, intellectual competencies, personal competencies, leadership competencies, result oriented and ethical competencies were deduced which, according to the previous studies were indicators of superior performance index for the executives in an organisational set up. The third objective was to conduct an opinion survey on the level of acquired competencies using coded competencies through administration of a questionnaire among the respondents. The questionnaire was constructed according to the hypothesised model formulated for the study. The objective of this exercise was to collect primary data from the respondents for empirical analysis.

The fourth objective of this study was also fulfilled through analysis of data collected from the respondents. The following results were inferred through the analysis such as: a) the present study evidenced that organisational culture and strategy are fundamental in identification of required competencies which can guide an organisation towards performance excellence; b) the performance and growth of an organisation are highly impacted by the entrepreneurial competencies of the executives of manufacturing units; c) the study indicates that on an individual basis, all the items of meta competencies are better predictors of the dependent variable (executive performance), as the $R^2$ value indicates that 60% of the variance in the dependent variable is explained by the predictor variables. When the meta competencies are collective taken as a measure of executive competencies, then the results indicate that there is no significant influence of meta competencies on executive performance for the respondents; d) It is noted that functional competencies significantly influences the performance outcome; e) the social competencies of the respondents enable them towards enhancement of individual performance within the organisation periphery. The executives ability in persuasiveness, sensitivity, flexibility, empathy, negotiation, emotional resilience and relationship building and coordination enable them in achieving the desired goal; f) the

findings of the study illustrate that there is a significant influence of intellectual competencies on executive performance of the respondents. The liaison of executives with information collection, judgement, learning orientation, technical expertise, troubleshooting activities, numerical interpretation, organisational awareness, external awareness and IT and computer literacy enables performance increment; g) the findings of this study indicate that executive's personal competencies enable them to perform the tasks successfully and enhance organisational performance; h) the leadership competencies of the respondents influence their executive performance significantly; i) the findings of the study signifies that result oriented competencies have got a significant impact on the executive performance of the respondents, which instigates individual and organisational performance excellence; j) the study indicates that on an individual basis, all the items of ethical competencies are better predictors of the dependent variable (executive performance) as the $R^2$ value indicates that 62% of the variance in the dependent variable is explained by the predictor variables. When the ethical competencies are collective taken as a measure of executives competencies then the findings illustrate that there is no significant contribution of ethical competencies on executive performance of the respondents.

The final objective was to demonstrate whether developmental interventions as a moderator enhance the relationship between acquired competencies and executive performance significantly. The finding of this study illustrates that developmental intervention as a moderator enhances the positive relationship between executive competencies and individual performance for the respondents of the research units. The developmental interventions were also found to fill up the competency gaps of the executives in an organisational set up. The hypotheses developed in the initial stage of the study were justified at the concluding stage. Efforts were made to justify the motive of this study. For accomplishing this purpose, various multivariate tools such as correlation, multiple regression analysis, structural equation modelling, etc. were utilised and the competency practices of global manufacturers, Indian manufacturers and research units were studied and analysed so as to deduce a systematic competency based performance management system for the executives that can aid the organisation in achieving performance excellence.

## 9.2 SUGGESTIONS

The present study has developed a systematic competency based executive performance assessment framework; which have been empirically tested for its dependability in performance increment of the middle and lower level executives of the manufacturing units. From the results of the study, certain inferences can be comprehended which would benefit the executives of the manufacturing units in order to enhance their performance outcomes.

- It is witnessed that the respondents of the research units demonstrate a lower level of importance for understanding of market drivers and opportunities, vision to spot opportunities and proper integration of functional strategy with business strategy even with the present competitive business environment in the market. But the constant effort must be taken to adapt these dimensions of entrepreneurial competency to face the impending competition as well to enhance one's individual performance outcome effectiveness.
- The ability of an executive to explore, forecast and anticipate impending changes, flexibility of mind to adapt to uncertain or changing situations and creatively undertaking of a given task is essential for the executives to empower themselves with the meta competencies as it can assist them in improving their individual performance index in their workplace.
- The dimensions of functional competencies such as taking responsibilities for the assigned tasks, use of innovative ideas to get the work done and feeling comfortability in taking work related decisions are considerably low among the executives of the research units. In order to optimise the functional competency level of the executives, it is vital to inculcate these dimensions accordingly.
- The role of social competencies has been undermined by the executives of the research units. If proper emphasis to be given to the dimensions of social competencies such as: maintaining of healthy interpersonal understanding with others, having a positive impact on people and the ability to persuade and influence others; then the social competence of the executives can improve considerably for better performance output.
- The ability to do proper planning to complete a task successfully and by analysing and finding solutions to problems in an orderly manner can enhance the intellectual

competencies of the executives in a manufacturing unit. Proper attention towards these dimensions would drive both individual and organisational performance effectively.

