MAPPING OF COMPETENCIES AND ANALYSING THE GAP –WITH SPECIAL REFERENCE TO MAINTENANCE DEPARTMENT

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Abstract

Competency mapping is a process an individual uses to identify and describe competencies that are the most critical to success in a work situation or work role. Organization use competency mapping to analyze the combination of strength in different workers to produce the most effective team and the highest quality work. Competency Mapping is therefore useful for the organizations in terms of their own growth and the growth of their employees. The purpose of the Study was to develop competency model, which help the employee, supervisor and organization to gain a competitive edge by using competency mapping. So that the employees can know the performance deficiencies and can work on it for their own development by which even the organization can be benefited, the study was undertaken in one of the leading auto component manufacturing company which is located at Jodalli , Karnataka and was conducted for Maintenance department and the study was divided into 4 phases.**Phase-1** is about the identification of required Competencies for particular job/position.**Phase-2** is to identify the Actual Competencies of an individual using Five Point Scale i.e. This five point scale will further help in determining training and development needs**. Phase-3** is to identify the Competency gaps. This will help in determining the kind of training needs to be given and further enhancements. **Phase-4** is to determining the Training Needs, as to how many workers need training based on the level the training hours will be decided which will bridge the competency gaps.

Keywords: Competency mapping, Gap Analysis, Generic Competency, Specific competency, Competency Model

1. Introduction

It is the process of identification of the competencies and the level of proficiency required in it to perform a given job or role efficiently. Every job requires some set of attributes whether it is technical, managerial or behavioural to perform the same successfully; these attributes or skills are known as competencies.

The competence approach encourages employees to develop competencies which can be used in diverse work situations. Employee development also focuses on enhancing employee competencies which help them to cope up with the organizational change.
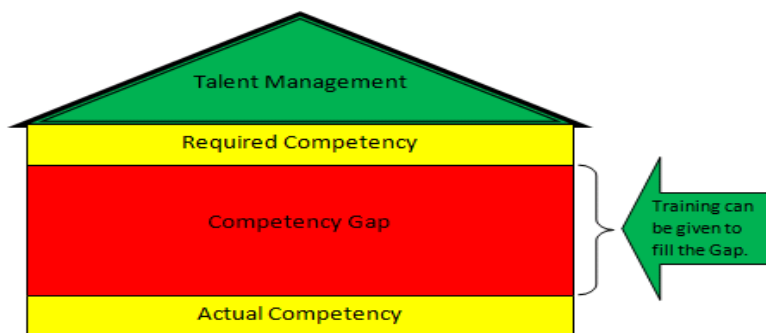
Competency Assessment ratings can be used for the following:

- Training Need Identification
- Man-power Planning
- Retention
- Career Planning and Succession Planning
- Build up strong Group Cohesiveness

- Un-biased Comparison

2. General Model of Competency Mapping

The study is based on the following competency model

3. Four phases in the Study

1. Phase-1 is about the identification of required Competencies for particular job/position.
2. Phase-2 is to identify the Actual Competencies of an individual using Five Point Scale i.e.
   a. a) Expert, can teach/train others.   Level 4
   b. b) Competent and can work without guidance   Level 3
   c. c) Competent but can work under guidance/with support.   Level 2
   d. d) Awareness   Level 1
   e. d) N/A   Level 0

   This five point scale will further help in determining training and development needs.

3. Phase-3 is to identify the Competency gaps. This will help in determining the kind of training needs to be given and further enhancements.

4. Phase-4 is to determining the Training Needs, as to how many workers need training based on the level the training hours will be decided which will bridge the competency gaps.

4. Statement of the Problem

In this world of cut throat competition, companies are putting tremendous effort to hire competent employees and to develop relevant competencies in their existing employees. These are one of the few ways in which companies can gain competitive edge over each other. It is equally imperative for a firm to define a set of core competencies which corresponds with its key market differentiators. This is where competency mapping plays a key role.One of the core issue, companies are facing today is the increase in man power cost. Coupled with this is the pressure to downsize and manage with fewer people, thus increasing efficiency and employee productivity. Companies are also realizing the needs for ensuring that competent people are available for performing various critical roles.This is where competency Mapping comes into the picture, the competency mapping can be used to identify the following the competencies required for the current job,the actual level of competencies;the Competency Gap between Required and Actual, identifying the training and development needs to fill the gap. Hence the need for the study was to help the employee, supervisor and organization to gain a competitive edge by using competency mapping. So that the employees can know the performance deficiencies and can work on it for their own development by which even the organization can be benefited.

5. Objectives of the Study

1. To study Job roles and Job Descriptions of different departments.
2. To study various competencies possessed by the employees.
3. To study the level of competence as required by their current and future expected roles.
4. To study the gap in actual and required competencies.
5. To find out the training needs for the employees to fill the gap.

