

**The Development of a Model for Performance Improvement:
A Case Study of a Consumer Electronics Company**

by

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ABSTRACT

In today's turbulent economic environment, the management of organization must have a vision of efficient use of human resources. More and more companies or organizations by these days put more emphasis on the performance management, since it is highly related to the competitiveness of the companies or organizations. Furthermore, recruitment and selection process is fundamental to performance management. In accordance with the background of this study, the researcher aimed to explore the linkage between recruitment & selection and performance management, and then develop a model for performance management by following the performance improvement process and identify the factors affecting the performance, then provide the countermeasures for improving the performance. Semi-structured interview were conducted in this study to collect the in-depth data. The result of this study can provide a comprehensive model that can be applied to the in-house human resource management, especially in the recruitment & selection function and performance management.

Keywords: Recruitment & selection, performance management, performance appraisal, performance improvement

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CHAPTER I INTRODUCTION

This chapter introduces the background, statement of the problem, research purposes, and research questions, significance of the study and definitions of the terms. The background describes the imperative of research on the development of a model for performance improvement and the Taiwan-based Original Design Manufacturer (ODM) producing laptops, servers and mobile devices which was discussed as a case in this study. The problems of the existed studies about performance improvement and the significance of this study are both discussed in the following description. Moreover, the research purposes and questions are also addressed. The last but not the least, key terms of this study are defined.

Background of Study

To survive and compete successfully in today's turbulent economic environment, organizations require employees to be proactive, show initiative while engaging with their role and remain committed to performing at high standards (Bakker and Leiter, 2010). The reason I chose to address performance and to develop a model to improve it, from a strategic perspective is the fact that the management of organization must have a vision of efficient use of human resources. "Performance management", has been defined as "a strategic and integrated approach to delivering sustained success to organizations by improving the performance of the people who work in them and by developing the capabilities of teams and individual contributors" (Armstrong, 1998, p. 7). A firm's competitiveness depends on its capacity to manage performance and improve the development of the skills and competencies of employees (Adhikari, 2010). More and more companies or organizations by these days put more emphasis on the performance management, since it is highly related to the competitiveness of the companies or organizations. Rarely until recently was it realized that a firm's human resources and human capital are sources of competitive advantage (Huselid et al., 1997).

In human resource activities, performance appraisal plays an important role in the process. Performance appraisal reveals the gap between the expected goals and the recent progress, which will provides the resources for performance improvement. At the same time, it offers the input for employee development and the validation of selection. Although the exiting studies already

show the dissimilar points of views, there is still missing the discussion about the process of performance improvement. Performance improvement has been an important part of performance management after finding out the performances gaps from performance appraisal. According to ASTD (American Society for Training & Development) Models for Human Performance Improvement (HPI) that Rothwell (2000) published, there are six steps included in the human performance improvement process, and the whole process is seen as change management, this model is shown in Chapter 2 Literature Review in this study and there are more detailed discussions. What is missing in the ASTD model for HPI is that it doesn't show the evaluation of the results, but the plan-do-review-revise cycle (Atkinson, 2012) filled the gap of the evaluation results by continuously learning, which made up for the shortage from the ASTD HPI model.

In Taiwan, the ODM (Original Design Manufacturing) industry has been growing after year 2000; ODM provides the service with the concept of design, including industrial design and mechanism design. ODMs have grown in size in recent years and many are now sufficient in size to handle production for multiple clients, often providing a large portion of overall production. A primary attribute of this business model is that the ODM owns and/or designs in-house the products that are branded by the buying firm. Since the majority of the ODMs in Taiwan focuses on the electronic information products, this study collects information from one of the biggest Taiwan-based ODM consumer electronics companies.

This case-study consumer electronics Company is a Taiwan-based ODM producing laptops, servers and mobile devices. This company has major development and manufacturing facilities in China, and is one of China's largest exporters. The company opened its development center in China and its first manufacturing facility in Shanghai. In addition, the company has configuration and service centers in the United States, Europe and Mexico. The company has a work force of over 57,000 employees, including over 8,000 engineers.

This study aimed to develop a comprehensive model for performance improvement that includes the performance improvement process and the strategies for improving performance. By analyzing the data, this study will find out the relations between the background of employees before joining the company and their performance after they were hired, and the factors that can affect their in-service performance. In addition, this study will also show how the process of developing the learning map for performance improvement is.

Statement of the Problem

Many of the studies approach only the organizational performance (Koning, 2004), but for instance 98% of the subjects of a study consisting in executive managers of average and big companies have stated that improved performance of the employees would lead to an increased performance of the company. Numerous studies and statistical indicators (Campbell et al, 1998; Chen & Kuo, 2004) also demonstrates that the success and competitiveness of organizations depend largely on the professional performance of employees, and the ways to improve it should become a pressing and permanent concern, in a competitive market. Employees' performance improvement can be seen as the element of the competitiveness of the organizations, but the existed study didn't address too much on the process of performance improvement, or the comprehensive strategies for performance improvement.

In the past years, there were several studies mentioned the linkages between performance management and human resource functions. Singh, Sharma and Cheema (2011) stated in their research that performance measures also link information gathering and decision making processes which provide a basis for judging the effectiveness of personnel sub-divisions such as recruiting, selection, training and compensation. In the same study, they also put the emphasis on the linkage between the selection validation and performance appraisal that performance appraisal helps the supervisors to understand the validity and importance of the selection procedure. Even though the studies already provided the sketch of the relation between performance management and recruitment & selection, there is still missing the detailed knowledge about how the academic and professional background is related to employees' performance and how the human resources area in companies can optimize their selection processes based on that information.

The problems found in the existed studies are the basis of the framework for this study, and also provide the root for the questions of this study.

Purpose of the study

This study attempted to understand the relations between the background of the workers before coming in to the company and their performance after they were hired. Develop a model for performance improvement by following the performance improvement process and identify the factors that can affect the performance, and then provide the countermeasures for improving the performance. It tries to provide a comprehensive model that can be applied to the in-house human resource management, especially in the recruitment & selection function and performance management. To better develop the model for performance improvement, this study will identify the factors affecting the performance by analyzing the performance data collected from the Taiwan-based ODM case used in this study, and then comes up with performance improvement plans that would be discussed. With the data collected from this case and interviews conducted, the framework would be provided in the following research content.

Questions of the Study

On the basis of the research purpose mentioned above, this study aims to answer the questions below after the development of the model for performance improvement:

1. Do the employees' educational levels, the IQ test results and English proficiency test results that they took when applying for the job positions, affect the employees' performance after they were hired?
2. How can employees' previous performance in schools affect their performance at work?
3. How can the orientation training for the employee affect their performance at work?
4. How can on-the-job training that the employees received affect their performance at work?
5. How can the organizational communication affect the employees' performance at work?
6. How can the performance appraisal affect the employees' performance at work?
7. How can the company improve the employees' performance?

Significance of the Study

This paper aims to explore the linkage between recruitment & selection and performance management, and then develop a model for performance management. Since recruitment and selection process is fundamental to performance management, and performance appraisal can show the employees are capable of performing the position's tasks and responsibilities. If we can find out the relations between the background information of the employees and their performance in the company, and track back to the training and experiences in the company to see what the factors affecting the performance are, in this case the human resource department, especially the recruitment & selection or staffing department, can be more effective in choosing the appropriate candidates for the positions. For the human resource development department, they could design different and more effective training for the employees. Furthermore, the findings from this study can give the HR practitioners a clearer picture when dealing with employees' performance in not only human resource management area but also human resource development, to increase the effectiveness of performance improvement.

Delimitations and Limitations

This study focused on the employees' performance in ODM industry in Taiwan, especially this study is case study from a consumer electronics company. Therefore, the research delimitations and limitations were as below.

Firstly, this study was delimited to ODM industry in Taiwan and was a case study from a consumer electronics company, this research might have potential limitations to apply to other industries and other specific companies.

Secondly, this study is case study research from a Taiwan-based company. The research findings might be limited to Taiwanese experience. Furthermore, subjects of this research do not represent the general scenario of the performance management process in Taiwan.

Definition of Terms

In order to have deeper understanding of the terms used in this study, key terms are being clarified as followings.

IQ Test

In this study, the IQ test indicated to the IQ test taken in the recruitment & selection process in this case, a consumer electronics company. There are totally 40 questions in this IQ test, and the full scores for the IQ test are 100.

English Proficiency Test

In this study, the English proficiency test indicated to the English exam taken in the recruitment & selection process in this case, a consumer electronics company. It is very similar to TOEIC (Test of English for International Communication), including listening test and reading test. The full scores are 990.

Orientation Training

Orientation training is the training designed for the new employees to adapt into the new organization. Schwarz and Weslowski (1995) stated that there should be three dimensions for the content of orientation training: organizational information, department-level information and all kinds of other questions. In this case study, the orientation training included the introduction of the company and all kinds of regulations, and some activities designed for understanding the organizational culture.

On-the-Job Training

In this research, on-the-job training included internal training and external training. Internal training consisted of technical training courses, soft-skills training courses and language training courses.

In-service Performance

In-service performance indicated to the employees' performance when they were working in the company.

Organizational Communication

Organizational communication means the communication in the organization, including the communication with supervisors or managers and the communication with colleagues.

Performance Appraisal

Performance appraisal is a formal structured system of measuring and evaluating an employee's job related behaviors and outcomes to discover how and why the employee is presently performing on the job and how the employee can perform more effectively in the future so that the employee organization and society all benefit (Singh, Sharma & Cheema, 2011).

Performance Improvement

Performance improvement is a systematic process of discovering and analyzing important performance gaps, planning for future improvements in employees' performance, designing and developing cost-effective and ethically justifiable interventions to close performance gaps, implementing the interventions, and evaluating the financial and non-financial results.