- Most notably, it was found that the executives lacked in certain dimensions of personal competencies such as: ability to tolerate stressful situations effectively, to improve oneself and mange work independently, and having the knowledge, skills and ability to adapt to various situations properly has limited the performance level within the organisation. Therefore, the organisation must make an attempt to develop these dimensions of personal competencies adequately to improve the overall performance index.
- The elements of leadership competencies such as the ability to motivate and develop others, encouragement of group participation and empowering of the team members constrict the ability of an executive to reach the optimum level of excellence within the organisation. Thus requiring the proper guidance from the organisation to inculcate these essential facets of leadership competencies.
- The incorporation of timely adoption of appropriate strategies or means towards goal attainment, adoption of the means like fairness and openness towards dealing with people and enthusiasm to accomplish the desired goal would help the executives to enhance their result oriented competencies thereby increasing the coverage of performance indicators.
- The ethical competencies of the executives are highly underestimated. The components of ethical competencies such as, the ability to reflect the company's value in work transactions and the ability to adhere to the company's established code of conduct curbs the efficiency and productivity level of the executives. Thus, appropriate measures must be taken to resolve the gaps in ethical competencies to achieve optimum level of performance outcome.
- Developmental interventions are found to have a significant impact on the positive relationship between acquired competencies and individual performance. Therefore, the administrators of the organisation must focus on timely and need-based developmental programmes those can fill the competency gaps of the executives as well as facilitate in augmented performance.

## 9.3 IMPLICATIONS OF THE STUDY

### 9.3.1 Theoretical Implications

By proposing a multilevel model of competency based executive performance management system, a number of vital theoretical contributions to the literature on competency based recruitment and selection process, succession planning and organisational change. Taken together, these contributions proliferate our understanding of the multilevel determinants of executive competencies in the performance excellence of an organisation. The model contributes to the management theory in basically three areas such as;

- *Competency based recruitment and selection:*

  Competency based recruitment and selection is focused on identifying those potential candidates, who can demonstrate behaviourally defined characteristics which emphasise superior performance in the role intended to be filled. Assessing a candidate against specific competencies helps a recruiter in clarifying the potential candidate's strength and weakness, thus making it easier to target any development initiation needed; should they be selected for the intended job role. As rightly stated, "competency based role description help candidates to get a feel for the role in a way that logical job information and traditional job descriptions do not" (Roberts, 1997: 07). In traditional recruitment and selection process, the recruiter can be affected by a halo or horn effect, inconsistency, stereotyping and prejudices while selection of the candidates, but in competency based recruitment and selection process these errors can be avoided. The recruiter is made aware about the parameters and measures needed for the selection of the potential candidate. One key contribution of the research model is a better understanding of the competencies that an organisation values to facilitate accelerated executive performance. By understanding the core competency, culture and strategy of an organisation, an organisation gets to identify the competencies that encourage a good fit between the executives and the requirements of the job. Taken together, the theoretical model paints an encouraging picture of the organisational potential to influence its recruitment and selection process positively as the executive competencies and skill sets required for the job becomes apparent. Whereas previous studies focused on the predictors of executive performance after their placements, the proposed model considers pathways through which

organisations can choose better candidates during the selection process and avoid performance related confusion and disillusionment.

- *Succession planning:*

  The identification and development of executive competencies within an organisation boosts performance and induces the recognition of career development and succession planning initiatives. The competency based executive performance model will provide the necessary consistency and continuity needed for effective succession planning system and enhances the potential of the executives through nurturing of learning experiences, coaching, and feedback (Lucia and Lepsinger, 1999). The research model helps in identifying the required executive competencies needed in the present and future endeavours, improves the talent pool within the organisation as well as developing a benchmark to evaluate executive abilities systematically for future job roles (Rothwell, 2005). Succession planning is one of the crucial decision-making mechanisms available to the organisation which ensures that the organisation can train and develop their present employees for future work related needs. This competency model would assist in the identification of training needs, promotion of competence culture, development of essential skills and up gradation of capabilities, effectiveness and performance. A vital contribution of this model for the executives of a firm is that, the aspiring executives looking for higher job positions can focus on the development of identified competencies for better performance in the future and to realise its positive effects.