6. Format Of Competency Mapping

Competencies	HR	Maintenance	SCMG	PPC	Finance	Admin	ME	Production	Lean Manufacturing	Quality
Generic										
Team Work										
Interpersonal Communication										
Organising Skills										
Leadership										
Negotiation Skills										
Specific										
Problem Solving & Decision Making										
Process / Machineshop Knowledge										
Knowledge towards MTTR / MTBF										
Knowledge towards PLCs										
EXIM Process										
Stores Management										
Knowledge towards Inventory										
Knowledge of Microsoft Excel										

7. Methodology

Primary data has been used for the study. However, at appropriate places, secondary data has also been used. The data on employee competency has been collected from the company records, personal interaction with the employees, their supervisor's peers and the employees of the cross functional departments. For this purpose, the various parameters of attributes, skills and knowledge were framed in accordance with HR policies, job roles and KRA's which were approved by head of the departments and HR departments.

For the purpose of mapping competencies, Job Descriptions of positions are collected as secondary data, Inputs from head of the departments/functional heads, Focused Group Discussions (FGD), studying and analyzing the Job Descriptions to list out the competencies so as to match with their roles and responsibilities and to be properly mapped as per the job requirement are Primary Data.

Once competencies for the departments are listed it has been divided into two parts Generic Competencies and Specific Competencies. Generic Competencies are the set of competencies which remains same irrespective of functions or departments. Whereas the Specific Competencies will be set of competencies that are specific to particular job or position based on its requirements.

The study is undertaken for two departments that is Maintenance, SCMG (Supply Chain Management Group).

The analysis has been made by applying charts, tables, graphs and conclusions were drawn based on that.

8. Analysis and Interpretation

Categorization of Competencies

a) Expert, can teach/train others.	Level 4
b) Competent and can work without guidance	Level 3
c) Competent but can work under guidance/with support.	Level 2
d) Awareness	Level 1
d) N/A	Level 0

Generic Competencies required for all the Departments: These are the set of competencies which remains same irrespective of functions or departments.

The below competencies are used for both the two departments.

1. Team Work
2. Interpersonal Communication
3. Organizing Skills
4. Leadership
5. Negotiation Skills

Specific Competencies are different for two departments.
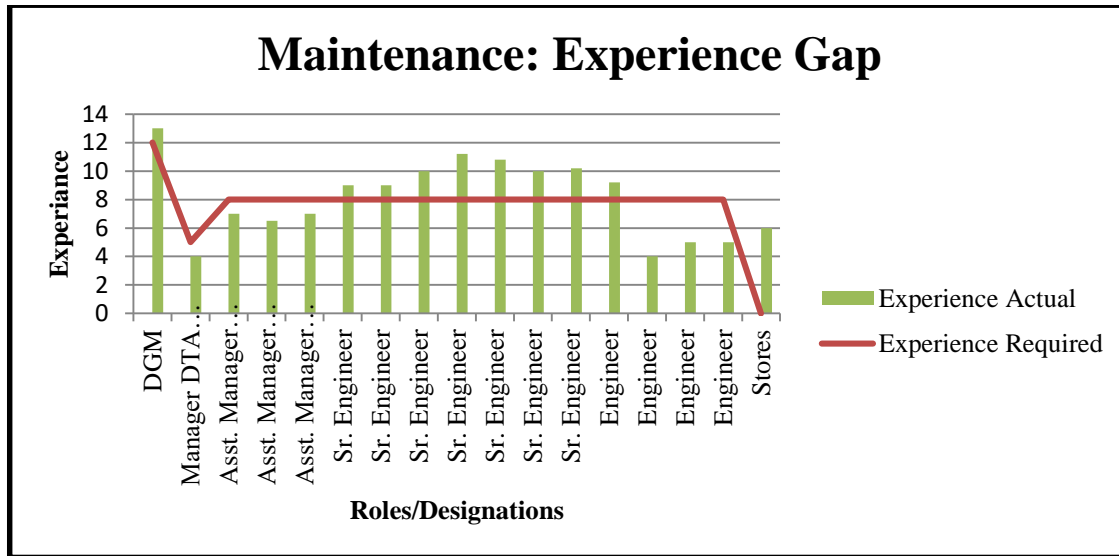
Maintenance Department

Roles/Designations under Maintenance Department

Sl.No	Role/ Designation
1	DGM
2	Manager DTA & EOU
3	Asst. Manager – Maintenance
4	Asst. Manager Utilities
5	Sr. Engineer
6	Engineer
7	Officer

There are total Seventeen People are working in the Maintenance Department.

GAP ANALYSIS OF MAINTENANCE DEPARTMENT

Graph -1

The red line in the graph indicates the required experience for their respective Roles/Designations. Almost everyone in the maintenance department is having more experience as compared to actual except Manager DTA & EOU, Asst. Manager and three Engineers. These differences are not given much importance as only experience is not a matter for judging an individual. And it can be filled over a period of time.