CHAPTER II LITERATURE REVIEW

In this chapter, the study reviews literature about theories of performance appraisal, performance appraisal criteria, performance improvement and “recruitment & selection” & “performance management”. More specifically, each term is defined accordingly and summaries are also given at the end of each section.

Performance Appraisal

Performance appraisal is considered as one of several key elements of performance management. In the past decades, many different definitions of performance appraisal were discussed. Cardy and Dobbins (1994) define performance appraisal as the process of identifying, observing, measuring and developing human resources in organizations. Latham and Wexley (1981) focused more on the link between supervisor and subordinate, and said that performance appraisal is a set of structured formal interactions between a subordinate and a supervisor, usually in the form of a periodic interview, in which the performance of the subordinate is reviewed and discussed, with an emphasis on identifying weaknesses and strengths as well as opportunities for performance improvement and skill development (Latham and Wexley, 1981). Latham and Wexley brought out the importance of performance appraisal to performance improvement and human resource development. Performance appraisal is the analysis of an employee's recent successes and failures, personal strengths and weaknesses, and suitability for promotion or further training (Singh, Sharma & Cheema, 2011).

Logger & Vinke and Schuler also addressed the importance of performance appraisal from another perspective. A performance appraisal is also important to employees in material terms (Logger & Vinke, 1995, p. 261) and it guides managerial career development, future promotion decisions and compensation adjustments (Schuler et al., 2002). Holbrook (2002) claims that performance appraisal is important to set performance goals, solve performance problems and administer rewards, disciplinary issues and dismissals. More specifically, performance appraisal can be used for numerous purposes including: reward; discipline; coaching; counseling; negotiating improvements in performance; improving the work environment; raising morale; clarifying expectations and duties; improving upward and downward communications;

reinforcing management control; helping validate selection decisions; providing information to support HR activities; identifying development opportunities; improving perceptions of organizational goals; and selecting people for promotion and redundancy (Wilson & Western, 2000). In Singh, Sharma and Cheema's study, performance appraisal is a formal structured system of measuring and evaluating an employee's job related behaviors and outcomes to discover how and why the employee is presently performing on the job and how the employee can perform more effectively in the future so that the employee organization and society all benefit (Singh, Sharma & Cheema, 2011). In the study of Saini and Rajpoot in 2013, "Performance Appraisal is the Key to High Performance", they also claimed the following statement about the importance of performance appraisal to the organizations:

Performance appraisal is an unavoidable element of organizational life. Performance appraisal is an influential tool that organizations have to organize and coordinate the power of every employee of the organization towards the achievement of its strategic goals. It can focus each employee's mind on the organization's mission, vision and core values.
(Saini & Rajpoot, 2013)

In a highly competitive environment, human resource management (HRM) has become a strategic imperative tool for most organizations, at a minimum long-term total cost. Performance appraisal is seen as one of the most critical of HRM tools (Ratzburg, 2008). Performance appraisal is the process used to determine how an employee is performing in their job, and communicates the information back to the employee. It provides input for the training and development needs of employees. Further, it provides input for the validation of selection procedures and human resource planning (Riggio, 2003). Performance appraisal can be used as promotion rotations, training & development needs analysis and to judge the reliability and validity of the tools of recruitment & selection.

In general, performance appraisal is concerned with the assessment of three areas: results, behaviors, and personal characteristics. Each of these dictates a specific type of appraisal format based on competency- or job-related behavior (Scheneier et al., 1986). The following figure shows the process of performance appraisal:

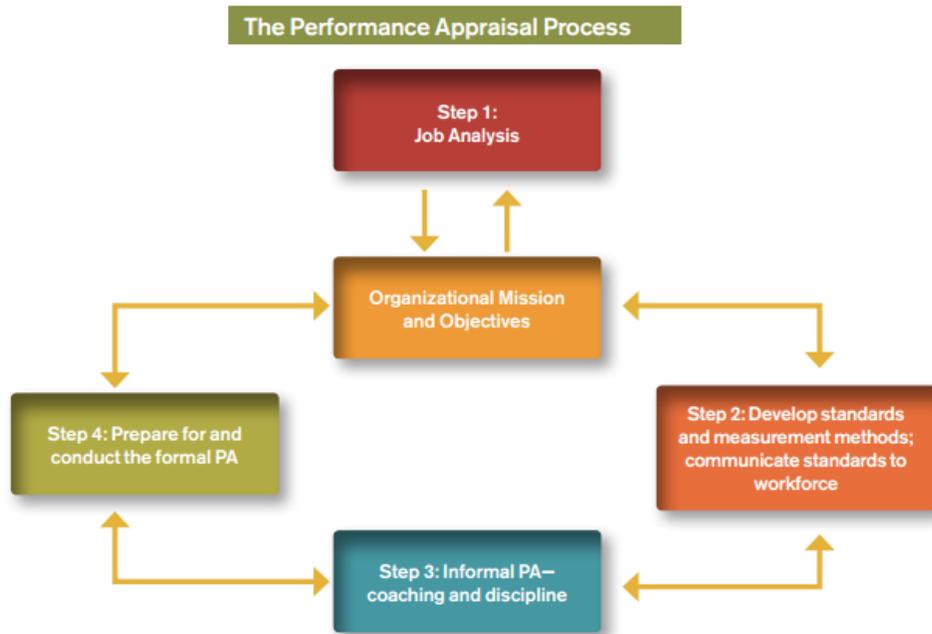


Figure 2.1. The Performance Appraisal Process. Adapted from https://www.sagepub.com/upm-data/45674_8.pdf

Performance appraisal systems are also employed to achieve five primary goals (Mathis & Jackson, 1998) that include:

- (1) *clarifying employee work expectations;*
- (2) *documenting employee performance;*
- (3) *fostering employee development;*
- (4) *creating a linkage between merit and pay; and,*
- (5) *monitoring workforce improvement*

Summary

In this session, the importance of performance appraisal was diversely discussed in different researches and studies. In the early 1990s, performance appraisal was only seen as the process of identifying, observing, measuring and developing human resources in organizations (Cardy & Dobbins, 1994). The latest point of view toward performance appraisal focused more on the organizational side, by saying that performance appraisal can help employees to focus their minds on the organization's mission and value.

In the human resource activities, performance appraisal plays an important role in the process. Performance appraisal reveals the gap between the expected goals and the recent progress, which will provides the resources for performance improvement. At the same time, it offers the input for employee development and the validation of selection. Although the exiting studies already show the dissimilar points of views, there is still missing the discussion about the process of performance appraisal.

Performance Appraisal Criteria

The criteria employers use to evaluate job performance vary according to occupation, position, department and organizational goals, past performance and performance standards. The type of performance appraisal might also dictate what criteria managers use when they evaluate an employee's performance. Basic criteria for evaluating job performance include performance standards, skills and competency, goal-setting and professional development and overall adherence to the company's philosophical principles concerning business and work ethic.

During the performance appraisal process, different criteria and elements are evaluated. Those include the achieved results and goals, skills and abilities, job-related behaviors, personal characteristics and things that are under the employees' control (Palaiologos, Papazekos & Panayotopoulou, 2011).

According to Gregersen et al. (1996) and Dowling et al. (1999), performance appraisal criteria should include the following three major aspects:

- (1) Hard goals are objective, quantifiable, and can be directly measured as return-on-investment (ROI), market share, and so on.*
- (2) Soft goals tend to be relationship- or trait-based, such as leadership style or interpersonal skills.*
- (3) Contextual goals attempt to take into consideration factors that result from the situation in which performance occurs.*

Logger and Vinke (1995) propose more detailed criteria of appraisal and state that a combination of criteria may be used, depending on the employee's job description, and detailed criteria are sometimes less strictly applied. Paauwe and Dewe (1995) suggest that criteria of assessment should be accessible, easy to understand, equitable and motivating for every manager,

regardless of nationality and cultural background. Goal-setting theory suggests that appraisal criteria and performance goals should be clear and understandable so as to motivate the appraisee, otherwise the appraisee would not know what to work towards (Locke & Latham, 2002). Another study, performed by Viswesvaran, Schmidt, and Ones (2002), derived several dimensions of job performance out of numerous measures that they extracted from previously published articles. These were: overall job performance, quality, productivity, motivation, interpersonal competence, administrative competence, job knowledge, communication competence, leadership, and acceptance of (or compliance with) authority.

The importance of accurate performance criteria for performance appraisal was also addressed in the past studies. Boice and Kleiner in the study “Designing effective performance appraisal systems” said that if the system does not provide the linkage between employee performance and organizational goals, it is bound to be less than completely effective. To build linkages employees must have individualized objectives and performance criteria which allow them to relate directly to the organization (Boice & Kleiner, 1997). Debora and Bryan also supported that organizations need to have a systematic framework to ensure that performance appraisal is “fair” and “consistent”, and that the system should provide a link between employee performance and organizational goals through individualized objectives and performance criteria (Deborah & Brian, 1997).

Summary

Accurate criteria for performance appraisal can also affect the result. Goal-setting theory is applied to support the statement that the goals should be clear and understandable to motivate the employees to work forward. Criteria for appraisal not only have to be accessible but also attached with the organizational goals and individualized objectives of employees. Though the criteria vary from different job positions, the general criteria can include the following elements: the achieved results and goals, skills and abilities, job-related behaviors, personal characteristics and things that are under the employees’ control.

