

# **COMPETENCY MANAGEMENT**

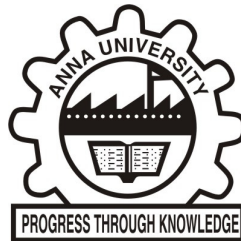
**A THESIS**

*Submitted by*

**KOVAICHELVAN V**

*in partial fulfillment of the requirements for the degree of*

**DOCTOR OF PHILOSOPHY**



**FACULTY OF MANAGEMENT SCIENCE**

**ANNA UNIVERSITY**

**CHENNAI - 600 025**

**DECEMBER 2014**

## **CHAPTER 3**

### **RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

This research is about establishing a framework to manage the competencies of employees and organisations to cope with a fast changing world and a highly competitive environment. From the literature survey, it appears that

- Selection of employees at entry level roles is not aligned to aptitude, innate ability and aspiration of employees.
- Current training practices are not aligned to the competencies of the roles and employees move to new roles and learn what it takes to play the role.
- The competencies of entry level employees coming from educational institutes do not match the needs of the roles in organizations.
- Enterprise management system, which consists of business processes and organizational processes is not well defined in many Indian organisations to which the roles and competencies are aligned.

Towards addressing these challenges, a case study methodology was adopted to evaluate a system for competency management in a large

automotive company and two of the engineering institutes located in south India. The profile of the company and the institutes are provided in Appendices 1.1 and 1.2. Competency development across the organization has always been on the top of the agenda of the company for over two decades with an ambition to become a global player. This research leveraged the opportunities to develop frameworks and experiment across the organization and engineering institutes and present a validated model which can be applied to more organisations and institutes. To address the objectives of the research stated in the introduction chapter, the research was organized around the following areas:

- Selection process for entry level employees based on innate abilities and aspiration
- Competency management system aligned to roles in the organisation
- Competency based engineering education programme to feed role-ready talent
- Integration of the competency management system with the enterprise management system

### **3.2 SELECTION SYSTEM FOR ENTRY LEVEL EMPLOYEES**

In order to get the desired output from a system or a process, the quality of input or raw materials is important. In the industry, the number of attributes used for accepting raw material and parts are far higher and standards are far more stringent than what is used for selecting people. The idea for selection of students for the target roles was sourced from the iceberg model of competency and reference to the suggestions proposed by Spencer & Spencer to use the Innate characteristics for selecting people and develop them for knowledge and skills (Spencer 1993). This is also supported

by the CLC research on potential in which ability has two factors such as innate and learned skills (Council 2011). Based on these references and the framework for selection was established.

Table 3.1 shows the four stage selection process with objective of each stage, criteria for shortlisting through each stage and cost of each stage of assessment per candidate. With the promotion of this program in the rural schools across the state of Tamil Nadu and neighbouring state of Karnataka, the number of applications received for the program has gradually gone up and exceeded over one thousand for an intake of just thirty for the CEP. The cost of conducting stage 3 and 4 for innate abilities is significantly higher. In addition, in terms of logistics to get thousands of candidates to the institute, conducting the assessment and managing the disappointment of the students who are not selected is quite challenging. In view of this, the four stage selection process helped to keep the cost of the selection process reasonable and at the same time assess the innate ability of reasonable proportion of candidates.

The second stage is introduced to assess the foundation of Mathematics and Science which is required for learning engineering. The tests consists of 70% of the questions based on understanding and application as the students came from most of state board schools who go through rote learning. Based on these tests, bridge courses are structured to get some minimum level of proficiency level.