Role/Designation	Experience
DGM	-1
Manager DTA & EOU	1
Asst. Manager	1
Asst. Manager	1.5
Asst. Manager Utilities	1
Sr. Engineer	-1
Sr. Engineer	-1
Sr. Engineer	-2
Sr. Engineer	-3.2
Sr. Engineer	-2.8
Sr. Engineer	-2
Sr. Engineer	-2.2
Engineer	-1.2
Engineer	4
Engineer	3
Engineer	3
Stores	-6

The above table indicates the Gap in Experience of Maintenance Department. Green color indicates no gap and the negative values shows the extra experience they have as compared to the requirement. The yellow color

indicates a gap of less than two years. And red color indicates the gap of two or more than two years. The values in the table indicate the gap.
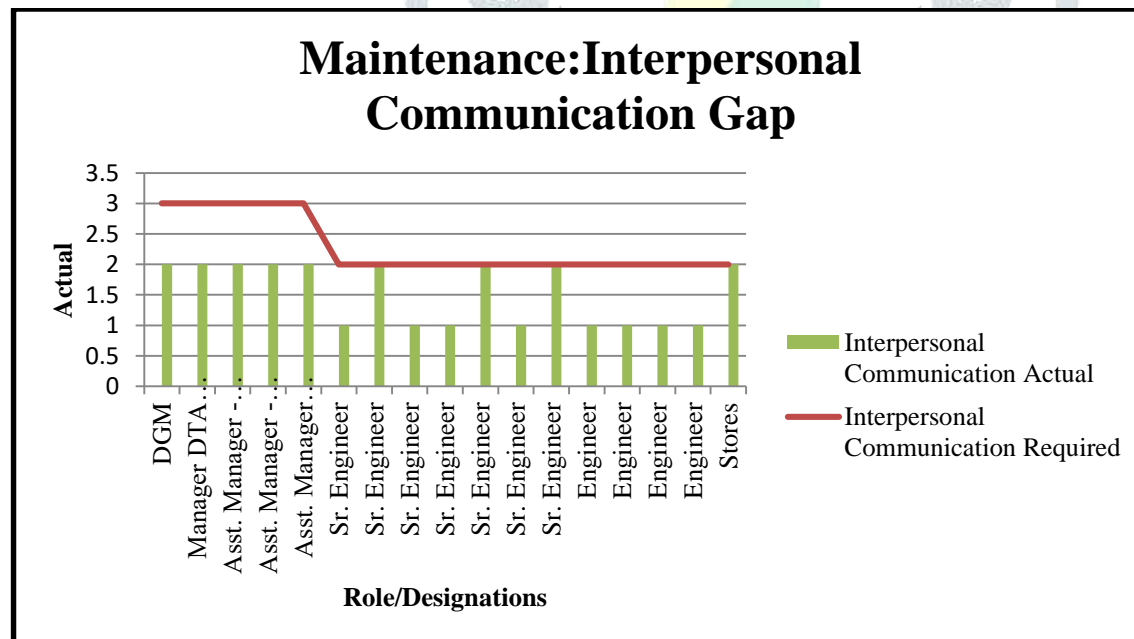
Generic Competencies

Graph 2
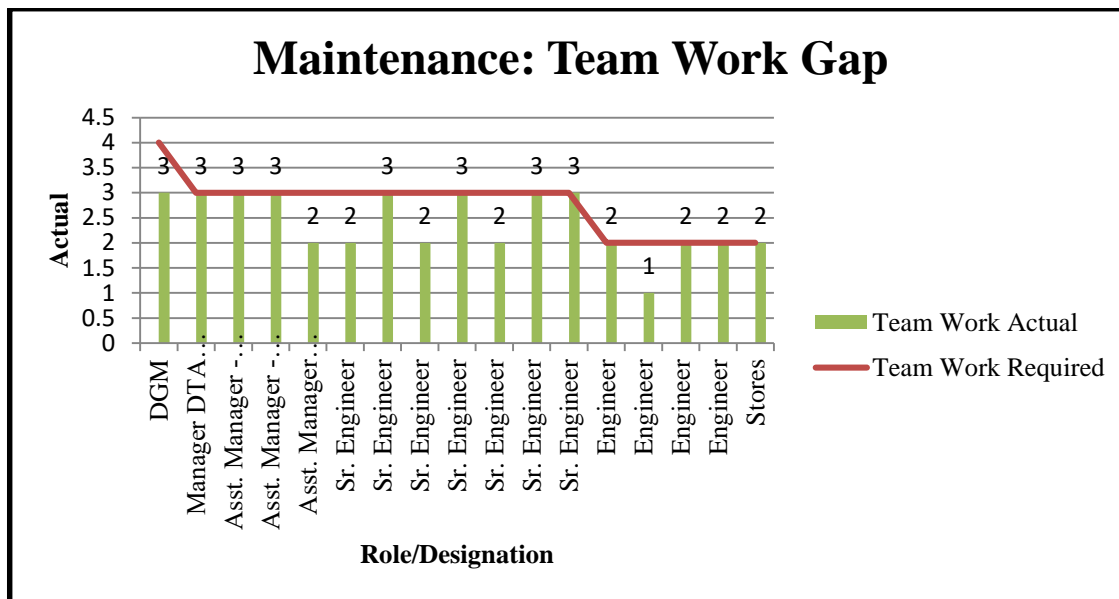
From the above graph it is clear that Team Work in the Maintenance Department is fair enough and doesn't need any training as the difference is of only one point, this can be filled over a period of time by experience nothing special care is required for this particular competency in this department
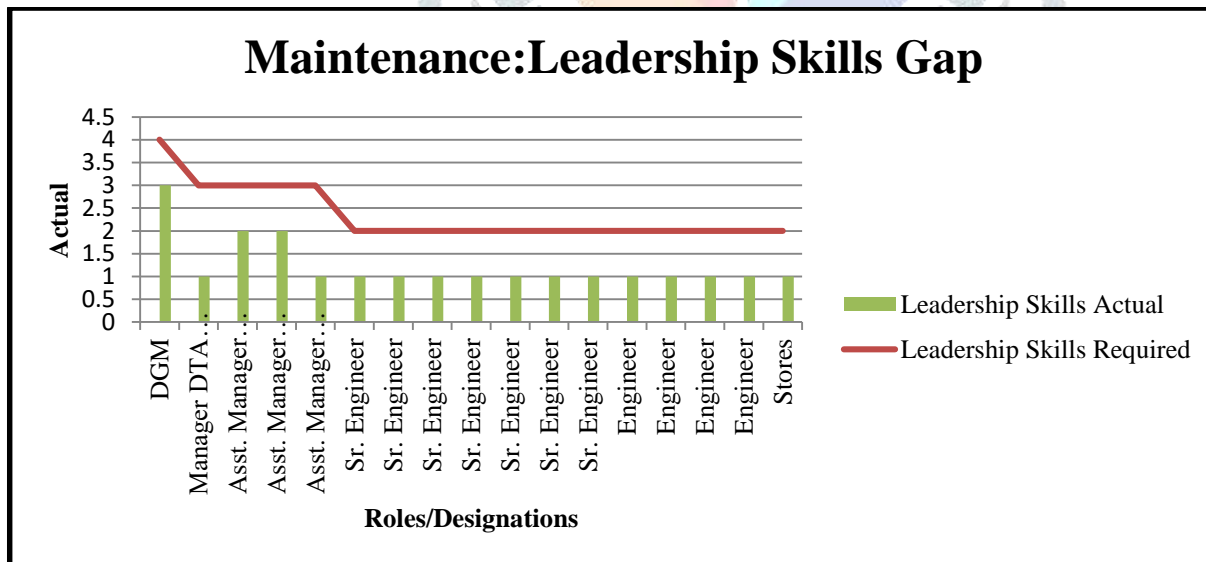
Graph 3