Performance Improvement

Performance improvement is considered the concept of measuring the output of a particular process or procedure, then modifying the process or procedure to increase the output, increase efficiency, or increase the effectiveness of the process or procedure. In 2012, Rothwell, Hohne and King mentioned in the book “Human performance improvement” that the goal in today’s dynamic organization is achieving results- and thereby improving performance (Rothwell, Hohne & King, 2012). Earlier, Rothwell (2000) mentioned the definition of “human performance improvement”:

Human performance improvement is “a systematic process of discovering and analyzing important human performance gaps, planning for future improvements in human performance, designing and developing cost-effective and ethically justifiable interventions to close performance gaps, implementing the interventions, and evaluating the financial and non-financial results.” (p.16)

In 1999, Rothwell already published a study with the ASTD (American Society for Training & Development) Models for Human Performance Improvement(HPI), this model includes a six-step HPI process model, which was derived from many sources and confirmed through an expert-based research study. The following model (Figure 2.2.), ASTD HPI model, shows the process of human performance improvement. From Rothwell’s viewpoint, the whole model of human performance improvement is seen as change management. There are five critical parts for the improvement cycle: performance analysis, cause analysis, solution selection, solution implementation, and evaluation results. In this study, this HPI model will be the base for the development for a model for performance improvement.

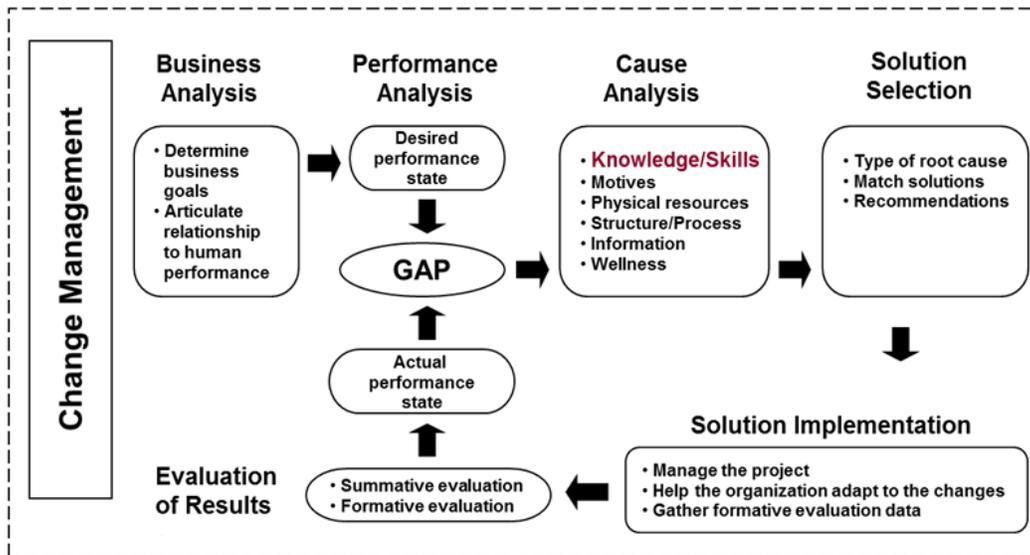


Figure 2.2. ASTD Human Performance Improvement Process Model. Adapted from “ASTD models for human performance improvement: Roles, competencies, and outputs”, by W.J. Rothwell, 1999, *American Society for Training and Development*, P.16. Copyright 1999 by American Society for Training and Development.

Other than Rothwell, Schultz(2007) also mentioned about the performance improvement steps:

Table 2.1.

Performance improvement: The Means to Process Improvement.

Performance Improvement Steps
1. Define goals and performance expectations
2. Identify the performance gap, including its sources and causes
3. Develop solutions that address causes
4. Plan a corrective action
5. Empower individuals to take responsibility and action for improvement
6. Create opportunities for small, meaningful accomplishments
7. Expand accomplishments and complete unfinished change activities
8. Reinforce the new approach

Source. Adapted from “*Performance Improvement*”, by Schultz, J. R. (2007). *Performance Improvement*, 46(7), 27-32.

Table 2.1. illustrates how these steps for performance improvement are integrated into the process improvement framework. The performance improvement steps that follow define an approach that on its own can be used to bring about change; when it is applied in conjunction with process change, it ensures desired behavioral adjustments and improvement outcomes.

The importance of performance improvement is also addressed in the past studies. Numerous studies and statistical indicators (Campbell et al, 1998; Chen & Kuo, 2004) demonstrates that the success and competitiveness of organizations depend largely on the professional performance of employees, and the ways to improve it should become a pressing and permanent concern, in a competitive market. In the research, “Performance Improvement Strategies Used by Managers in the Private Sector”(Patricia & Leonina-Emilia, 2013), Figure 2.3. is a model concerning the strategies for improving employees’ performances. In the model, human resource management strategy should be the integration of business strategy, internal and external environment. And then, the strategies for improving employees’ performances will follow the strategy of human resource management to develop different dimensions for improving performance.

The performance-improvement specialist Bill Evans (2004) also mentioned in one of his paper about “What exactly is meant by performance improvement?” A performance improvement project is a related group of tasks resulting in measurable improvement in at least one part of the organization such a project may address performance gaps at levels ranging from key individuals and teams up to and including the entire organization. The performance improvement plays an important role in performance management. The figure shown below, Figure 2.4., brings out the whole picture of the continuous improvement and learning.

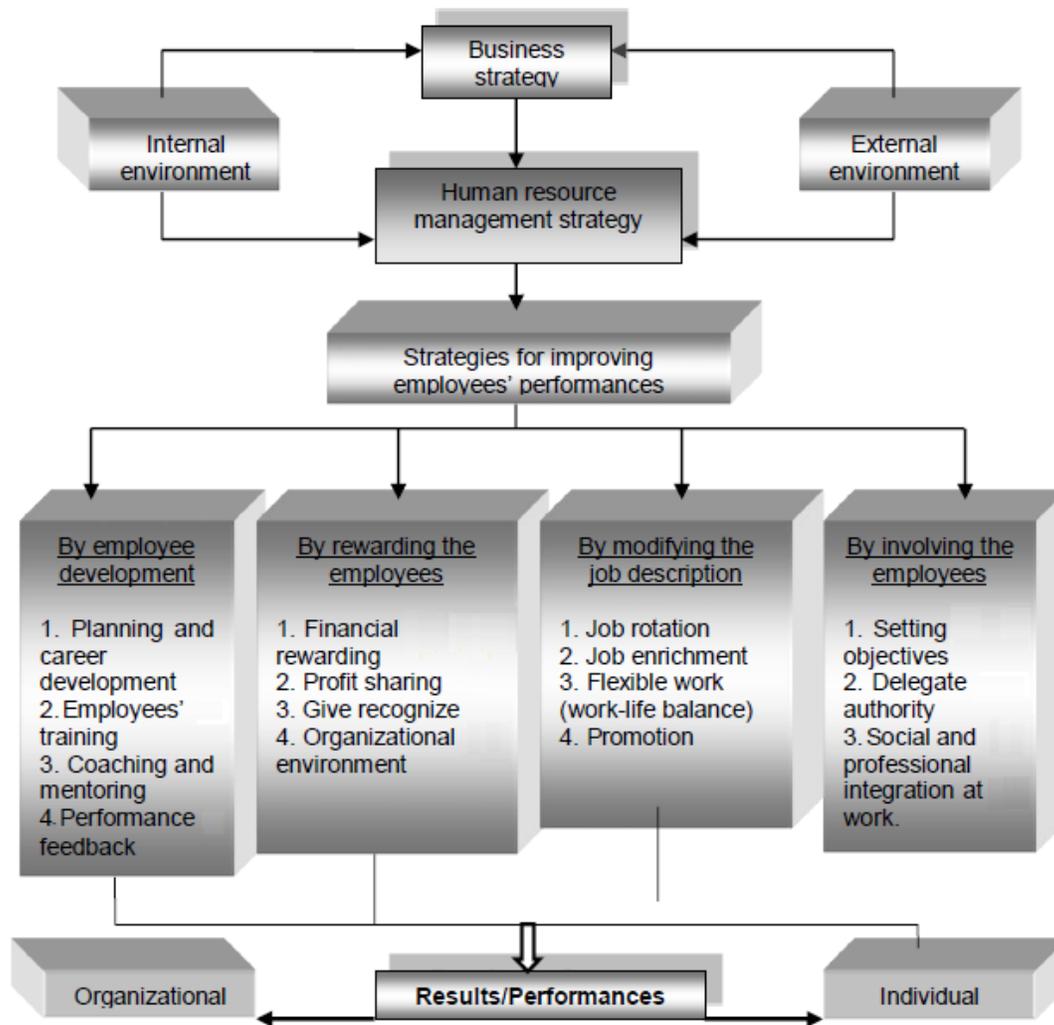


Figure 2.3. Strategies for Improving Employees' Performance. Adapted from "Performance Improvement Strategies Used By Managers In The Private Sector", by Patricia & Leonina-Emilia, 2013, *Annals of Faculty of Economics*,1(1), 1613-1624.

The framework follows the plan-do-review-revise cycle (Atkinson, 2012) as each phase of this cycle lies at the heart of performance management. The cycle integrates planning, action and monitoring of performance to ensure continuous improvement, the achievement of objectives and systematic learning about what works and what needs to be changed. In the center of the cycle, there is "continuous improvement & learning", it shows that continuous learning also plays an important role in the whole cycle of the improvement process.

