Abstract

Facing new challenges is necessary to reevaluate what set of knowledge, skills, and attitudes that professional needs in order to succeed in the rapidly changing global economy. Increasing the competitiveness of an enterprise’s workforce represents increasing its opportunities to be successful. To better understand international trade competencies, this section began by defining and grouping competency, followed by introducing the competency models, then discussing competency in Taiwan and the paradigm shift on competency. The purpose of the study is to identify the gap between the performances of the operators at various levels of employees. Individual employees in the foundry line, machine shop, fettling, maintenance and quality control operators’ job skills and personal skills are identified. Data were collected using the structured questionnaire comprised of 85 respondents. Analysis of the data is made using descriptive statistics, Sandler’s a-test and gap analysis.

1 Introduction

Today, International business has become a highly competitive environment as it continues to move towards globalization. Current trends in human resource management place emphasis on the development and application of the term competency, particularly the important role it plays in improving job performance, which in turn achieves heightened organizational competitiveness (Velde, 2001; Cardy & Selvarajan, 2006). Facing new challenges is necessary to reevaluate what set of knowledge, skills, and attitudes that professional needs in order to succeed in the rapidly changing global economy. Increasing the competitiveness of an enterprise’s workforce represents increasing its opportunities to be successful. To better understand international trade competencies, this section
began by defining and grouping competency, followed by introducing the competency models, then discussing competency in Taiwan and the paradigm shift on competency.

Performance is the mantra of today’s business organization. People with right abilities are able to perform better. Competencies are the set of such skills and abilities (technical as well as behavioural) which are required for desired level of performance. Right competencies are the key to superior performance. These days most of the business organizations are dealing with a problem of competency mapping, which is basically matching of capacity of an individual that leads to behaviour and the organizational/job requirement. Competency mapping is the process of designing a framework to identify competencies required for a job or role. The process of Competency mapping involves three steps; the first step is to develop competency models for competency profiling, second is to identify competency required to perform the job/role and thirdly assessing how much individuals possess these competencies for a given job/role.

2 Literature Review

A review of literature highlights the important role played by Competency Mapping in employee development and successful performance of organizations. Some studies have been undertaken in the past to study Competency Mapping in the Indian Organizations. Chankaya in his book “Arthashastra” has explained competency mapping models as early as 3000 years ago. But in the present times, McClelland [1973] pioneered Competency movement. In his study, he has presented data to show that traditional achievement and intelligence scores may not be able to predict Job Success and it is only the exact competencies required to perform a given job effectively and measuring them using a variety of tests, one can be sure about his profile. Katz [1994] in his study on Competency Mapping grouped competencies under three categories including Technical, Managerial and Behavioural (Human). Solomon [2013] in his study on Competency mapping has tried to explore the level of Competency prevailing among the executives of public sector. The results of the study show that nearly half of the respondents have moderate level of managerial HR and general competencies.

Quinn, Faerman, Thompson, and McGrath (1990) indicated that competencies were associated with knowledge and skills for implementing certain assignments or projects effectively. To be effective in a particular competency, one must be able to accomplish the desired results of a job with specific qualifications and personal attributes. Burgoyne (1993) employed a functional perspective to define a competency as how the goals of organizations were best achieved by improving members’ performance.

Yuvaraj [2011] has explained the Job Competencies required to work in a manufacturing industry, professionals for knowledge, ability and attitude. Gap analysis was also made to a limited extend. Md. Ishtiak Uddin, et. al. [2012] in his study “Competency Mapping: A Tool for HR Excellence” has explained various tools for implementing Competency Model including Job Analysis, Job Description, Job Specification, Competency Matrix, 360 degree Feedback etc. He is of the view that Competency mapping can also be used for coaching and succession planning, considering the significance of Competency Mapping for individual and organizational growth, the present study was undertaken. In this study, efforts have been made to elaborate the various competencies with minute parameters and to correlate them with the managerial competence level. A Competency is the capability of applying or using knowledge, skills, abilities, behaviours, and personal characteristics to successfully perform critical work tasks, specific functions, or operate in a given role or position. Personal characteristics may be mental/intellectual/cognitive, social/emotional/attitudinal, and physical/psychomotor attributes necessary to perform the job (Dubois, 1993; and Lucia &
Lepsinger, 1999). Boyatzis (1982) described competencies as underlying characteristic of an individual, which are causally related to effective job performance.

Hoffmann (1999) analyzed past literature and summarized three key points in defining a competency: (a) underlying qualification and attributes of a person, (b) observable behaviours, and (c) standard of individual performance outcomes.

3 Objectives Of The Study
- To map the competencies of the operators working in the organization
- To identify and overcome competency gap of the operators
- To identify the methods used to train the employees

4 Methodology
The research purpose and research questions revealed that this study is descriptive in nature and the study adopted survey strategy. Data was collected using a standard questionnaire. The sample size is 85 comprising of 28 from the foundry line department, 25 from the machine shop department, 14 from the fettling department, 14 from the maintenance department, and 4 from the quality control department (i.e. 50% from each department). The sampling method used in the study was stratified random sampling. The data like job descriptions and employees personal policies which are considered as the secondary data taken from the organization.