From the above graph it is clear that Interpersonal Communication in the Maintenance Department is not as appreciable, because thirteen peoples are lacking in this skill. But here also the training is not needed as the difference of required and actual is not more than one, and it can be acceptable.

Graph 4
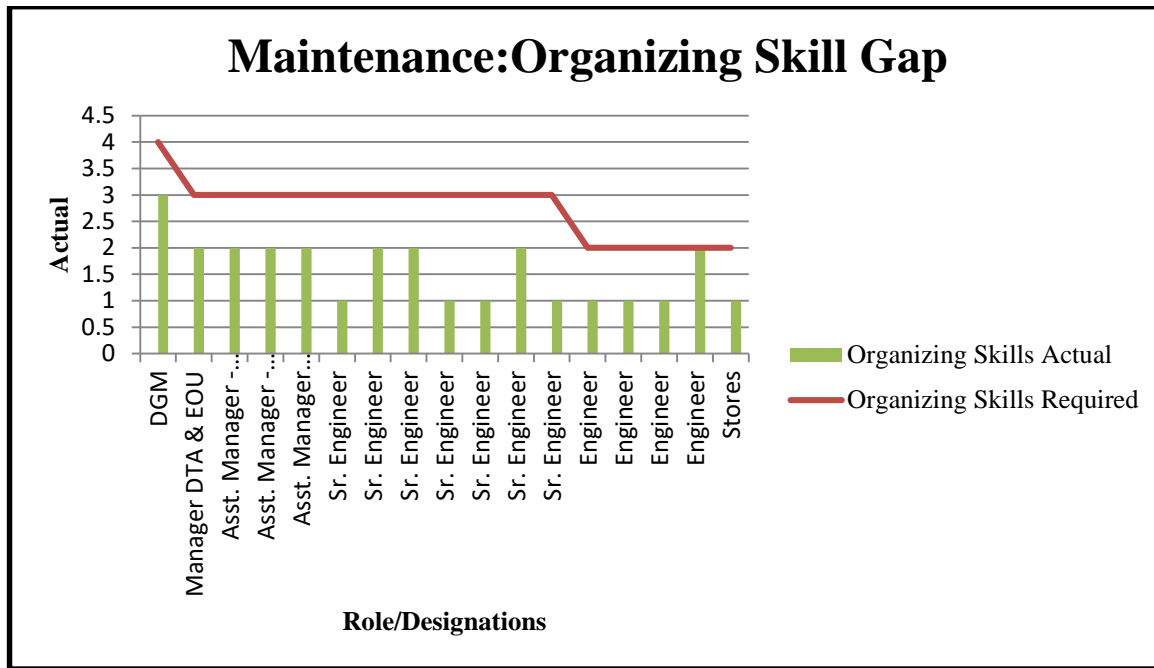
By observing the above graph Maintenance Department is lacking in organizing skill. Almost everyone has a gap, but three Sr.Engineers need to be given training on this skill as the difference is two between required and actual. Apart from these three others can pick up through their experience, or while doing the job i.e. On the Job Training. Extra training is not required for them.