- *Organisational change:*

  Globalisation and constant innovation of technology has necessitated the need of rapid change within the organisations worldwide to sustain in the market and to gain competitive advantage. The organisational change affects all the department and employees of the organisation as they form a part in the implementation of this change process. The executives within the organisation play a crucial role in determining whether the change implementation is successful or not. “Implementation is....best characterised as an ongoing series of interventions that are only partly anticipated in top management plans” (Floyd and Wooldridge, 1996: 45). Recent years have witnessed a growing interest in combining competencies and organisational change, so as to achieve cent percent successful change within the organisation. The identified competency parameters in the model can help the

organisation in developing the skills needed to implement the change systematically by causing less of upheaval and cynicism among the executives, as they are the change agents during the organisational change process. By introducing the essential executive competency parameters in the model, it provides the specificity of skill sets vital for implementation of change in which positive effects are more likely to be realised.

### 9.3.2 Managerial Implications

One of the most important questions for the scholars and practitioners alike is "why" would an organisation seek to develop the executive competencies of its employees and why should scholars consider these competencies worthy of theoretical and empirical analysis? In the previous studies scholars have mentioned the relevance of competencies as an essential aspect of the individual and organisational success. To quote the recent study of Martina et al., "The managers interviewed agree with the definition of managerial competencies which specifies them as a set of specific knowledge, abilities, skills, traits, motives, attitudes and values that a manager needs to be able to achieve the requested (superior) level of performance.....all the contacted managers agreed with the opinion that each individual could contribute to an organisation's development not just by their "common" predispositions, but in particular by their specifics that differentiated them from others, i.e. their specific knowledge, abilities, skills, traits, motives, attitudes and values, i.e. individual competencies. The source of success of any organisation is its ability to increase the quality of labour, i.e. human, potential and exploit it to improve productivity and to enhance its performance" (2012: 136). The research model on executive competency based performance management system supports this perspective that the identified competencies can serve the organisation positively. Thus, this study has certain important practical implications which can benefit both the executives and organisations and these are enlisted below:

- *Involvement and Participation*: For any model to be successful, there is a need for the involvement and participation of the employees. Involvement of the executives in the development of the competency mapping process enhances the trust factor of the employees as well as enabling in distinguishing adequate competency parameters which are in coordination with the needs and requirements of the individuals and the organisation.

- *Adequate Communication Network*: Proper communication among the members of the organisation is vital for the success of the competency mapping process. It is the responsibility of the top level executives of the firm to provide a consistent communication network within the firm so that all the participants have adequate information regarding the process. Since, it has been noticed that most of the process fail within the organisation, due to lack of awareness among the participants.
- *Associated with Organisation Culture and Strategy*: This study significantly registers the importance of organisational culture and strategy in the identification of crucial executive competencies which would favour in enhancing organisational performance as well as in ensuring sustainability for the organisation in a long run.
- *Leadership Development*: Most of the global industries have recognised the vitality of having an effective leadership pipeline due to the constant volatility of the market conditions. The proposed model in this study can enable the executives to identify the crucial parameters of leadership competencies that are linked to higher performance as well as supports future succession planning within the organisation.
- *Functional Adequacy*: Cross functionality has become a necessity for organisations today, especially for the executives of manufacturing units. The competency based performance management system provided in this study can help the organisation in distinguishing the characteristics that can enable the process successfully.
- *Developmental programs:* Every individual is unique and so are their competency requirements. Therefore, customised development programmes must be rolled out by the administrators of an organisation to bridge the competency gaps successfully.
- *Review Process*: The executives should be focused on continuous review of the competency mapping system, so as to determine whether the pre-determined organisational objective is being achieved or not. The focus of competency mapping process within an organisation is on to induce improvement and learning orientation for the employees.
- *Feedback*: A prompt and formal feedback system must be enabled for successful competency based performance management system. Efficient communication and feedback system would detect any loopholes within the system and would aid the practitioners to rectify it.

