# EMPLOYEE ENGAGEMENT BY FULFILLING NEED BASED SKILL FOR AN ENGINEERING INDIAN INDUSTRY

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## ABSTRACT

Human resource management is a process of bringing people and organizations together so that the goals of each other are met. Nowadays it is not possible to show a good financial or operating report unless your personnel relations are in order. Over the years, highly skilled and knowledge based jobs are increasing while low skilled jobs are decreasing. This calls for future skill mapping through proper HRM initiatives. Indian organizations are also witnessing a change in systems. There is a need for multi skill development. Developing Need based Skill is a process of identifying key competencies for an organization, the jobs and functions within it. Skill Development is important and is an essential activity. Every well-managed firm should have well defined roles and list of competencies required to perform each role effectively. By developing skill it identifies an individual's strengths and weaknesses in order to help them better understand themselves and to show them where career development efforts need to be directed. Developing need based skill is not only done for Confirmed employees of an organization and it can also be done for contract workers or for those seeking employment to emphasize the specific skills which would make them valuable to a potential employer. These kinds of skills can be determined, when one is ready to do the work. Skill Development is one of the most accurate means in identifying the job and behavioral competencies of an individual in an organization. Competency is a set of knowledge, skills and attitudes required to perform a job effectively and efficiently. A Competency is something that describes how a job might be done excellently; a Competence only describes what has to be done, not how. Core competency is something which cannot be copied and it is the pillar upon which individual rest.

## INTRODUCTION

Human resource management is a process of bringing people and organizations together so that the goals of each other are met. Nowadays it is not possible to show a good financial or operating report unless your personnel relations are in order. Over the years, highly skilled and knowledge based jobs are increasing while low skilled jobs are decreasing. This calls for future skill

mapping through proper HRM initiatives. Indian organizations are also witnessing a change in systems. There is a need for multi skill development. Role of HRM becomes more important.

Fulfilling need based Skill is a process of identifying key competencies for a company or an organization and the jobs and functions within it. Every well managed organization should have well defined roles and list of competencies required to perform each role effectively. Competency mapping analysis individual's SWOT for better understanding and this helps to improve his career growth. This identifies the gap for improving knowledge to develop.

Every industry in the present scenario is trying to achieve high efficiency and effectiveness in order to survive in this cutthroat competition. Industry is basically classified into production and service sector. They try desperately to improve the efficiency of their system. Skills mapping is a technique of studying and analyzing the skills possessed by the persons concerned. It is a comprehensive way of knowing the skill levels of the persons. Skill mapping evolves a result, which not only specifies the skill level of the persons but also identifies the Gray areas where improvement can be made by training or by other means.

Skill mapping, thus, is fast becoming important, buzzword for any industry aiming at revamping themselves to the present competitive situation. It is becoming popular day by day and many companies are showing keen interest in using this technique to improve their efficiency. Companies are interested in knowing the present skill level of their employees so that training can be given to improve their performance. This is where skill Mapping comes in to focus, which apart from mapping the skills also

helps in identifying the strategies for multi skilling program for the company.

Every well-managed firm should have well defined roles and list of competencies required to perform each role effectively. Competency mapping identifies an individual's strengths and weaknesses in order to help them better understand themselves and to show them where career development efforts need to be directed. Competency mapping is not only done for Confirmed employees of an organization and it can also be done for contract workers or for those seeking employment to emphasize the specific skills which would make them valuable to a potential employer. These kinds of skills can be determined, when one is ready to do the work.

Competency mapping is one of the most accurate means in identifying the job and behavioral competencies of an individual in an organization.

## 2 WHAT IS COMPETENCY?

A competency is an underlying characteristic of an individual that is related to effective performance in a job or situation.

**Competency:** A person – related concept that refers to the dimension of behavior lying behind competent performer.

## 3 STATEMENT OF THE PROBLEM

Therefore, it appears necessary to investigate if a difference exists in job competency expectations held by the manufacturing industries for their employees between the required competency levels to the existing level of working.

Accurate job competencies need to be communicated to all the employed in the manufacturing industries. Research indicates that the closer of the employer job

competency expectations i.e, the required competency level to the actual job competency level of the employees brings the better chance for productivity improvement, waste elimination, multi skill development and the higher employees will rate overall job satisfaction.