Graph 5

From the above graph we can observe that Leadership in the Maintenance Department is in a bit acceptable form except Manager DTA & EOU. It is not as appreciable, because the person who is lacking in this skill is needed to be taken care of more as the person belongs to upper level. And appropriate training is needed.
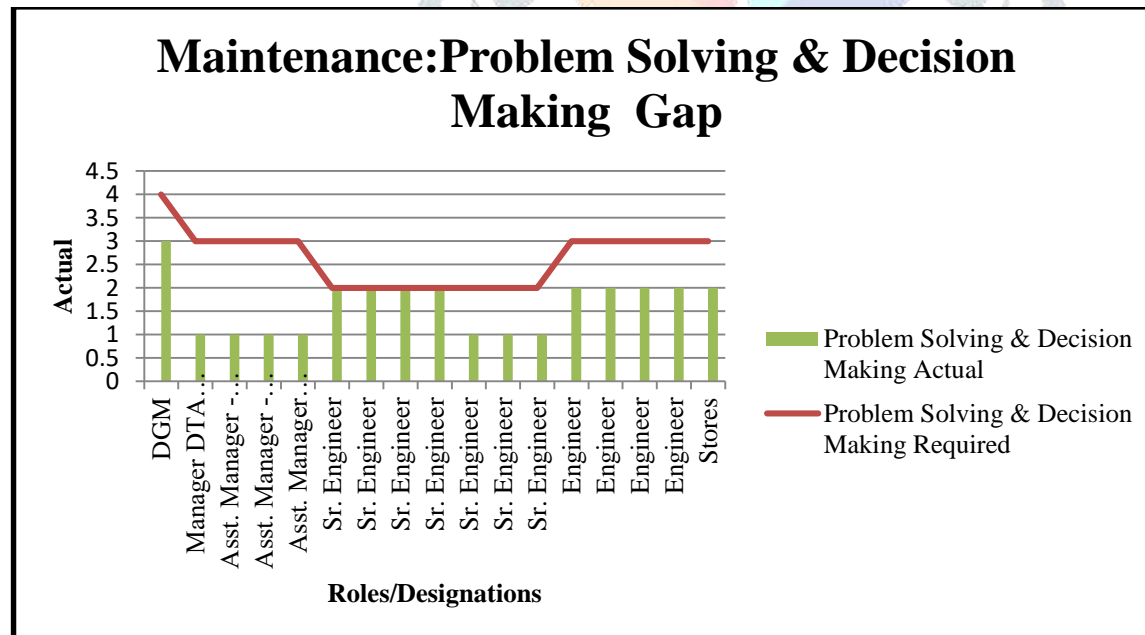
Graph 6
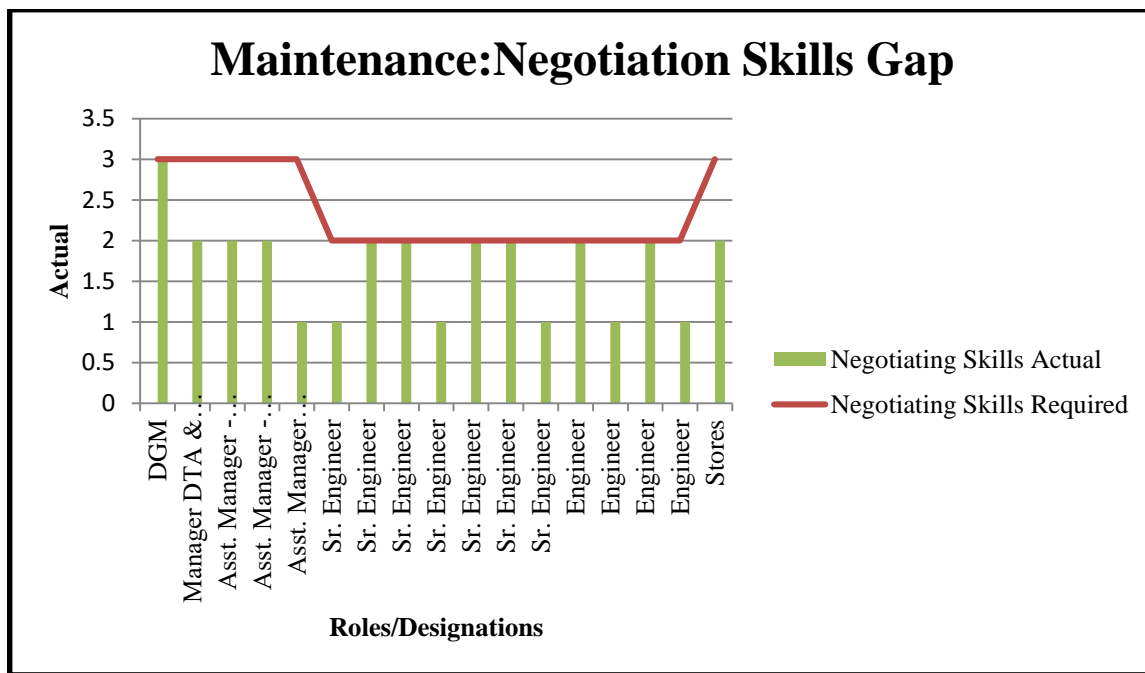
Regarding Negotiation Skill the gap is not as much for every individual. Training required for the Negotiation Skill is only for Asst. Manager-Utilities and other Gaps are not as much that it need training it can be improved.
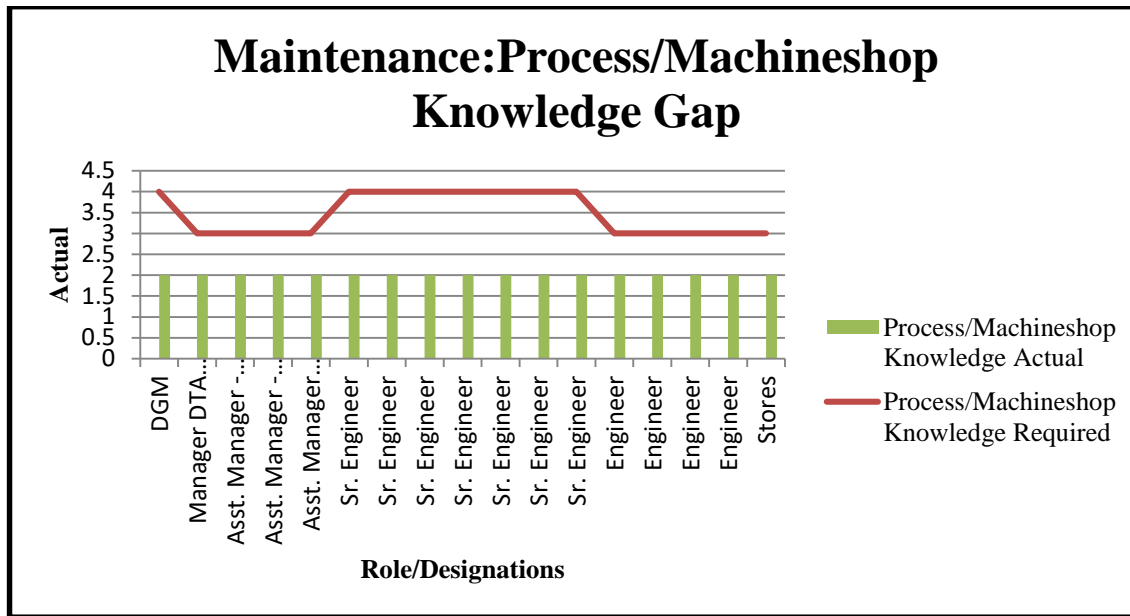
Generic Competencies