5 Analysis And Discussion

Demographic profile of the operators:

5.1 Educational qualification
1. In foundry line, 39% of the operators are SSLC.
2. In machine shop, 40% of the operators are SSLC.
3. In fettling, 36% of the operators are below 10th.
4. In maintenance, 43% of the operators are SSLC.
5. In quality control, 50% of the operators are SSLC.

The following are the findings regarding the performance of operators in the foundry line.

5.2 Job related skills
1. 82% of the operators are good in handling the machinery.
2. 75% of the operators are good in usage of raw material and process development.
3. 68% of the operators are good in supplier selection and development and quality techniques.
4. 61% of the operators are good in product allocation and planning and six sigma concept.
5. 79% of the operators are good in the manufacturing process.
6. 71% of the operators are good in the product development.
7. 54% of the operators are good in time and method planning and understanding and deploying strategy.
8. 71% of the operators are good in striving for superior results.
5.3 Personal skills

1. 86% of the operators are good in teamwork, adaptability and stress tolerance.
2. 61% of the operators are good in initiative, negotiation, innovation and taking responsibility.
3. 57% of the operators are good in interpersonal communication.
4. 82% of the operators are good in attitude, vision and direction and self-performance management.
5. 64% of the operators are good in problem solving and coaching others.
6. 68% of the operators are good in delegation.
7. 93% of the operators are good in contributing positively to organization culture.

The following are the findings regarding the performance of operators in the machine shop.

5.4 Job related skills

1. 88% of the operators are good in handling the machinery.
2. 76% of the operators are good in usage of raw material and product development.
3. 68% of the operators are good in supplier selection and development.
4. 72% of the operators are good in process development, quality techniques, understanding and deploying strategy and six sigma concept.
5. 60% of the operators are good in product allocation and planning.
6. 92% of the operators are good in manufacturing process.
7. 52% of the operators are average in time and method planning.
8. 56% of the operators are good in striving for superior results.

5.5 Personal skills

1. 72% of the operators are good in teamwork.
2. 64% of the operators are good in initiative, interpersonal communication and taking responsibility.
3. 84% of the operators are good in adaptability and stress tolerance.
4. 80% of the operators are good in attitude, problem solving and self-performance management.
5. 68% of the operators are good in negotiation.
6. 60% of the operators are good in innovation and delegation.
7. 56% of the operators are good in coaching others.
8. 92% of the operators are good in contributing positively to organization culture.
9. 88% of the operators are good in vision and direction.

The following are the findings regarding the performance of operators in the felting department.

5.6 Job related skills

1. 79% of the operators are good in handling the machinery, usage of raw material, process development and product development.
2. 57% of the operators are good in supplier selections and development, product allocation and planning and six sigma concepts.
3. 86% of the operators are good in manufacturing process.
4. 71% of the operators are good in quality techniques and understanding and deploying strategy.
5. 64% of the operators are good in time and method planning and striving for superior results.

5.7 Personal skills
1. 93% of the operators are good in team work and attitude.
2. 57% of the operators are good in initiative, interpersonal communication, delegation and coaching others.
3. 86% of the operators are good in adaptability, stress tolerance, and contributing positively to organization culture.
4. 64% of the operators are good in problem solving and taking responsibility.
5. 57% of the operators are average in negotiation.
6. 50% of the operators are good in innovation.
7. 71% of the operators are good in self-performance management.
8. 100% of the operators are good in vision and direction.

The following are the findings regarding the performance of operators in the maintenance department:

5.8 Job related skills
1. 100% of the operators are good in handling the machinery.
2. 93% of the operators are good in usage of raw materials.
3. 71% of the operators are good in supplier selection and development, manufacturing process, product development, understanding and deploying strategy.
4. 71% of the operators are good in supplier selections and development, manufacturing process, product development, understanding and deploying strategy and six sigma concept.
5. 79% of the operators are good in process development.
6. 64% of the operators are good in product allocation and planning and quality techniques and time and method planning.
7. 57% of the operators are in striving for superior results.

5.9 Personal skills
1. 71% of the operators are good in team work.
2. 57% of the operators are good in initiative, negotiation, taking responsibility.
3. 50% of the operators are good in interpersonal communication and innovation.
4. 79% of the operators are good in adaptability and self-performance management.
5. 86% of the operators are good in attitude.
6. 93% of the operators are good in stress tolerance, problem solving, vision and direction.
7. 64% of the operators are good in delegation and coaching others.
8. 100% of the operators are good in contributing positively to organisation culture.