In order to ascertain accurate and current job competency expectations i.e., the required competency to work in a manufacturing industry, professionals, supervisors and production heads were asked to rate the importance of the specific job competencies for the workforce. The competencies categories included: knowledge, ability and attitude. The managers were asked to list the required competency to perform a job and they were also asked to fix the required level of competencies in the specific competency.

## 4 LIMITATIONS

Gaining the cooperation of the employees was difficult at the initial stages of the study as the employees were not aware of the topic of the study.

- Some employees were not able to understand the questionnaire as it was new to the organization. To solve this problem and to make it understandable to all, the questionnaires had to be made in simple language and also with day today activities.
- Respondents were reluctant to give unbiased opinion fearing of the management.
- The data was collected from the plant through questionnaires. The respondents were not able to spend the desired time with the researcher.
- The Rater's decision on the employees was the final one. The problems like central tendency and other partially towards the staff may be present

## 5 SCOPE OF THE STUDY

- The study analyses the skill level of Workmen in the organization, so that the training needs can be found out.
- The study could also provide an insight to the staff's multi-skill level.
- The model can be simulated in other divisions as well as other units.

## 6 SIGINFICANCE OF THE STUDY

Competency Mapping is excessively used in the organization to determine the crucial elements and activities. The basic reasons due to which the mapping of the competencies is done are as follows:

- Once the competencies are determined, proper training can be provided to the individuals to work more efficiently on the processes.
- Key performance areas can be improved by understanding the fields where there is a gap between the actual and the desired results.
- Through competency mapping, the individual is preparing himself for the next set of responsibilities.
- Competency based approach can lead the individual to derive much efficient results (with more accuracy) as compared to work in a non-competency derived situation.
- Helps the individual to determine the areas where the development is required and thus leads the individual to develop a self development plan.
- Competency mapping leads the individual to understand the actual position and the gap from the desired status of work.

## 7 Fundamental Characteristics:
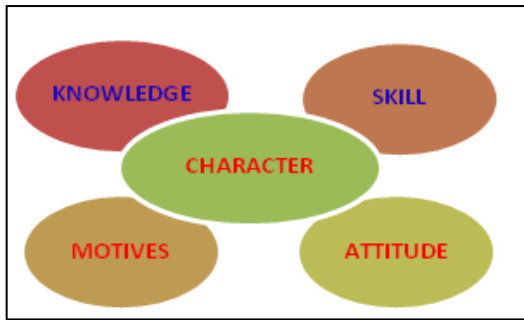


**Note:** Knowledge, skill are surface competencies, which can be easily developed. Attitude, motives, and traits are core competencies which are most difficult to develop.
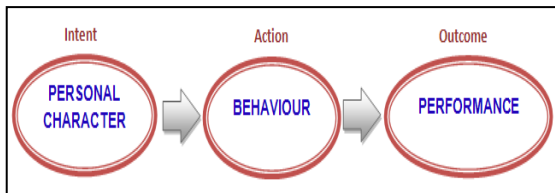


## 8  MAIN OBJECTIVE:

**Primary:**

- To map the technical competencies for the employees in different departments of a Textile Machinery Manufacturing Industry

**Secondary**:

- To develop the competency calendar for employees in any industry.
- To assess the Training need identification of the employees in the company
- To offer the suggestions to the organization for the betterment of the employees & Organization.
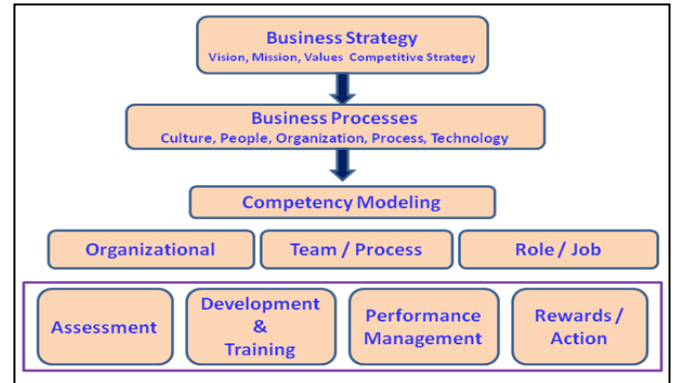
## 9 WHAT METHODOLOGY IS USED?

The following methods are used in combination for competency mapping:

- Interviews, Group work, Task Forces, Task Analysis workshops, Questionnaire, Use of Job descriptions,

Performance Appraisal Formats etc.