Graph 7

By observing the graph the training or development is required for four people in problem solving and decision making.

Graph 8

Maintenance:Process/Machineshop Knowledge Gap

From the analysis of the above graph no one is having as knowledge of machine shop as it is required for them. But it is acceptable for engineers and high level people as the gap is not as much except DGM and Sr. Engineers. As DGM is required as much for day to day working, but based on the requirement the actual very far and therefore need to be given training to DGM and Sr. Engineers. For Sr. Engineers it is very important to have the knowledge of machine shop because they were the one who guide to Engineers.

Graph 9

Maintenance:Knowledge Towards MTTR/MTBF Gap
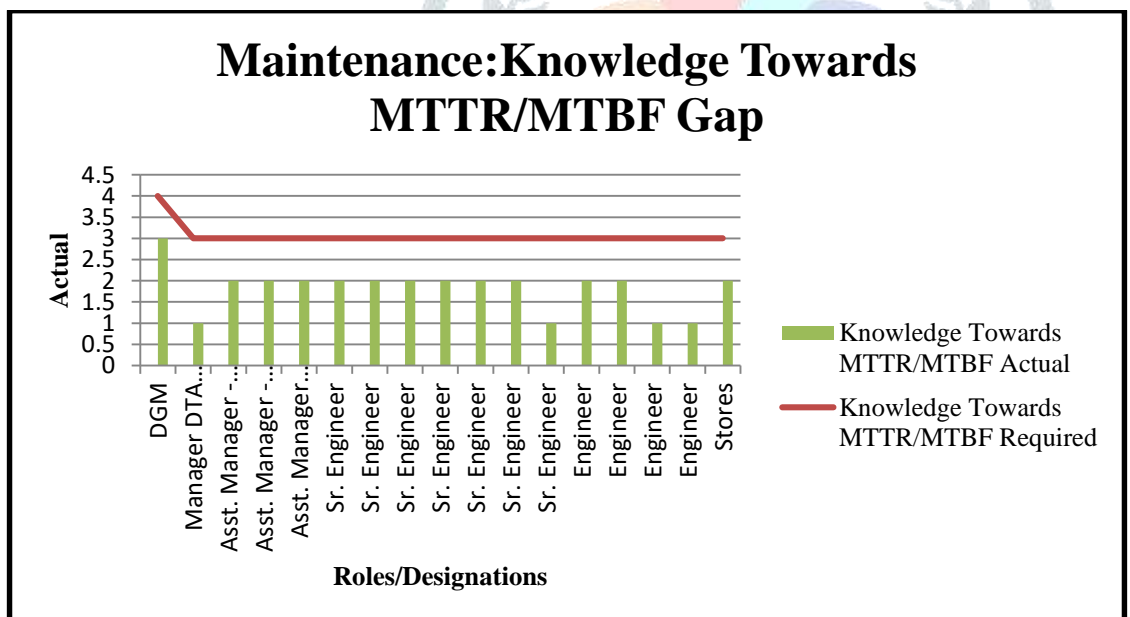
Regarding the knowledge towards MTTR & MTBF total five people need training in which one is Manager DTA & EOU, the second one is Sr. Engineer and two engineers. Everyone else doesn't need any special program for developing this competency.