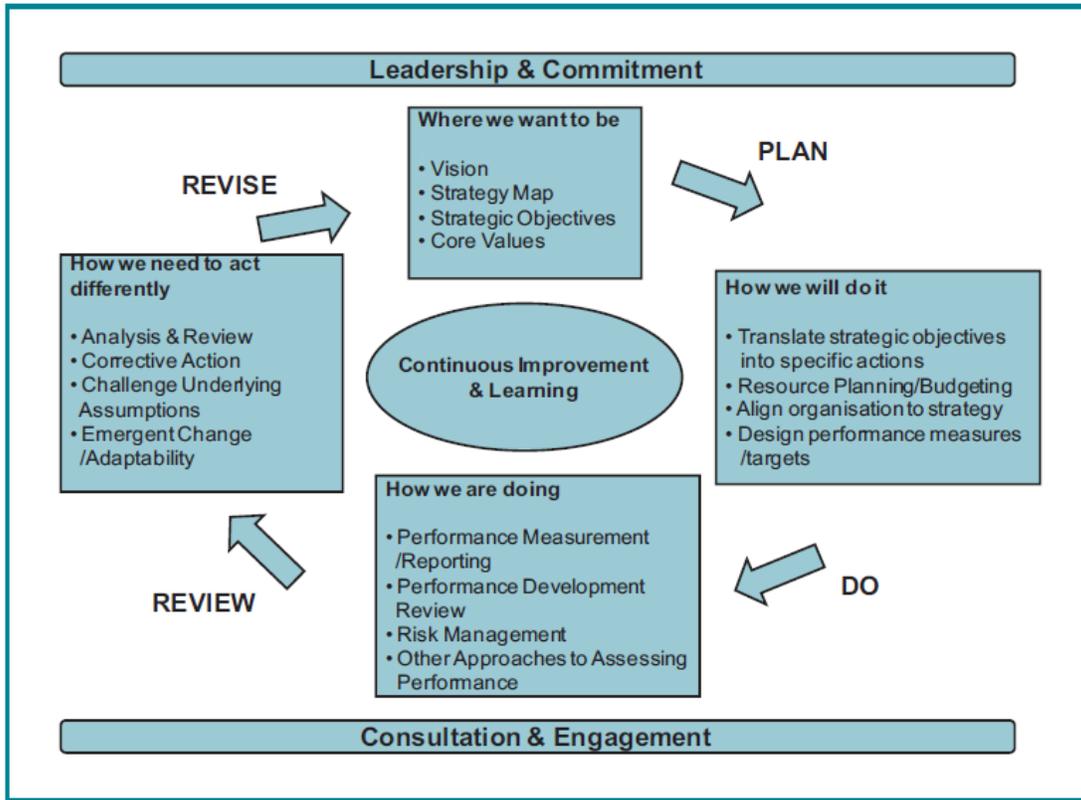


Figure 2.4. Continuous Improvement & Learning. Adapted from “A Manager’s Guide to Performance Management 2nd ed.”, by Audit Commission and the Improvement and Development Agency, 2010. Available at: www.idea.gov.uk/idk/aio/4810918 (accessed 10 September 2010).

Summary

The ASTD human performance improvement model and the plan-do-review-revise cycle are both critical for this study to develop a model for performance improvement. The ASTD human performance improvement model gave a clearer picture about the process of implementing performance improvement, but it didn’t show the evaluation of the results. The plan-do-review-revise cycle filled the gap of the evaluation results by continuously learning, which made up for the shortage from the ASTD HPI model. The concept of the model and the cycle are both applied in this study.

Recruitment & Selection & Performance Management

Recruitment and selection process is fundamental to performance management. Employers recruit and hire candidates who show they are capable of performing the position's tasks and responsibilities. Job performance evaluations then measure the competency and skill an employee demonstrates in performing her assigned tasks. Performance management is a critical aspect of organizational effectiveness (Cardy, 2004). Performance measures also link information gathering and decision making processes which provide a basis for judging the effectiveness of personnel sub-divisions such as recruiting, selection, training and compensation (Singh, Sharma & Cheema, 2011).

Singh, Sharma and Cheema. (2011) in the same study also discussed the linkage between the selection validation and performance appraisal:

Performance Appraisal helps the supervisors to understand the validity and importance of the selection procedure. The supervisors come to know the validity and thereby the strengths and weaknesses of selection procedure. Future changes in selection methods can be made in this regard.

(Singh, Sharma & Cheema, 2011)

Earlier, Huselid also mentioned the linkage between recruitment & selection and performance management, but in the context with selective staffing techniques and greater productivity. Huselid (1995) pointed to the fact that investments in HR activities, such as incentive compensation, selective staffing techniques and employee participation, result in lower turnover, greater productivity and increased organizational performance through their impact on employee skill development and motivation.

If the organizations want to improve the employees' performance, giving feedback to the recruitment & selection department is very important; in that case, the recruitment & selection department would have clear ideas what the desired behaviors for the organization. In terms of performance appraisal, if firms want to elicit desired behaviors from employees, they must provide feedback and incentives that reinforce the desired behaviors (Collins and Clark, 2003).

Summary

As a result of the literature reviews, performance appraisal plays an important part in the process of performance management, and the result from performance appraisal helps to validate the information from selection. The linkage between recruitment & selection and performance management is used as a basis of this study to develop the model for performance improvement.

CHAPTER III RESEARCH METHODS

This chapter contains the research approach, research framework, research procedure, research participants, data collection and data analysis. This chapter explains the research framework and the research approach applied in this study to answer the questions for this study, and also explains how the data was collected and analyzed.

Research Approach

The purposes of this study aim to the relations between the background of workers before joining the company and their performance, find out the factors affecting their performance, and then develop a model for performance improvement and also provide the countermeasures for improving the performance gaps. In accordance with the research purposes mentioned above, the case-study research method was used in this research.

The research adopted a qualitative research method. Since the research put specifically emphasis on the case company from consumer electronics industry, the case-study approach was applied to answer the research questions. The case-study approach is typically used to answer the questions like “how” or “why” and also can gain more in-depth findings in real-life context (Yin, 2009); Yeh (2001) concluded that the purposes of applying case-study research method are:

1. *Identify the causes of the problems*
2. *Propose the solutions for the problems*
3. *Provide preventive measures*
4. *Help to fully develop the potential of the case*
5. *Enhance the performance of the organization*

Besides, the case-study research approach is also well-known for the diversity in data collection and the types of data; there can be observations, interviews, and document review. Based on the characteristics of the case-study research approach, it was applied in this study by reviewing the documents provided by a consumer electronics Company and semi-structured interviews designed to obtain more detailed information from the HR practitioners in the this Company.

In order to find out the relations between the background of workers before joining the company and their performance, the research collected the data from the Human Resource department in the company to review the how their performance changed in the past four years. The data collected from the HR department included the basic information about the employees and their performance evaluation results from 2010 to 2013.

The in-depth and semi-structured interviews were conducted to collect the data for this research. Each interview conducted by the researcher lasted for 30 minutes, and the guidelines for the interview were provided to the interviewee before the interview. In-depth interviews allow the researcher to understand the interviewees' real opinions and thoughts. Semi-structured interviews were designed to prevent misleading the direction of the interviews.

Research Framework

According to the purposes of this study and the literature review, the research framework was formed as Figure 3.1. The first part of the framework contains four parts of information: performance in schools, educational levels, IQ tests result, English proficiency test results. Educational levels, IQ test results and English proficiency test results were the information from the recruitment department, in order to find out the correlations between the employees background information and their performance in service. In order to find out the factors that can affect the performance and how to improve performance, performance in schools, orientation training, and on-the-job training were discussed.

After data collection, the researcher categorized the consolidated the results from the interviews, and then generalized the data into conclusions. Finally, the research developed a model for performance improvement model based on the findings.

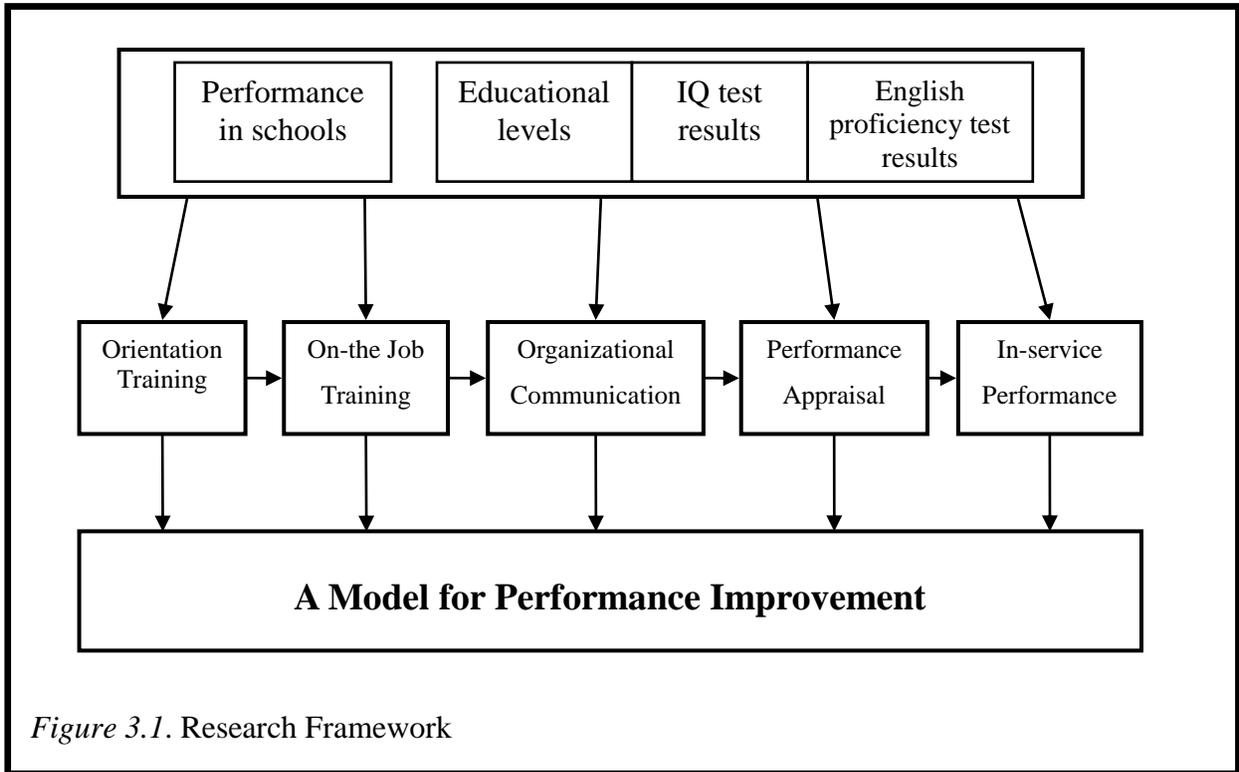


Figure 3.1. Research Framework

Research Procedure

The researcher followed the research procedure shown in the Figure 3.2., and after searching the direction of topic by literature review, confirmed the topic for the thesis; thus, helped by experts, decided the research method, and reviewed existing relevant literature for finding the gaps and more valuable information for the study; then, helped by experts, set the research framework, research purpose and research questions for the study. The next step followed by the researcher was to collect data from the case company, and helped by experts and colleagues designed the questionnaire, posteriorly conducted the interviews; and after transcribing the data, the author was able to analyze the information collected, to provide research findings, and to purpose conclusions and recommendations.