## 10 MODEL USED:

The board approach followed by Arthur Andersen while mapping the competencies is represented as follows:



These kinds of skills can be identified, when one is ready to do the work. Competency mapping is one of the most accurate means in identifying the job and behavioral competencies of an individual in an organization.

## 11 RESEARCH METHODOLOGY:

### 11.1    Research Design:

A Research Design is the arrangement of conditions for collections and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure.  The research is a descriptive research, as it includes surveying and fact-finding.  The research was not done before for the organization.  The research was supposed to explore details for further studies.

Competency analysis begins with identification of the workforce competencies required to perform the organizational business activities. Once the competencies are identified, a mapping between the targeted vs. actual value of competencies is required to measure,

analyze and predict the future capability of competencies and take necessary corrective/preventive action to either enhance or maintain the current capability.

Identifying the tasks, skills, knowledge and attitude required to perform various organizational roles can be used in formulating job description, assessing employees' current level of competency, and activities like planning career development and coordinating competency development.

## 11.2 Sampling Method:

Census survey was adopted for the study. As it was census sampling, the entire population was taken for conducting the research. Hence no sampling tool/technique was used to choose the elements of the sample.

## 11.3 Sampling Design:

All 1400 workmen at different units & departments were taken, that comprises of all Production related workmen and also workmen in service departments related to production i.e., Quality assurance, Tool room, Maintenance etc,

## 12 DATA SOURCE:

### 12.1 Primary Data:

The first hand primary data was collected through questionnaires. In addition to it discussions were held with the immediate supervisors, the managers of each department.

### 12.2 Secondary data

The secondary data was collected through the company profile, the company manuals, and previous year records.

## 13 ANALYSIS:

Competency Mapping is a process of identifying key competencies for an organization, the jobs and functions within

it. Competency mapping is important and is an essential activity. Every well-managed firm should have well defined roles and list of competencies required to perform each role effectively. Competency mapping identifies an individual's strengths and weaknesses in order to help them better understand themselves and to show them where career development efforts need to be directed. Competency mapping is not only done for Confirmed employees of an organization and it can also be done for contract workers or for those seeking employment to emphasize the specific skills which would make them valuable to a potential employer. These kinds of skills can be determined, when one is ready to do the work.

This study compared the workforce job competency expectations for experienced / trained employees in possession of more than 10 years from the date of joining. Workforces are technically separated into 2 distinct categories.

1. Work that is directly supporting the production
2. Work that is indirectly supports the production.

Direct workforces who were the permanent employee of the organization at the time of the survey were participated. In the beginning of 2011, employees at different units working in various departments are communicated through their immediate supervisors requesting their participation. At the time of survey the number of Direct confirmed employees present at Unit1:700. Usable responses were received from 680 employees for a response rate of 97.14%.

There are different kinds of process that are carried out in an engineering industry. Different kind of operations are grouped with the similar kind of operations as G01,

G02 etc.,

| Group | Process |
|-------|---------|
| G01 | Heat Treatment-Furnaces,HF&Tempering |
| G02 | All surface treatment & Tumbling |
| G03 | All Conventional Milling |
| G04 | All CNC Machining centres |
| G05 | All Surface Grinding |
| G06 | All Conventional Drilling |
| G07 | All Jig Boring Machines |
| G08 | All Conventional Lathes |
| G09 | All CNC Lathes |
| G10 | All Cyl, Centreless & Internal grinding |
| G11 | All Slotting, Broaching & Thread rolling |
| G12 | Dynamic Balancing |
| G13 | Straightening Press |
| G14 | All Material Preparatory machines |
| G15 | All Conventional Sheet Metal Machines |
| G16 | All CNC Sheet Metal Machines |
| G17 | All Welding |
| G18 | Hand Work |
| G19 | Engraving |
| G20 | SPM |
| G21 | Tool Making |
| G22 | Sub assembly |
| G23 | Main assembly |
| G24 | Electrical assembly |
| G25 | Machine Packing |
| G26 | Fitter - Mechanical |
| G27 | Fitter - Electrical |
| G28 | Inspection - QA |
| G29 | Stores (Component& Raw material) |
| G30 | Helper |

For every group, different levels of required skills are fixed.