Graph 10
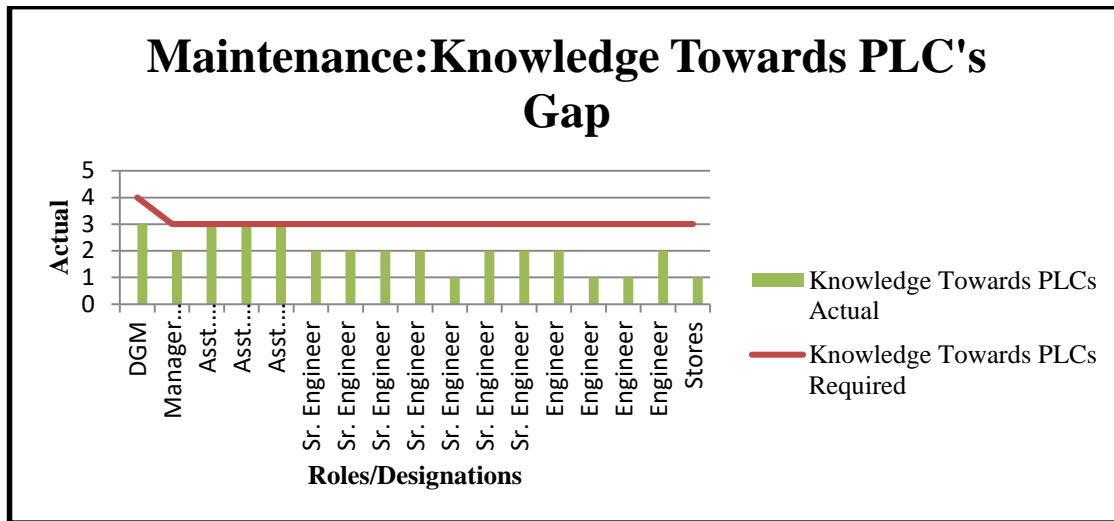
As per the graph the gap for PLC is a bit favorable as three people are having the knowledge of PLC as per the requirement. Apart from these three else are having gap that to on a fair basis and training is required for only four people. As the gap is more and cannot be fulfilled easily.

Graph 11
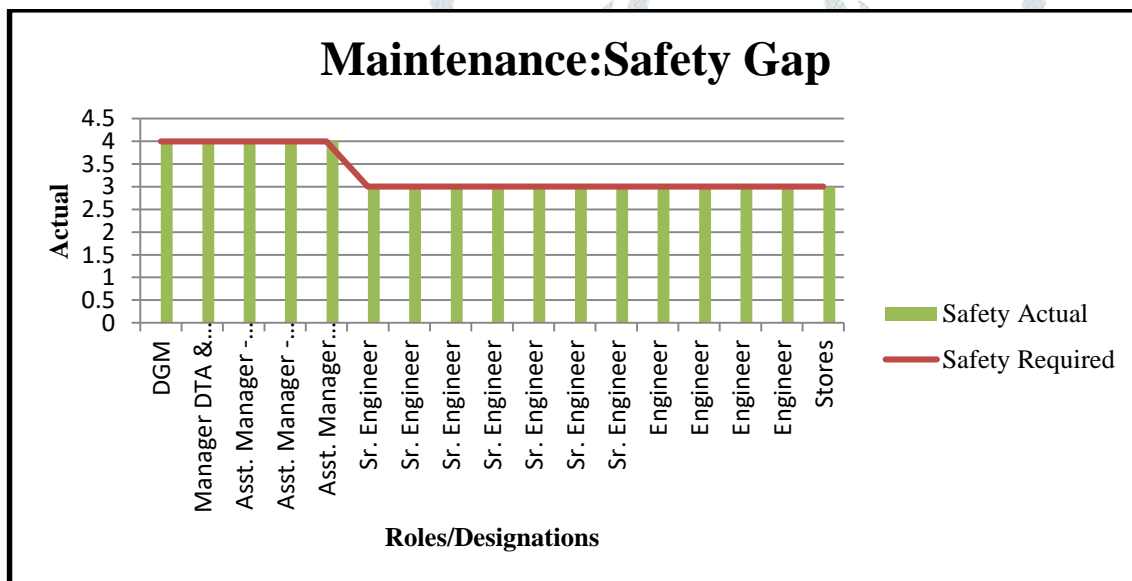
From the above observation it is very clear that everyone has a safety skill as much as it is required by them to have.

Analysis of Gaps for Action Plans

Generic Competency Gap

Table -1

Role/Designation	Team Work	Interpersonal Communication	Organizing Skills	Leadership	Negotiation Skills
DGM	1	1	1	1	0
Manager DTA & EOU	0	1	1	2	1
Asst. Manager	0	1	1	1	1
Asst. Manager	0	1	1	1	1
Asst. Manager Utilities	1	1	1	2	2
Sr. Engineer	1	1	2	1	1
Sr. Engineer	0	0	1	1	0
Sr. Engineer	1	1	1	1	0
Sr. Engineer	0	1	2	1	1
Sr. Engineer	1	0	2	1	0
Sr. Engineer	0	1	1	1	0
Sr. Engineer	0	0	2	1	1
Engineer	0	1	1	1	0
Engineer	1	1	1	1	1
Engineer	0	1	1	1	0
Engineer	0	1	0	1	1
Stores	0	0	1	1	1

-   Green color box Indicates No Gap

-   Red Color Box indicates Gaps of 2 or more points for which training is scheduled and refered in action plans.