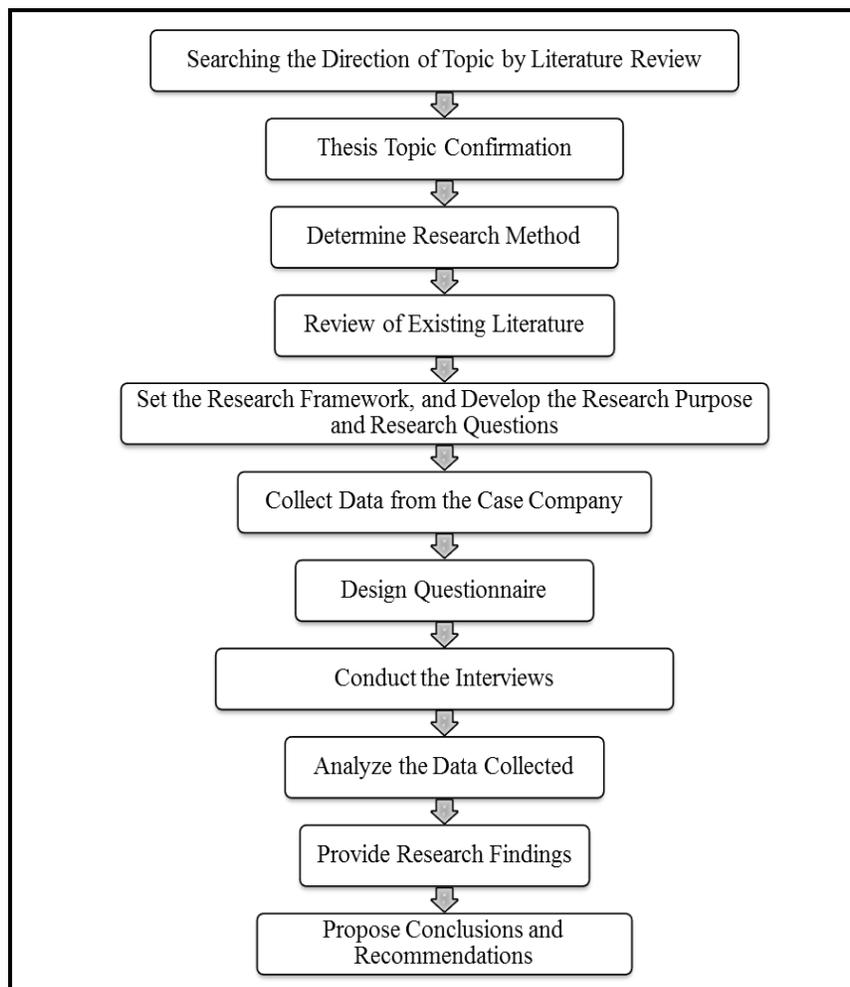


Figure 3.2. Research Procedure

Research Participants

This research conducted interviews with the interviewees come from different departments in the consumer electronics Company, there were 33 engineers from different functions in the company, such as industrial design and mechanical design engineering. In order to be granted access to potential respondents, the researcher agreed not to disclose the name of the company. The research selected 33 participants with or without administrative positions though purposive sampling. In order to get the critical information and make the research process effectively, the interviewees were asked to have sufficient understanding in the process of performance appraisal and the training courses provided by the company. Therefore, the interviewees from the selected department accorded with the following two criteria. (The detailed background information of these 33 engineers was presented in table 3.2.)

1. Interviewees who started working in this consumer electronics company since 2010. Since the researcher had to have four years performance evaluation results to track the change of their performance, the interviewee had to be hired and started working in 2010.
2. Interviewees need to have the experiences of taking the training programs or courses provided by this company, including the orientation training and on-the-job training.

The 33 engineers were divided into two groups: the superior performance group and the normal performance group; twelve of them were chosen to be the interviewees for in-depth interviews. Six of them were from the superior performance group and the other six engineers were from the normal performance group. The following contents and table 3.1., are the background information of these 12 interviewees. A1 to A6 are from the superior performance group and B1 to B6 are from the normal performance group.

Table 3.1.
Background Information of the 12 Selected Interviewees

	Department	Highest Degree for education	Performance evaluation result for 2010	Performance evaluation result for 2011	Performance evaluation result for 2012	Performance evaluation result for 2013
A1	Thermal design	Master	2	2	2	2
A2	Quality control	Master	2	2	2	2
A3	Industrial design	Master	3	2	2	1
A4	Industrial design	Master	3	1	2	2
A5	Mechanical engineering	Master	1	2	2	3
A6	Mechanical design	Bachelor	1	2	2	3
B1	Safety control	Bachelor	3	1	3	3
B2	Quality control	Bachelor	3	3	3	3
B3	Mechanical engineering	Master	3	4	3	3
B4	Thermal design	Bachelor	3	3	3	3
B5	Thermal design	Master	3	3	3	1
B6	System development	Master	3	3	3	3

Table 3.2.

Background Information of the 33 Engineers Selected for this Research

Sample	English proficiency test	Highest Degree for education	Internal English proficiency test	Performance evaluation result for 2010	Performance evaluation result for 2011	Performance evaluation result for 2012	Performance evaluation result for 2013
1	825	Master	Passed	3	3	2	3
2	850	Master	Passed	3	2	2	1
3	430	Bachelor		2	2	2	3
4	450	Bachelor		3	1	3	3
5	430	Master		3	4	3	3
6	590	Bachelor		3	3	3	Resignation
7	510	Bachelor		3	2	4	3
8	510	Bachelor		3	3	3	3
9	710	Bachelor	Passed	3	2	3	3
10	590	Bachelor		1	3	2	2
11	610	Bachelor	Passed	3	3	3	2
12	710	Master	Passed	2	2	2	2
13	670	Master		3	3	3	3
14	910	Bachelor	Passed	2	3	3	1
15	530	Bachelor		3	1	2	3
16	410	Bachelor		2	2	1	2
17	530	Master		3	3	3	1
18	450	Bachelor		3	2	2	2
19	670	Bachelor		3	3	1	3
20	895	Master	Passed	3	2	1	2
21	570	Master		2	2	3	2
22	290	Bachelor		3	2	3	2
23	850	Master	Passed	3	1	2	2
24	790	Bachelor	Passed	3	2	2	4
25	630	Bachelor		3	3	3	3
26	530	Master	Passed	3	3	3	3
27	730	Master		3	3	3	2
28	490	Bachelor		2	3	3	3
29	970	Master	Passed	3	2	3	3
30	690	Master	Passed	2	2	2	2
31	670	Bachelor	Passed	3	1	2	2
32	570	Bachelor		3	3	3	2
33	610	Bachelor		1	2	2	3

Data Collections

This study collected data from HR department and also from semi-structured interviews. Since this study was required to have the data from recruitment & selection and the employees' performance, the researcher asked the relative information from the in-house HR practitioners, so the researcher could analyze the data and give a sketchy picture for the semi-structured interviews.

Data from the Human Resource department

Since this study aimed to find the correlations between the recruitment & selection and employees' performance, and also find out the factors that can affect the performance, it was required to collect specific data from the HR department so that the researcher could analyze. The data needed for this study would be the basic profile of the employees when they provided during the hiring process and the detailed performance data after appraisal and the engineers' performance evaluation results from 2010 to 2013. The data collected included the educational background provided from their resumes, the IQ test scores and English proficiency test scores they got when applying for the job positions and the result of their year-end performance evaluation from 2010 to 2013. Since the IQ test and the English proficiency test were required in the selection process as the indicators for evaluating the candidates who applied for the job positions, the results of the IQ test and the English proficiency test were collected.

The full scores for the IQ test were 100; the full scores for the English proficiency test were 990, which was very similar to TOEIC (Test of English for International Communication), including listening test and reading test. There were four levels for the results of performance evaluation, from level 1 to level 4, like the table shown below (table 3.3.).

Table 3.3.
Levels for Performance Evaluation Results

Level	Explanations for the performance evaluation levels
1	Outstanding performance
2	Fully achieves and occasionally exceeds expectations
3	Almost achieves expectations
4	Rarely achieves expectations

Interview

In order to get more in-depth information than just numbers, the semi-structured interviews would be conducted. Before the interview, the researcher would make sure that the interviewees receive the outline of the interview so they could have better idea about what kind of topic and issues would be discussed. The interview outline would be developed in accordance with the literature review and research questions, and then invited two experts who have doctor degrees and rich experiences in qualitative research to check the rationality of interview questions.