### 9.3.3 Methodological Contribution

This study was based on the data collected through an opinion survey of the lower and middle level executives of the research units. Earlier researchers have examined the impact of each competency on performance outcome. While, in this study an attempt has been made to deduce the effect of executive competencies as a single entity, as well as a cluster for performance increment of the executives.

- Descriptive statistics, correlation analysis and multiple regression analysis were carried out on the predicting constructs included in the study; to understand its influence on individual performance. The effect of individual executive competencies in performance was analysed by utilisation of these methods.
- Radar graph was specifically used for each of the identified competencies to demonstrate the strengths and weakness of each of the items included in the construct.
- Confirmatory factor analysis and structural equation modelling was used to fit the proposed model of the study and to demonstrate the influence of executive competencies as a cluster on individual performance.
- Interaction method of moderation was employed to depict the role of developmental interventions on the relationship between acquired competencies and executive performance.

## 9.4 LIMITATIONS OF THE RESEARCH

The present study was carried out with the motive to understand the whole gamut of competency mapping and its influence on the performance index of the executives. Due to shortage of time and resources, the present study had to be restricted to a limited periphery. Therefore, the present study is constricted to several limitations such as:

- Collection of primary and secondary data was dependent on acquiring special permissions from the research units, which limited the scope of the study. The requirements of this study needed certain information from the organisations which were deemed to be confidential in nature; therefore, only limited data could be extracted for the academic purpose. It also took a considerable amount of time to get organisational approval for conducting the research in the selected research units.

- This study selectively includes only nine parameters of executive competencies for determination of performance to make it more comprehensive and compact.
- Developmental interventions are taken up as the only moderator, while there are various other mediators and moderators that have not been considered in the present study.
- The sample design and size considered for this study is limited to the willingness of the respondents to participate. Thus, increasing the social desirability bias.
- This study was proposed for a specific period of time, but can have differing results in a longitudinal study, when the progress is examined over a period of time. Thus becoming a limitation of the present study.

## 9.5 FUTURE DIRECTIONS

The existing scholars have provided significant evidence that executive competencies have a direct impact on the organisational performance and success. To explore these potential effects, it was hypothesised that the executive competency parameters can enable in enhancing managerial and organisational performance index. Future research can expand on these propositions by considering a broader array of linkages between executive competencies and organisational performance. For example leadership competencies among the executives can directly influence the commitment and involvement of their team members, thereby increasing the performance level of the organisation. Similarly, interpersonal competencies, social competencies, result-oriented competencies, etc. promotes performance excellence for the organisation.

The study has only explored developmental intervention as a moderator for performance excellence within an organisation. Thus, in addition, some more mediation and moderation function can be explored to understand the interrelation of executive competencies on individual performance and capability building exercise. Given the proposed link between executive competency parameters and organisational performance, it can be expected to, experience access to wider organisational network, following the essential competencies which can provide a performance advantage.

It was believed that the core precepts of the research model are likely to be generalised across culture and organisations. As the identification of the competency parameters is linked

to the individual, organisational culture and strategy, therefore any organisation can adopt the model and utilise it according to their requirements and specifications while keeping the core principle of the model intact. Accordingly, future research needs to examine the unique ways in which the values of these competencies can be instigated into practice for different organisational contexts.

The samples in this study have been collected from executives of three manufacturing units only. The future research can focus on including more diverse ranges of manufacturing units from different regions to prove the robustness of the competency based performance management system. As the increasing number of samples through cross-sectional survey would increase the predictive value of the instrument.

The results of the study are basically generalised for the manufacturing units irrespective of their standings (public/private), gender (male/female), etc. In the future research work, a comparative analysis could be done to acknowledge the distinguishing elements of executive competencies that separate the efficiency and productivity levels of the executive belonging to the public and private enterprises.

Our multilevel model of competency based performance management system, while capturing the essential predictors and consequences of executive competency parameters, clearly has failed to capture all the relevant factors, mediators and moderators that are also relevant to enhance organisational performance. Though the model proposes to accelerate the organisational performance, other relevant factors cannot be neglected; besides competencies as these are also linked with this process. Accordingly, it can be viewed as a foundation to launch a multilevel research agenda on executive competencies for excelled performance, which in ideal circumstances can enhance individual and organisational productivity level.