-   Yellow Colorindicates Gap of only 1 point for which training is not scheduled. It can be filled with experience and on the job- training

Specific Competency Gap

Table -2

Role/Designation	Problem Solving & Decision Making	Process / Machine shop Knowledge	Knowledge towards MTTR / MTBF	Knowledge towards PLCs	Safety
DGM	1	2	1	1	0
Manager DTA & EOU	2	1	2	1	0
Asst. Manager	2	1	1	0	0
Asst. Manager	2	1	1	0	0
Asst. Manager Utilities	2	1	1	0	0
Sr. Engineer	0	2	1	1	0
Sr. Engineer	0	2	1	1	0
Sr. Engineer	0	2	1	1	0
Sr. Engineer	0	2	1	1	0
Sr. Engineer	1	2	1	2	0
Sr. Engineer	1	2	1	1	0
Sr. Engineer	1	2	2	1	0
Engineer	1	1	1	1	0
Engineer	1	1	1	2	0
Engineer	1	1	2	2	0
Engineer	1	1	2	1	0
Stores	1	1	1	2	0

Action Plans to Bridge the Competency Gaps

Table- 3

Descriptions of the competency item	Training Topic Related To	No of Participants
Generic Competencies		
Organizing Skills	Personal Effectiveness	4
Leadership	Leadership Skills	2

Negotiation Skills	Negotiation Skills	1
Specific Competencies		
Problem Solving & Decision Making	Problem Solving Techniques	4
Process / Machine shop Knowledge	Machining Process (CNC, VMC, HMC)	8
Knowledge towards MTTR / MTBF	Training on Maintenance MIS system	4
Knowledge towards PLCs	Training on PLCs	4

Method of scoring to know the level of competency

To get the levels of the departments the actual scores scored by the department on one parameter is taken as total score and has been divided by the number of people in that department so as to get the average score by which we can get the level of each parameter as an average.

For the level of department we take cumulative average scores and divide it by the number of variable to get the combined average, which shows the level of department in which they are lying.

Range of Scoring

Table -4

Sl No	Actual Scores	Ranking	Level of Competency
1	>4	Very High	Level 4
2	3.9-3	High	Level 3
3	2.9-2	Moderate	Level 2
4	1.9-1	Low	Level 1
5	0.9-0	Very Low	Level 0

Interpretation of Generic Competency

Table -5

Sl. No.	Parameters	Total Scores	No. of People	Average Score	Level
1	Team Work	41	17	2.41	Moderate
2	Interpersonal Communication	26	17	1.53	Low
3	Organizing Skills	27	17	1.59	Low
4	Leadership	21	17	1.24	Low
5	Negotiating Skill	29	17	1.71	Low

Total Average Scores	8.48

Interpretation of Specific Competency

Table -6

Sl. No.	Parameters	Total Scores	No. of People	Average Score	Level
1	Problem Solving & Decision Making	28	17	1.65	Low
2	Process/ Machine shop Knowledge	34	17	2.00	Moderate
3	Knowledge Towards MTTR/MTBF	31	17	1.83	Low
4	Knowledge Towards PLC's	34	17	2.00	Moderate
5	Safety	56	17	3.29	High
Total Average Scores				10.77	

Competency Score of the department

Table-7

Sl. No.	Competency	Cumulative Average Score	No. of Variables	Average Score
1	Generic	8.48	5	**1.69**
2	Specific	10.77	5	**2.15**
Combined Average		**19.25**	**10**	**1.93**

The above **Table-7** shows that the Maintenance Department has "**Low**" level of Competence. However Moderate Level of Competence is observed in Specific Competency.

The table also depicts that the overall average score of the Maintenance Department is (<2) which indicates Low Level.

9. CONCLUSION

Organization use competency mapping to analyze the combination of strength in different workers to produce the most effective team and the highest quality work.

Competency Mapping, as a study in **Maintenance department** was carried out; the following conclusions have been drawn:

This Department contains total seventeen people. Almost all of them are lacking in the Generic Competencies. And fall under Level 1 i.e. **"Low"**. Regarding Specific Competencies this Department falls under Level 2 i.e. **"Moderate".** The Combined Average Score falls under Level 1 **"Low"** only because of more gap that existed in Generic Competencies.

Analysis of overall scores of the Generic and Specific Competency on all parameter shows training was needed more for Generic Competency as compared to Specific.

For any dynamic organization in today's competitive world competencies add as a competitive advantage for the organization. Hence this study which was focused on understanding the different competencies andthe gap that lie between the actual competencies were analyzed and also action plans for filling the gap was found out.

The overall productivity on different generic and specific competencies of the **Maintenance department** taken for the study were also analyzed to comprehend the level of competence in each department and also on each criteria's taken into consideration.

Hence it was recommended that the competency mapping can be implemented for the other departments as well, to get the overall level of the organization where it stands.

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