**Table 3.1 Objective and Criteria for four stage selection process**

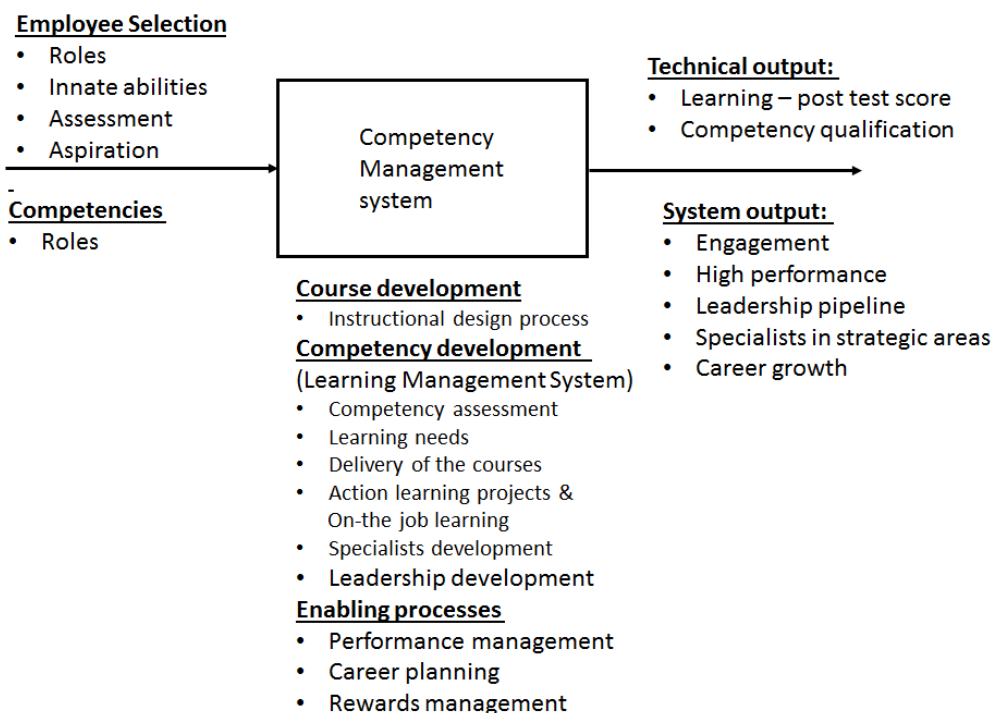
| <b>Four stage selection process</b> |                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                             |                               |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>Stage</b>                        | <b>Objective</b>                                                                                                                                                                                                         | <b>Criteria</b>                                                                                                                                                                                                                                             | <b>Cost per candidate Rs.</b> |
| 1                                   | Screen for threshold of academic performance for a manageable number for number of aspirants for the next process                                                                                                        | Consistent academic performance in 8th, 9th and 10th standard in the school                                                                                                                                                                                 | <b>270</b>                    |
| 2                                   | Assess the aspirants for threshold of foundation in Mathematics and Science and Aptitude or potential ability tests to learn and practice Engineering and to address the need for filling up the gap with bridge courses | Tests in English, Mathematics and Science with 70% of the questions to evaluate the participants' knowledge and understanding of practical application                                                                                                      | <b>690</b>                    |
| 3                                   | Shortlist the candidates with higher scores in tests, rating through the individual and group tasks for perceiving the innate ability to have a manageable number of candidates for quality time on BEI                  | Psychometric tests, individual tasks and group tasks for simulation, Games and exercises for scoring, observation and consensual rating.                                                                                                                    | <b>1050</b>                   |
| 4                                   | To establish the final choice of candidates for the program with identification of the organizational roles best suited based on the functional descriptions and personal disposition of the candidates.                 | Final selection in the presence of panel members of BEI considering the overall innate ability (potential) of Trait, Motive and Attitude, based on the scores and rating of all the tests and experiential activities in the two days of selection process. | <b>1260</b>                   |

This four stage selection process was applied for selection of students in the first year of diploma program in the polytechnic. The first two stages are administered in the respective schools in the rural areas from where the students are sourced. The next two stages are carried out in the institute which takes two days with multiple assessments aligned to the innate abilities. The selection of students in the Engineering institute for undergraduate program is carried out at the end of first semester each year and all the four stages are carried out together in the institute. This process is also applied for selecting entry level employees through campus recruitment.