## 9.6 CONCLUSION

Development of executive talent is becoming increasingly evident among the organisations worldwide, as it is directly or indirectly associated with creating competitive advantage and in enhancing performance outcomes. The continuous development of executives is a complex and time bound task for an organisation as the management is unable to determine the critical competencies those are needed to be emphasised in order to attain performance excellence. To overcome this hurdle, an executive competency based performance management model was

proposed, which would help the administrators of an organisation to identify the essential and required competencies for the executives. The competencies identified during this study are; entrepreneurial competencies, meta competencies, functional competencies, social competencies, intellectual competencies, personal competencies, leadership competencies, result oriented competencies and ethical competencies which showcased significant contribution towards superior performance. The role of developmental intervention as a moderator was found to have substantial influence on the positive relationship between the identified executive competencies and individual performance. Therefore, it can be concluded that the suggested model was successful in fulfilling its objectives and it was recommended that adoption of these identified competencies by the organisations in the present context will enhance the existing skills of the executives towards superior performance outcomes. Hence, the organisations are becoming more competitive to achieve the desired goal and becoming leaders in long term basis.

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# Appendix 1

## Research Questionnaire

| PERSONAL PROFILE | | | | | |
|---|---|---|---|---|---|
| **DEPARTMENT** | | | | | |
| **GENDER** | **MALE** | | FEMALE | | |
| **AGE GROUP (yrs)** | **18-25** | **26-35** | **36-45** | **46-55** | **56-60** |
| **EXPERIENCE (yrs)** | **00-05** | **05-10** | **11-15** | **16-20** | **21-ABOVE** |

DECLARATION: Information which is collected through this schedule to be used for academic purpose only.

***SCALE: Strongly Agree = 5, Agree = 4, Undecided = 3, Disagree = 2, Strongly Disagree= 1. Please give a tick (√) on the numbers given at the right hand side.***

| | |
|---|---|
| **Section – I** | |
| Emphasis on organisational culture towards defining required level of competencies. | **1 2 3 4 5** |
| Proper recognition of individual contribution and achievements of the organisation. (V1) | **1 2 3 4 5** |
| Your organisation treats you fairly and values your contributions (V2) | **1 2 3 4 5** |
| The organisation gives equal freedom to explore all their potentials aptly (V3) | **1 2 3 4 5** |
| Strong communication regarding company issues is maintained (V4) | **1 2 3 4 5** |
| Ample opportunities given to initiate and lead people (V5) | **1 2 3 4 5** |
| Encourages innovation and out of the box thinking (V6) | **1 2 3 4 5** |
| Encourages up gradation of employee knowledge (V7) | **1 2 3 4 5** |
| **Section –II** | |
| Appropriate strategies are adopted by the organization for identification of required competencies. | **1 2 3 4 5** |
| Superiors and subordinates jointly setting the tasks and standards (V8) | **1 2 3 4 5** |
| Your organisation has a strong feedback and evaluation scheme (V9) | **1 2 3 4 5** |
| Invests in the development of learning and training techniques for employee skill up gradation (V10) | **1 2 3 4 5** |
| Regular formal meetings with the departmental head (V11) | **1 2 3 4 5** |
| Performance based succession planning (V12) | **1 2 3 4 5** |
| The organisational long term objectives are transparent (V13) | **1 2 3 4 5** |
| **Section – III** | |
| Entrepreneurial competency enables an individual to demonstrate superior performance within the organisation. | **1 2 3 4 5** |
| Have the vision to spot opportunities (V14) | **1 2 3 4 5** |
| Awareness regarding business strategies for goal attainment (V15) | **1 2 3 4 5** |
| Proper integration of functional strategy with business strategy (V16) | **1 2 3 4 5** |