During the interview, all contents were recorded after the permission of the interviewees. After each interview, the records were transcribed to verbatim scripts. All the interviews were conducted from March to May in 2014. The interviews questions are presented in Appendix A.

Data Analysis

In accordance with data collections, there were two ways of analyzing the data because of the difference between two approaches of collecting. The data collected from HR department were the basic profile of the employees when they provided during the hiring process and the detailed performance data after performance evaluation. In order to find the relationships between different variables, to see whether the relationship is positive or negative and the strength of the relationship, document review was applied to achieve the research purposes and answer the research questions.

Another approach applied to analyze the data in this research was categorizing analysis. In the process of analyzing the data collected from the interviews, researcher first would draw the important concepts from transcripts and then categorized them into different categories which belong to different research topics. Finally, the findings and discussion would be written based on literature reviews and the coding system. The following figure 3.3., shows the categorizing analysis process. The example of the coding process is presented in Appendix B.

In order to enhance the reliability and validity of the data collection and the data analysis, the research followed some steps in the research process. First, the guideline of the interview and the skills were discussed by advisor and researcher before the interviews were conducted. Second, the researcher kept discussing with advisor and experts in human resource to make sure that the research was not biased by the researcher's own perception or opinions.

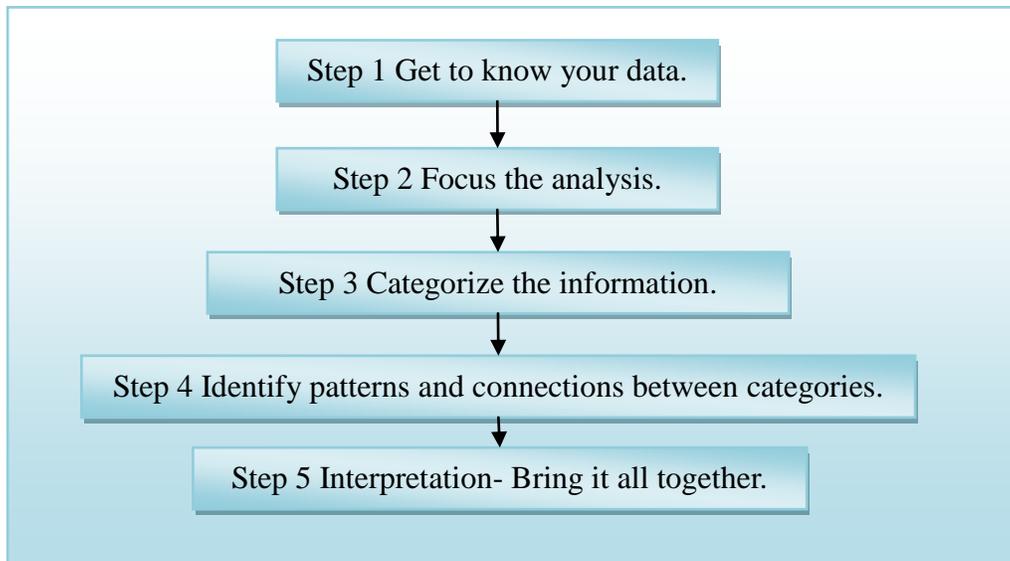


Figure 3.3. The categorizing analysis process. Adapted from “Analyzing Qualitative Data”, by Renner, M., 2003.

CHAPTER IV FINDINGS AND DISCUSSIONS

In this chapter, the findings from the quantitative and qualitative data would be discussed. Since the case-study approach was applied in this research, the data collected included two parts: quantitative and qualitative. The first part of this chapter would show the findings and discussions from the analysis of the document review, and the second part would be about the qualitative data, which were the interviews.

Educational Levels, IQ Test Results, and English Proficiency Test Results

In order to find out the correlations between the background information from the engineers and their performance when they were in service, there were three quantitative questions to be answered. The background information included the educational levels of the engineers, the IQ test results and English proficiency test results. Both the IQ test and the English proficiency test were taken in the process of recruitment and selection. In accordance with the questions of this study, the three questions were:

1. Do the employees' educational levels have relation with the employees' performance when they are in service?
2. Do the employees' IQ test results that they had when applying for the job positions have relation with the employees' performance when they are in service?
3. Do the employees' English proficiency test results that they had when applying for the job positions have relation with the employees' performance when they are in service?

Based on the three questions mentioned above, the researcher would discuss the findings in the following content.

Engineers Who Have Master Degree Tend to Have Higher Potential to Improve Their Performance

For the purpose of finding the relationship between the educational background and performance evaluation result, the 33 engineers were divided into two groups: engineers with master degree and engineers without master degree. There were 13 of them having master degree,

and 20 of them having bachelor degree. (The background information of the 33 engineers was shown in table 3.2., Chapter 3, page 26)

Table 4.1.
Comparison Analysis on the Basis of Educational Level

	Master degree	Bachelor degree
The average performance evaluation result ≤ 2	5 engineers (5/13 \approx 38.5%)	4 engineers (4/20 \approx 20%)
The average IQ test scores (Full scores: 100)	Higher (79.38>71.55)	lower
The average English proficiency test scores (Full scores: 990)	Higher (711.5>571)	Lower
Engineers who passed the internal English proficiency test	8 engineers (8/13 \approx 61.5%)	5 engineers (5/20 \approx 25%)

As the table shown above, so far, through the preliminary findings of the comparison, it seemed that educational level was positively associated with the performance. There were approximately 38.5% of the engineers with master degree having better performance; moreover, the educational level was also positively associated with their IQ test scores, English proficiency test scores and if they passed the internal English proficiency test which was held by the company. Besides, by observing the change of the performance evaluation results, it seemed that engineers who have master degree tend to have higher potential to improve their performance.

Table 4.2.
The Percentage of Having Level 1 or 2 s Performance Result

The percentage of having level 1 or 2 as performance result	Master degree	Bachelor degree
2010	3/13 \approx 23.1%	6/20=30%
2011	7/13 \approx 53.8%	11/20=55%
2012	6/13 \approx 46.2%	9/20=45%
2014	8/13 \approx 61.5%	8/19 \approx 42.1%

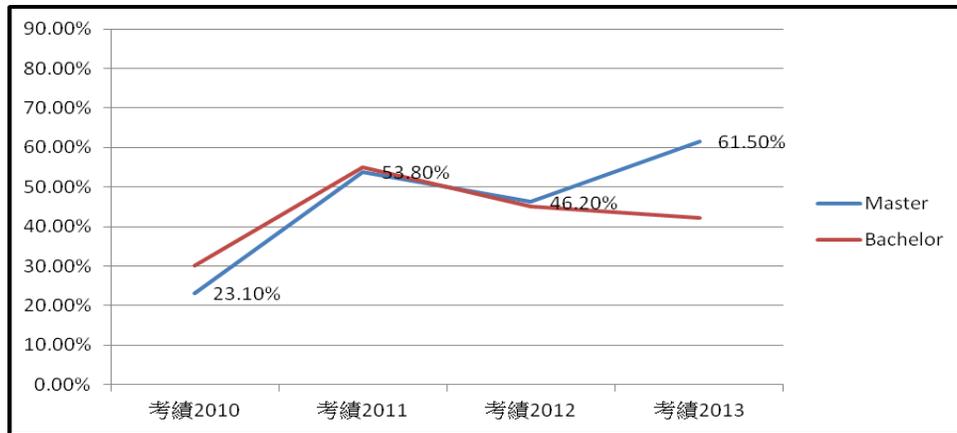


Figure 4.1. The percentage of having level 1 or 2 as performance result

In accordance with the result shown in Table 4.2. and Figure 4.1., it was obvious that the engineers with master degree didn't seem to perform better than engineers without master degree, but as time passed, the growing of the performance showed that the educational level has positive association with the performance.

The educational level of the engineers is positively related to their performance when they are in service. The preliminary results show that the educational level of the engineers has a significant relation with their performance in the company. Besides, the results also tell that the engineers who have master degree have higher potential to have better performance in the long term.

Engineers Who Have Higher IQ Test Results Do Not Have Obviously Higher Performance

For the purpose of finding the relationship between the IQ test scores and the performance evaluation result, the 33 engineers were divided into three groups by sorting the scores from high to low, the first group has higher IQ test result and the third group has the lower. (There were 11 engineers in each group.)

From the table shown below, the engineer's performance didn't seem to be impacted by the IQ test scores. In the group of engineers who have higher IQ test scores, the percentage of employees having the average performance results equal or lower than two was lower. On the contrary, the IQ test scores were positively associated with the English proficiency test scores and the amount of engineers who passed the internal English proficiency test.

Table 4.3.
Comparison Analysis on the Basis of the IQ Test Scores

	Higher scores	Lower scores
The average IQ test result (Full scores: 100)	90.23	56.18
The average performance evaluation result ≤ 2	2 engineers (2/11 \approx 18.2%)	6 engineers (6/11 \approx 54.5%)
The average English proficiency test scores (Full scores: 990)	Higher (705.9 $>$ 603.18)	Lower
Engineers who passed the internal English proficiency test	7 engineers (7/11 \approx 63.6%)	4 engineers (4/11 \approx 36.4%)

The IQ test scores of the engineers are not related to their performance when they are in service. The preliminary results show that IQ test scores of the engineers don't have a significant relation with their performance in the company. This result can be explained by the conclusion that McClelland (1973) claimed in this published article "Testing for competence rather than for intelligence" in 1973. McClelland claimed that aptitude tests, which had traditionally been used by psychologists to predict performance, did not in-fact predict job performance (McClelland, 1973).

Engineers Who Have Higher English Proficiency Test Scores Have Obviously Higher Performance.

For the purpose of finding the relationship between the English proficiency test scores and the performance evaluation result, the 33 engineers were divided into three groups by sorting the scores from high to low, the first group has higher English proficiency test scores and the third group has the lower. (There were 11 engineers in each group.)