The following is the required skill to operate a conventional Turning center. ( G08 )

| | CONVEVTIONAL TURNING |
|----|----------------------|
| 1. | Ability to Understand and interpret the drawings |
| 2. | Knowledge in Tolerance Specifications. |
| 3. | Knowledge in Selection of Tools and accessories |
| 4. | Knowledge of Cutting Parameters. |
| 5. | Knowledge of Measuring Instruments and their right usages |
| 6. | Knowledge of Self Inspection. |
| 7. | Awareness in TPM and 5's Practices. |

The survey instrument was developed from a literature review of job competencies and was refined to three content areas namely knowledge, ability and attitude. Research questions were designed to identify differences if any, in the permanent workforce based upon several competencies.

C11 – Ability to read and understand drawing
C12 – Ability to meet tolerance levels
C13 – Awareness of Standards
C21 – Ability to do CNC Programming
C22 – Ability to select the required tools
C 23 – Knowledge of cutting parameters
C 24 – Awareness in TPM & 5S Practices
C 25 – Ability to Work
C 31 – Knowledge of Instruments and ability to use.
C 32 – Ability to do Self Inspection
C 33 – Awareness of New Systems (LEAN)

For every competency levels of requirement are fixed. These requirements are matched with that of the processes that are been carried out in an organization.

**C11 – Ability to read and understand drawings (Manufacturing)**
**Level 1**
**Basic Geometry**

Types of lines – Object line, centre line, hidden details line, dimension line, leader line, size of an arrow, breakage line or broken line, symbols for indicating diameter and other cross sections -Construction of Geometric shapes  - intersection of lines - Forming angles – Triangles and type of triangles – Quadrilaterals – Square, rectangle, Rhombus, Trapezium, Parallelogram – Polygons, Pentagon, Hexagon, Heptagon, Octagon Circle – Its nomenclature – Diameter, radius, circumferences, sector, segment, chord – simple solids – cylinders, cubes, prisms, cylinders, cones, pyramids – construction of ellipse, oval.

## Level 2
Review of Level 1

Three dimensional drawings

Isometric and oblique projection – drawing simple solids – orthographic projection – construction of three views, elevation, plan and end view – First angle and third angle projection – Exercises on prismatic shapes – Scales – True Scale, Enlarged scale, Reduced scale – Making drawings for different scales.

## Level 3
Review of Level 2

Drawings views for simple machine components – use of sectional views – types of sections – full section, half section, revolved section, removed section, partial section, offset section, aligned section – conventional representation of threads, keys and keyway, screws, springs, lock pins, circlips – use of single view for cylindrical parts with section.

## Level 4
Review of Level 3

Dimensioning and tolerance specifications – methods of tolerance – unilateral and bilateral tolerance.  ISO tolerance system –

specifications of surface roughness quality – roughness grades N12 to N1 – Ra, Rc, Rmax, Rt values – Possible grades in various production reading of blue prints – Assembly drawings.

According to levels of the required competencies, the present levels of competencies are identified with the first line supervisors. For the Required Vs Target suitable training shall be given for the employee to improve his competency. These comparisons were made between the existing competencies arrived from the survey to the required competencies for an employee to perform a particular job. The gaps between these two are the need identified for the competency training.

Consistently, permanent employees were rated by their immediate line supervisor about their performance. The gaps for the need identified are focused by giving appropriate training. The training may vary accordingly, On-Job training & Off-Job training. Training given on need based. Need based fulfillment are done consistently for all direct permanent employees in the organization.

Future research is suggested utilizing to other units in the organization and also to the apprenticeship trainees and flexi work force. Competency Mapping is a process of identifies key competencies for an organization and or a job and incorporating those competencies throughout the various processes (i.e. job evaluation, training, recruitment) of the organization.

### 14 CONCLUSION:
Skill development by Competency mapping is one of the most accurate means in identifying the job and behavioral competencies of an individual in an organization .Competency mapping should

not be seen as rewards. All the stakeholders must see in the exercise an opportunity for long-term growth. Competency mapping is not only done for Confirmed employees of an organization and it can also be done for contract workers or for those seeking employment to emphasize the specific skills which would make them valuable to a potential employer.

Competency is a set of knowledge, skills and attitudes required to perform a job effectively and efficiently. A Competency is something that describes how a job might be done excellently; a Competence only describes what has to be done, not how. Core competency is something which cannot be copied and it is the pillar upon which individual rest.

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