| | |
|---|---|
| Do you understand your competitors and initiate actions (V17) | **1 2 3 4 5** |
| Have an understanding of market drivers and opportunities (V18) | **1 2 3 4 5** |
| Possess the competitive spirit to excel (V19) | **1 2 3 4 5** |
| Have the ability to accomplish a job independently (V20) | **1 2 3 4 5** |
| Believe in action on proactive measures for success (V21) | **1 2 3 4 5** |
| **Section – IV** | |
| Meta competencies reinforce the development of managerial competencies which would enhance the performance in the future**.** | **1 2 3 4 5** |
| Creatively undertakes a given task (V22) | **1 2 3 4 5** |
| Have the flexibility of mind to adapt to uncertain or changing situations (V23) | **1 2 3 4 5** |
| Have the ability to balance the work skills and habits (V24) | **1 2 3 4 5** |
| Understand yourself and your goals and abilities (V25) | **1 2 3 4 5** |
| Can explore, forecast and anticipate impending changes (V26) | **1 2 3 4 5** |
| Open to new and diverse people and ideas (V27) | **1 2 3 4 5** |
| **Section – V** | |
| Utilisation of functional competencies encourages the individual to perform more effectively and efficiently. | **1 2 3 4 5** |
| Usefulness of innovating ideas to get the work done. (V28) | **1 2 3 4 5** |
| Feeling comfortability to take work related decisions (V29) | **1 2 3 4 5** |
| Identification and utilisation of knowledge embodied in individuals or organizations (V30) | **1 2 3 4 5** |
| An understanding of the ways in which business works successfully (V31) | **1 2 3 4 5** |
| Has professional expertise to carry out a job successfully (V32) | **1 2 3 4 5** |
| Takes responsibilities for their given tasks (V33) | **1 2 3 4 5** |
| Self awareness about the customer needs and requirements (V34) | **1 2 3 4 5** |
| Can handle work stress effectively (V35) | **1 2 3 4 5** |
| Delegation is a key to enhancing subordinate's knowledge and skills (V36) | **1 2 3 4 5** |
| Cross functional assignment is an appropriate mechanism towards individual development (V37) | **1 2 3 4 5** |
| **Section – VI** | |
| Social competencies have a positive impact on interpersonal understanding which leads towards superior performance. | **1 2 3 4 5** |
| Has a positive impact on people (V38) | **1 2 3 4 5** |
| Has the ability to persuade and influence others (V39) | **1 2 3 4 5** |
| Shows compassion and sensitivity towards the feelings of others (V40) | **1 2 3 4 5** |
| Flexible enough to share information on the work setting (V41) | **1 2 3 4 5** |
| Building of proper relationships and coordination with others (V42) | **1 2 3 4 5** |
| Negotiation with the stakeholders towards value addition (V43) | **1 2 3 4 5** |
| Develops strong network connections with others (V44) | **1 2 3 4 5** |

| | |
|---|---|
| Have a pleasing personality and attitude towards others (V45) | **1 2 3 4 5** |
| Maintaining of healthy interpersonal understanding with others (V46) | **1 2 3 4 5** |
| Has the ability to adapt to stressful situations successfully (V47) | **1 2 3 4 5** |
| **Section – VII** | |
| Intellectual managerial competencies have a positive effect on individual performance outcome within an organisation. | **1 2 3 4 5** |
| Collection of relevant information for completion of tasks (V48) | **1 2 3 4 5** |
| Can analyse and find solutions for problems in an orderly manner (V49) | **1 2 3 4 5** |
| Can understand and utilise numerical data efficiently (V50) | **1 2 3 4 5** |
| Effectively judge the situations at hand (V51) | **1 2 3 4 5** |
| Can do proper planning to complete a task successfully (V52) | **1 2 3 4 5** |
| Always ready to learn new things and is learning oriented (V53) | **1 2 3 4 5** |
| Aware of the circumstances persisting within the organisation (V54) | **1 2 3 4 5** |
| Ability to identify and integrate key external factors into the work activities (V55) | **1 2 3 4 5** |
| Has technical expertise and is computer literate (V56) | **1 2 3 4 5** |
| Capable of solving serious problems for the organisation (V57) | **1 2 3 4 5** |
| **Section – VIII** | |
| Individual performance within an organisation is highly dependent on the attainment of personal competencies. | **1 2 3 4 5** |
| Have the knowledge, skills and ability to adapt to various situations properly (V58) | **1 2 3 4 5** |
| Has the ability to improve oneself and mange work independently (V59) | **1 2 3 4 5** |
| Showcases integrity and veracity at work (V60) | **1 2 3 4 5** |
| Self-motivated to achieve the goals at hand (V61) | **1 2 3 4 5** |
| Can tolerate stressful situations effectively (V62) | **1 2 3 4 5** |
| Has the ability to complete tasks and reach goals efficiently (V63) | **1 2 3 4 5** |
| Can manage their own operations efficiently (V64) | **1 2 3 4 5** |
| Adoption of appropriate means towards situational demand (V65) | **1 2 3 4 5** |
| Has the self confidence to achieve the set goal (V66) | **1 2 3 4 5** |
| Has the ability to complete tasks and reach goals successfully (V67) | **1 2 3 4 5** |
| **Section – IX** | |
| Exhibiting superior leadership qualities will enhance managerial performance. | **1 2 3 4 5** |
| Superiors can organise the tasks within the organisation effectively (V68) | **1 2 3 4 5** |
| Encouragement of group participation and empowering of the team members (V69) | **1 2 3 4 5** |
| Capable enough to assess subordinates' performance (V70) | **1 2 3 4 5** |
| Providing adequate information for team performance and leading the team towards the desired end (V71) | **1 2 3 4 5** |
| Have the ability to motivate and develop others (V72) | **1 2 3 4 5** |