### 3.3 COMPETENCY MANAGEMENT SYSTEM FOR EMPLOYEES

An integrated competency management system that governs employee development through organizational roles and their career lifecycle was developed for validation in the company. A systems approach was used to define this model which consists of inputs, transformation and processes and outputs as shown in the Figure 3.1. Key inputs of the system include :

- Selection based on innate ability and aspiration
- Competencies for organisational roles



**Figure 3.1 Competency management system**

The transformation process consists of three key sub-processes:

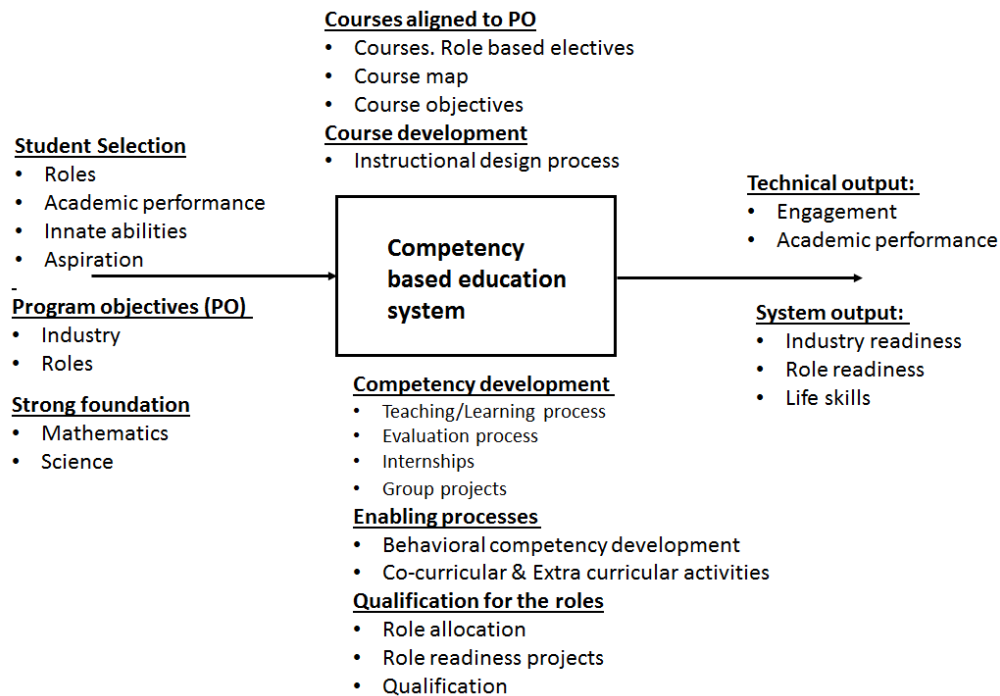
- Course development using instructional design process
- Competency development process across functions and levels
- Enabling processes - performance management, career planning and rewards management

Technical outputs of the system include learning and qualification for a given competency. System outputs include engagement, high performance, specialists in strategic areas, leadership pipeline for the organisation and career growth for employees.

### **3.4 COMPETENCY-BASED ENGINEERING EDUCATION PROGRAMME**

A collaborative, competency based engineering education system was established with the active involvement of the stakeholders in a polytechnic and an engineering college, using the systems approach as shown in Figure -3.2. Inputs for this system include:

- Outreach to attract students with right aspiration and selection based on innate abilities
- Programme objectives to address the competencies of roles in the corporate
- Ensuring strong foundation of mathematics and science



**Figure 3.2 Competency based engineering education programme**

The transformation process consists of three key sub-processes:

- Establish courses aligned to Program Objectives (PO)
- Developing the courses aligned to the programme objectives
- Competency development process
- Enabling processes –behavioural competency development, co-curricular and extra curricula activities
- Qualification for the roles

Technical outputs of the system include engagement and academic performance of the students. System output include industry readiness, role readiness and life skills.