The following are the findings regarding the performance of operators in the quality control department:

5.10 Job related skills
1. 75% of the operators are good in handling the machinery, usage of raw materials, process development, product development, manufacturing process, quality techniques, understanding and deploying strategy, six sigma concepts.
2. 50% of the operators are good in supplier selections and development, product allocations and planning, time and method planning, striving for superior results.
Personal skills:

1. 75% of the operators are good in team work, interpersonal communication, adaptability, attitude, problem solving and taking responsibility.
2. 50% of the operators are good in initiative negotiation, delegation, coaching others.
3. 100% of the operators are good in the stress tolerance, self-performance management, contributing positively to organization culture and vision and direction.

5.2 Using Sandler’s A-Test

Using Sandler’s A-test it is found that as overall performance concerned to respective departments such as foundry line, machine shop, fettling, maintenance, quality control operators are meeting the standard.

5.3 Gap Analysis For The Department Level Operators Compared With The Standard Score (75)

| FOUNDRY LINE WORKERS- 28 | JS | 30 | 32 | 34 | 39 | 33 | 25 | 30 | 32 | 30 | 35 | 35 | 26 | 35 | 34 | 34 | 38 | 38 | 25 | 28 | 36 | 35 | 29 | 36 | 34 | 33 | 35 | 35 |
|--------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                          | PS | 36 | 38 | 43 | 44 | 35 | 38 | 41 | 42 | 42 | 42 | 38 | 41 | 43 | 44 | 41 | 45 | 45 | 45 | 43 | 39 | 44 | 40 | 43 | 38 | 40 | 44 | 36 | 42 |
| -------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| MACHINE SHOP WORKERS – 25 | JS | 37 | 37 | 36 | 31 | 29 | 28 | 30 | 35 | 32 | 34 | 33 | 35 | 35 | 32 | 34 | 27 | 32 | 30 | 36 | 29 | 34 | 34 | 31 | 36 | 34 |   |
|                          | PS | 40 | 40 | 37 | 39 | 38 | 40 | 38 | 44 | 39 | 42 | 42 | 41 | 40 | 43 | 43 | 42 | 39 | 35 | 39 | 40 | 41 | 44 | 42 | 44 | 42 |   |
| FETTLING SHOP WORKERS- 14 | JS | 28 | 37 | 30 | 31 | 33 | 38 | 32 | 32 | 40 | 38 | 35 | 25 | 36 | 35 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|                          | PS | 36 | 45 | 37 | 41 | 40 | 45 | 45 | 37 | 43 | 42 | 39 | 41 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| MAINTANENCE WORKERS- 14  | JS | 29 | 31 | 30 | 36 | 36 | 27 | 35 | 33 | 36 | 34 | 31 | 34 | 36 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|                          | PS | 39 | 45 | 39 | 36 | 44 | 41 | 41 | 42 | 39 | 40 | 41 | 45 | 41 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |
| QUALITY CONTROL WORKERS- 4 | JS | 27 | 32 | 34 | 35 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|                          | PS | 38 | 38 | 43 | 44 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

HINTS:

JS – JOB SKILLS
PS – PERSONAL SKILLS

- It highlights that most of the foundry line operator’s educational status is below SSLC but their performance is good because of the experience and even it can be developed by providing good training.
- The operators in the machine shop are not meeting the standards because their educational status states that many of them are below SSLC where they can develop their skills by having certain year of experience and with some efficient training to handle the equipment efficiently. Few of them who have less years of experience are meeting the standards as they are from ITI and had their diploma and strengthened with theoretical and practical knowledge.
• The fettling operators are above the standards because their educational status infers that they are from ITI and diploma where they had a practical training and get them easy with the organization working. Few of the operators in this department are below the standards.

• The maintenance operators are meeting the standards since their educational status infers that they are below SSLC were they can enrich themselves by training and few of them are above the standards as they are from the ITI and they had a good practical exposure.

• The Quality control operators are meeting the standards and half of the operators are below standard since the educational status infers that most of the operators are below SSLC and SSLC and few of them are diploma graduates.

### 6 Suggestions

- To improve the job related skills, on the job training can be provided to the operators such as training by superiors, training by experienced workman.
- In case of fresher, apprenticeship training program can be provided through a combination of class room instruction and on the job training.
- To make the operators as expertise, job rotation and special assignment committee program can be organized.
- To develop the personal skills, training program can be organized, where trainers should be from outside to have an effective training program.
- To develop the interpersonal communication skills, informal get-togethers can be organized.

### 7 Conclusion

The study gives a clear impression about the key-factors like Identification of training needs, Conduction of training program, types of training, types of trainers, to develop internal trainers within the organization. Concerning the analysis of the operators there was a skill gap for most of the employees and if the competency mapping is followed in the regular basis, then the competency gap could be reduced by organization an effective training program which is actively and intimately connected with all the managerial activities. On implementing this process, performance of operators may be improved and it creates an impact on organization’s performance and development.

### 8 Reference