| | |
|---|---|
| Developing the sense of shared leadership among the team members (V73) | **1 2 3 4 5** |
| Proper emphasis on team dynamics and resolving conflicts (V74) | **1 2 3 4 5** |
| **Section – X** | |
| Utilisation of result oriented competencies enables an individual to become a high performer. | **1 2 3 4 5** |
| Adoption of the means like fairness and openness towards dealing with people (V75) | **1 2 3 4 5** |
| Enthusiastic enough to accomplish the desired goal (V76) | **1 2 3 4 5** |
| Can take risks to get a work done properly (V77) | **1 2 3 4 5** |
| Has the ability to make decisions quickly and effectively (V78) | **1 2 3 4 5** |
| Concerned for goal clarity and drives for achieving excellence (V79) | **1 2 3 4 5** |
| Takes a sense of ownership for one's own task (V80) | **1 2 3 4 5** |
| Committed towards the well-being of the organisation (V81) | **1 2 3 4 5** |
| Stimulated to build trust and commitment among the teammates (V82) | **1 2 3 4 5** |
| Timely adoption of appropriate strategies or means towards goal attainment (V83) | **1 2 3 4 5** |
| Highly capable enough to solve work related problems (V84) | **1 2 3 4 5** |
| Manages time efficiently while perusing a goal (V85) | **1 2 3 4 5** |
| Providing timely feedback to the subordinates (V86) | **1 2 3 4 5** |
| **Section – XI** | |
| Utilisation of ethical competencies encourages superior performance through fair means and procedures. | **1 2 3 4 5** |
| The company's values reflect in your work transactions (V87) | **1 2 3 4 5** |
| You adhere to the company's established code of conduct (V88) | **1 2 3 4 5** |
| Encouragement of acceptable behaviour within the organisation (V89) | **1 2 3 4 5** |
| Compliance of legal provisions (V90) | **1 2 3 4 5** |
| Safety consciousness towards self and others (V91) | **1 2 3 4 5** |
| **Section – XII** | |
| Monitoring and review process of individual performance helps in enhancement of individual performance. | **1 2 3 4 5** |
| Entrepreneurial training and developmental guidance is available to all (V92) | **1 2 3 4 5** |
| Regular interaction with the top level executives (V93) | **1 2 3 4 5** |
| Coaching and mentoring initiatives (V94) | **1 2 3 4 5** |
| Organisation of adequate training programmes (V95) | **1 2 3 4 5** |
| Sponsoring the executives to Workshops, Seminars and Conferences, and MDPs (V96) | **1 2 3 4 5** |
| Emphasis on social and behavioural skills (V97) | **1 2 3 4 5** |
| **Section – XIII** | |
| Superior managerial performance has a positive impact on organisational performance | **1 2 3 4 5** |