According to the result shown in Table 4.4., it was shown that the English proficiency test scores were highly positive associated with the amount of engineers having the average performance evaluation results equal or lower than two, the average IQ test result and the amount of engineers who passed the internal English proficiency test.

Table 4.4.
Comparison Analysis on the Basis of the English Proficiency Test Scores

	Higher scores	Lower sores
The average English proficiency test result (Full scores: 990)	811.82	457.27
The average performance evaluation result ≤ 2	5 engineers (5/11 \approx 45.5%)	1 engineers (1/11 \approx 9.1%)
The average IQ test result (Full scores: 100)	Higher (81.55 $>$ 75.36)	lower
Engineers who passed the internal English proficiency test	8 engineers (10/11 \approx 90.9%)	1 engineers (1/11 \approx 9.1%)

The English proficiency test scores of the engineers are positively related to their performance when they are in service. The preliminary results show that the English proficiency test scores of the engineers have a significant relation with their performance in the company.

Since the question one and three were answered positively, it has been a very interesting perspective for the recruiting department in the organizations to pay more attention to the linkage between recruitment & selection and performance management, and to utilize the information gained by hiring process to predict the future performance; in this case, the human resource department can avoid wasting the crucial resources when executing recruitment and selection, and raise the effectiveness and efficiency for the entire organization.

Performance in Schools

In order to take a closer look at the factors that can affect employees' performance, the employees' previous performance in schools were considered as an indicator to check if the employee were active enough to participate in schools, not only in academic field but also in some other activities. At the beginning of the interviews, the researcher asked the interviewees about if they ever participated as the leaders in the clubs and students associations in universities or colleges. Some of them had experiences in joining in more than one club in the schools, but some of them had none about it. The relevant content was presented as table 4.5.

Table 4.5.
Coding List with the Performance in Schools

Research Topic	Category	Coding	Key Concept (Superior)	Coding	Key Concept (Ordinary)
1. Performance in schools	1. Leadership in clubs	A1-1-1	Improve communication skills	B1-1-1	Improve communication skills
		A1-1-2	Improve leadership skills	B1-1-2	Increase self-confidence
		A1-1-3	Increase self-confidence	B1-1-3	Learn to persuade people
		A1-1-4	Set the goals for career		
	2. Leadership in student associations	A1-2-1	Build the trust among people		
		A1-2-2	Improve leadership skills		

Leadership in Clubs

All of the participants from superior performance group they used to participate in clubs and students associations in their student life, some of them used to be the leaders; some of the participants from ordinary performance group they didn't join any clubs. For both groups of the participants they mentioned that the leaderships in the clubs can help them improve the communication skills and increase their self-confidence. The club life can help to develop personal cognitive ability, planning, coordination and leadership skills, leadership and cooperation forces, etc. (Huang, 1996) Apart from this, joining clubs as the leaders in schools can also strengthening the ability for social adaptation, so people can learn how to interact with others in groups and teamwork.

Leadership in Student Associations

The participants from the ordinary performance group they didn't join in the student associations, but some of the participants from the superior performance group they used to have the experiences being leaders or organizing activities. Since all the activities in the student associations were managed by students, through the time and the change of the activities, every member has the chance of playing the role of leader. (Huang, 1996) Being leaders in student association can improve the leadership skills and also learn how to build the trust among people when communicating. *"...I was the leader of the student association; I learned how to let people trust my words in the process of being leader..."* (A2)

Orientation Training

New employee orientation training integrates the new employees into the organizations, and quickly enables each individual to become contributing members of the work team. Since orientation training is the first training program the employees they will receive when they just arrived the company, it's very important to know if this training is helpful for them to adapt to the new environment and also their attitudes towards the orientation training to see if there is something that the HR department can improve. The results from the orientation training and the feedback from the participants were presented in table 4.6.

Helpful for Current Jobs

Most of the participants considered the orientation training they received at the beginning were very helpful for them to be familiar with the environment, both the internal environment and the external environment. The internal environment included the working environment and also the regulations they had to follow when in service; the external environment included the information about the industry that the company belongs to and the competitors of the company. B4, a thermal design engineer, mentioned,

In the orientation training, I got to know clearly about the regulations about the company, for example: how can I ask for one day off by filling the E-form online, how can I apply for the patents...etc. I also had a clearer picture about this industry and who are the competitors of the company, so I could make the decisions with more strategic information...

On the other hand, some of the participants, from both groups, thought the orientation training was not enough helpful for them to do the current jobs, since only basic information was provided in the training courses, they considered the real working experiences would be more helpful; and some of them would prefer the training courses can be shorter so that it wouldn't take much time when they were supposed to be working on the new projects.

Outputs from Orientation Training

Though there were different points of view about the orientation was helpful for the current jobs or not, it was no doubt that they did learn various things from the training program. Several participants from the superior performance group they mentioned that this training program brought them closer with other employees in the company, it helped to increase the coherence

among the employees. At the same time, some participants from the ordinary performance group also illustrated that this training program enable them to understand more about the importance of teamwork through the activities designed in the program. B3, a mechanical engineer from, illustrated,

I learned how important it is to work as a team because in the program we were put in different teams to fight for the first place, and if you don't work with your teammates, it's impossible to win the game. I had fun and learned a lot though the activities.

Another output from the orientation training mentioned by one participant from superior performance group was to know people from other departments and he considered it was helpful for him when he started working. A4, an industrial design engineer, said,

I knew many people from other departments, for example: mechanical design department; in that case when I have to work with them for the assigned project, I can communicate with them more easily, since I already knew them beforehand.

Attitudes towards Orientation Training

Through the interviews with the participants from two groups, the researcher also perceived their different attitudes toward the orientation training. Some of the participants from the superior performance group suggested that it could be earlier to have the orientation training. Since the company held the orientation training every three months, some employees might have to wait for almost two month to attend the training program, and it might lose the best timing for new employees to have the orientation training. For the companies, the objectives of providing orientation training are letting the new employees to take the first step of socialization in the company and starting to invest in the human capital. Another objective is to help the new employee adapt to the company as soon as possible and get familiar with their jobs, so the company can achieve the goal of human capital development. (Klein & Weaver, 2000)

Table 4.6.

Coding List with the Orientation Training

Research Topic	Category	Coding	Key Concept (Superior)	Coding	Key Concept (Ordinary)
2. Orientation training	1. Helpful for current jobs	A2-1-1	YES	B2-1-1	YES
		A2-1-2	NO	B2-1-2	NO
	2. Outputs from orientation training	A2-2-1	Familiar with management regulations	B2-2-1	Familiar with management regulations
		A2-2-2	Familiar with the work environment	B2-2-2	Familiar with the work environment
		A2-2-3	Building the trust for communication	B2-2-3	Knowing people from other departments
		A2-2-4	Increasing the coherence for the company	B2-2-4	Understanding the importance of teamwork
		A2-2-5	Knowing people from other departments		
	3. Attitudes towards orientation training	A2-3-1	Having the orientation training earlier	B2-3-1	Making the orientation training shorter
		A2-3-2	Making the orientation training shorter		

On-the-Job Training

On-the-job training is a very important way to develop the employees in the company; through different kinds of training programs, the employees can not only gain more professional knowledge but also make the balance between work and their personal life. On-the-job training was considered a critical point when it comes to the employees' performance, which was the reason why it was set as a research topic in the process of developing a model for performance improvement. The on-the-job training courses the participants received, the outputs and their attitudes towards the training were presented in table 4.7.

Table 4.7.
Coding List with On-the-Job Training

Research Topic	Category	Coding	Key Concept (Superior)	Coding	Key Concept (Ordinary)
3. On-the-job training	1. Internal training courses	A3-1-1	Technical courses	B3-1-1	Technical courses
		A3-1-2	Management courses	B3-1-2	Group training workshops
		A3-1-3	Soft skills programs	B3-1-3	Soft skills programs
		A3-1-4	Language learning programs	B3-1-4	Language learning programs
	2. External training courses	A3-2-1	Training courses provided by suppliers	B3-2-1	Training courses provided by suppliers
		A3-2-2	External training institutes		
	3. Outputs from training courses	A3-3-1	Improving communication skills	B3-3-1	Improving working performance
		A3-3-2	Improving working performance	B3-3-2	Gaining professional knowledge
		A3-3-3	Gaining professional knowledge	B3-3-3	Work-life balance
		A3-3-4	Work-life balance		
		A3-3-5	Increasing the learning speed		
	4. Attitudes towards on-the-job training	A3-4-1	Training courses are helpful for work	B3-4-1	Over-expectation from managers
		A3-4-2	Expecting more training courses	B3-4-2	Limited chances to attend the training courses
				B3-4-3	Feeling motivated by the soft skills program

Internal Training Courses

Most of the participants mentioned that they attended the technical training courses which were related to their professional fields, for example: mechanical, industrial design, and thermal design, etc. Most of them considered that the technical courses helped them a lot on their work; but, some participants thought that sometimes the technical courses were too basic for them to apply in the assigned projects. “....*the technical courses are too basic; I think you still need more*

working experience to do better on your job.” (A1)

Some participants from the superior performance group mentioned that they had been taking training programs about management, and they considered the programs were very helpful for them not only about the communication skills in leadership but also about personal development. In some departments in the company, they held their own group training workshops, there would be some senior colleagues to demonstrate specific techniques to the junior ones. B4, a thermal engineer, mentioned,

In the department I work, the manager would ask some senior colleagues to teach us, some more junior engineers, about some specific techniques; I feel very beneficial from the workshops, I don't think I can finish my projects without this kind of course.

From the interviews conducted with the participants, the research found out that most of them took many different internal training courses, includes language courses. They were willing to receive the training provided by the company.