| | |
|---|---|
| Sense of commitment and loyalty (V98) | **1 2 3 4 5** |
| Highly innovative and a sense of ownership (V99) | **1 2 3 4 5** |
| Risk taking and accepting challenges (V100) | **1 2 3 4 5** |
| Strives for organisational excellence (V101) | **1 2 3 4 5** |
| Possession of desired level of competencies (V102) | **1 2 3 4 5** |
| Proper reward and recognition (V103) | **1 2 3 4 5** |
| Incentives for achieving results (V104) | **1 2 3 4 5** |
| Fostering transparent communication system (V105) | **1 2 3 4 5** |
| **Section – XIV** | |
| The measures of effective overall organisational performance | **1 2 3 4 5** |
| Continuous achievement of production target (V106) | **1 2 3 4 5** |
| Higher profit margin (V107) | **1 2 3 4 5** |
| Proper utilisation of human and material resources (V108) | **1 2 3 4 5** |
| Becoming competitive in the market (V109) | **1 2 3 4 5** |
| Employee satisfaction (V110) | **1 2 3 4 5** |

# LIST OF PUBLICATIONS

## Journal Publications

1. Jena, S., Sahoo, C.K. and Tripathy, S.K. (2011), "Competency Based Succession Planning – The Indian Perspective", *Personnel Today,* 32 (2): 33-38.
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7. Jena, S. and Sahoo, C.K. (2013), "Global Managerial Competencies: The Changing Needs of Competitive Environment", *Asian Journal of Management,* 4 (2): 96-98.
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9. Jena, S. and Sahoo, C.K. (2014), "A Practical Approach towards Improving Managerial Performance: A Role of Functional and Social Competencies", *Indore Management Journal,* Special Issue (CERE-2014): 142-155.
10. Jena, S. and Sahoo, C.K. (2014), "Assessing Social and Intellectual Competencies as Predictors of Managerial Performance: In Context to Manufacturing Units", *International Journal of Innovation, Management and Technology,* 5 (3): 164-170.
11. Jena, S., Sahoo, C.K. and Tripathy, S.K. (2015), "Impact of Social, Intellectual and Personal Competencies on Managerial Performance: An Empirical Investigation", *International Journal of Indian Culture and Business Management,* 10 (4): 184-202.

## Papers Presented in Conferences/Seminars

1. Jena, S. (2011, November) Role of HR in Mergers & Acquisitions: A Theoretical Proposition. Paper presented at International Conference on Competition and Competitiveness of Global Corporate Sector (ICCC - 2011), Srusti Academy of Management, Bhubaneswar, Orissa, India.

2. Jena, S. (8th-11th May, 2014) A Practical Approach towards Improving Managerial Performance: A Role of Functional and Social Competencies. Paper presented at Sixth International Conference on Excellence in Research and Education (CERE – 2014), IIM Indore, India.
3. Jena, S. (16th-17th June, 2014) Assessing Social and Intellectual Competencies as Predictors of Managerial Performance: In Context to Manufacturing Units. Paper presented at 2nd Journal Conference on Innovation, Management and Technology (JCIMT 2014 2nd), Hong Kong, China.
4. Jena, S. (25th-26th August, 2014) Application of Leadership and Personal Competencies for Augmented Managerial Performance: Empirical Evidence from Indian Manufacturing Units. Paper presented at the 7th Asia-Pacific Business Research Conference, Singapore.

## Workshops Attended

1. Participated in the ICSSR sponsored workshop entitled "A Ten-Day Research Methodology Course for PhD Students" during 20-29th March 2013, organised by Department of Humanities and Social Sciences and Management, National Institute of Technology, Rourkela.
2. Participated in the workshop entitled "Structural Equation Modelling (SEM): Basics and Applications', during 26-27th June 2014, organised by The Centre for Management Development (CMD), IBS Hyderabad.

# RESUME

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**Academic Qualifications**

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Ph.D. (Human Resource Management)
***2007-09***
MBA (Human Resource Management and Marketing Management) [First Class]
School of Management, Kalinga Institute of Industrial Technology, Bhubaneswar.
***2004-07***
B.A (Honours in Psychology) [First Class with Distinction]
S.G. Women's Government College, Rourkela, Sambalpur University.
***2002-04***
Higher Secondary (+2 Arts) [First Class]
S.G. Women's Junior Government College, Rourkela, CHSE, Odisha.
***2002***
High School ($10^{th}$) [First Class]
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**Professional Experience**

***(April 2009 - December 2010)***
Resource Mobilization Officer, HR Department
KIIT University, Bangalore.