External Training Courses

The participants from both groups had attended the external training courses provided by the suppliers. Since the suppliers they explain about the characteristics and the application with very detailed information, the participants all considered the courses are very useful for them when conducting the assigned projects. Some of the participants from the superior performance group they mentioned about attended training course outside of the company and provided by external training institutes. “... My boss used to send me to Microsoft from the training about the software we are using now.” (A3)

The advantages of external training are the employees can be more concentrated on the training without the interruptions from work; and also the employees would have the chances to meet people from other companies, so the ideas can be exchanged and relationships can be built.

Outputs from Training Courses

For the participants from the superior performance group, most of their outputs from the on-the-job training courses were about learning; A2, an engineer from quality control department, illustrated,

After I finished the training courses, I could learn new techniques faster, and I became more willing to take the courses. I think they are very useful for me while working, even though sometimes I have to sacrifice my working time to attend the courses.

For some participants from the superior performance group, they considered the training course help them to improve the communication skills. A1, a thermal design engineer, mentioned, *When I just started being the team leader, there were many arguments between me and my team members, and the situation made me very frustrated. After I took the training courses about management, I felt more confident to communicate with my subordinates, and I learned some skills about communication...*

Work-life balance was also mentioned in the interviews; some participants mentioned that attending the soft skills program can help them to be relaxed a little from stressing work. A6, a mechanical design engineer, said,

There should be more this kind of courses, I do feel very motivated from the speakers who were giving the courses; otherwise, it's very stressing working all the time.... Sometimes I get very negative when I am too stressed from the work, leaving my work for a while and attending some classes which are not related to work can help me to relax...

Another important output brought out by one participant was improving the working performance. "I think the training courses provided by the company can improve the working performance." (A1) Korman (1977) considered that there were three factors affecting the job performance: work motivation, skills & abilities, and role perception. When the employees are motivated to work and with the training to improve the skills, they will be more possible achieve the performance goals.

Attitudes towards On-the-Job Training

Even though all the participants mentioned about the outputs from the training courses provided by the company, the attitudes towards the on-the-job training were very different from the two groups. The participants from the superior performance group held a relatively more possible attitude toward the training; A4, an industrial design engineer, illustrated,

I took many courses held by the company, sometimes there are some workshops about the latest design trends, I think they are useful for me to apply in the work... Moreover, some of the suppliers for the company they came to introduce their new products to us, it's very useful for me...

On the other hand, the participants from the ordinary performance group had some other point of views, one of the participants mentioned that his supervisor had over-expectation about the training program, sometimes he thought the participants should contribute more right after the course finished. Also, some participants illustrated that it wasn't equal enough for the chances to attend some training courses since the department manager didn't want to lose too much manpower in the projects.

Performance in Assigned Projects

Other than the orientation training and on-the-job training provided by the company, the performance in assigned projects is also a very important approach to obtain the competencies needed for the job positions and a way to distinguish the skills differentiated from other workers. Moreover, 90% of the tasks that the engineers received in their jobs were projects; they had learned and gained lots of experiences and professional knowledge through the process. In this research topic, the experiences of the being leaders and what they had learned from the assigned projects were discussed, the detailed coding list was shown in table 4.8.

Experiences of Projects Leaders

Most of the participants from the superior performance group had the experiences of being leader of the assigned projects; meanwhile, few of the participants from the normal performance group had been assigned to lead the projects team. A leader of the project is generally taken to be the person accountable for delivering a project safely, on time, within budget and to the desired performance or quality standards determined by the client. The implication of being a project leader is that a leader not only manages their team, but leads the team: leading by example, by gaining the trust and respect from their team through motivating, co-coordinating and maintaining morale. Since the experiences gained in the process can be applied to other working conditions, being leaders of the projects can be very critical point that the engineers have better performance than those who don't have this kind of experiences.

Impressive Working Experiences

Some participants mentioned that the first project experience was very impressive for them, since they did a lot by following the instructions given by the mentors, and they considered it established the foundation for executing the subsequent assigned projects in their careers. A5, a mechanical engineer, illustrated,

When I just got into the company, there was a mentor leading me and telling me what to do in the project, I think he helped me a lot to have clear idea about what I should do... For me, the first project experience for me was very unforgettable, I made some mistakes but I also gained more knowledge...

Intersectional collaboration was also mentioned by the participants from superior performance group as the impressive experience about assigned projects; since it was very common to work with engineers from different function teams, to work with people from other sections becomes inevitable. As the mentioned in the previous research topic, orientation training, one of the outputs is to know people from other departments; it does help a lot when the intersectional collaboration happens. A1, a thermal engineer, mentioned,

I remember the experience of working with other engineers from different department, it was very important for me that I learned to communicate and get along well with them... and because I already met some of the them in the orientation training, we could start working well when we just started....

For participants from both groups, they mentioned about the failures of the projects. They all had the experiences that the clients just cut off the budget or called it an end to the ongoing product design and their effort to the projects were in vain all of a sudden. Even though the result of the projects were not what they expected but they still considered the experiences were priceless since they learned some new techniques. *“I didn't have the chance of finishing what I was doing, but I learned about the related regulations...”* (A3)

Table 4.8.
Coding List with Performance in Assigned Projects

Research Topic	Category	Coding	Key Concept (superior)	Coding	Key Concept (ordinary)
4. Performance in assigned projects	1. Experiences of projects leaders	A4-1-1	YES	B4-1-1	YES
		A4-1-2	NO	B4-1-2	NO
	2. Impressive working experiences	A4-2-1	The first assigned project	B4-2-1	Interdisciplinary project
		A4-2-2	traveling on business	B4-2-2	Failure of the projects
		A4-2-3	Intersectional collaboration		
		A4-2-4	Failure of the projects		
	3. Experiences from assigned projects	A4-3-1	Rapid accumulation of project experience	B4-3-1	Patent application
		A4-3-2	Improving communication skills	B4-3-2	Interdisciplinary learning
		A4-3-3	Learning project management skills	B4-3-3	Improving communication skills
		A4-3-4	Intersectional collaboration	B4-3-4	Enhancing the resistance to stress

Experiences from Assigned Projects

Since most of the tasks the engineers received were projects, the experiences from assigned projects became very important sources to develop the competencies need for the jobs. Participants from both groups mentioned about they learned to improve their communication skills through running the projects; in the process of finishing the projects, they might have to communicate or negotiate with not only their internal partners but also the clients. A5, a mechanical engineer, said,

I used to travel on business very often to the production campus in China, I always had to communicate with the engineers there and discuss the production issues with them; the way to communicate with them was different than with Taiwanese, I had to build relationships with them first... I learned how to communicate with different people, even with different cultural background...

B4, a thermal engineer, also illustrated the communication during the projects,

Sometimes the clients don't complain to the project managers, they just come directly to us (the engineers), because they know we are the people designing the products; at the beginning I didn't know how to handle it when they came to me, but after working a period of time, I learned how to response them and report the situation to my supervisor...

Many participants from the superior performance group had the experience of being project leaders, and they considered leading the projects helps them to gain more professional knowledge rapidly; because they were the one in charge of the progress and the result of the projects, so it was necessary to be more aware of all the details than others.

One participant mentioned that his management skills were improved in the process; even though he had been receiving courses about management, there were still gaps between what he learned and the reality. A1, a thermal engineer, illustrated,

The teacher taught us a lot in the training courses, but it was very different in reality; but through the projects, I tried to apply what I learned from the training, and I thought that my skills about management were improved in the process...

Organizational Communication

Organizational communication refers to communication between several individuals or groups, includes the communication with upper level and lower level. Research has shown significant associations between organizational communication and many important outcomes. For example, organizational communication is positively correlated to organizational commitment (Varona, 1996), job satisfaction and organizational climate satisfaction (Muchinsky, 1977; Mueller and Lee, 2002). It explained the reason why the interaction with managers and the interaction with colleagues were discussed in this chapter.

Interaction with Managers

In this research topic, the ways that the participants took to communicate with their managers was discussed, so were the disagreement between them and their relationships. The detailed coding list was shown in table 4.9.

Ways to communicate.

There were several ways mentioned by the participants, they all mentioned that they would talk to their managers or supervisors directly, face to face, if it is necessary. Since the direct conversation with the managers can avoid the misunderstanding of messages and the cost of time, it was the most used way to communicate.

Also, the sectional meetings held once a week was a common way to exchange the opinions among two groups of participants. A5, a mechanical engineer, said,

The communication with my manager, basically I submit one weekly report to manager on Monday, the progress of my project or any problem I have would be written in there... We always have group meetings and then the problems would be discussed. I think it's very good, because the problems can be solved by discussing with supervisor and colleagues in the meeting.

Still, there was some indirect communication caused by the complexity of management levels. B5, a thermal engineer, mentioned,

In our department, the engineers were divided into several groups by different clients we had; we would submit the weekly report to our team leader, and he would organize the information and send a full report to the supervisor, at the end the supervisor submitted the report to the head of our department. Sometimes, it took a lot of time transferring the messages through so many levels.

This kind of indirect communication in the departments can cause the misunderstanding of messages and lower the effectiveness of communication.

Disagreement with each other.

When it comes to having disagreement or argument with the managers, most of the participants chose to understand each other's opinions, and discuss with each other. Some of the participants from both groups chose to respect the managers' ideas rather than fighting against them. A1, a thermal engineer, said,

Usually, if the opinions between us (the manager and me) are different, I will try to make sure we understand each other at the beginning; if the manager still sticks to his

own way, I will respect what he says, and do what he says... since he will be the one taking the responsibility...

One engineer from the thermal department mentioned that if there is really difficulty to compromise, she might ask the third person to coordinate the ideas from both sides, for example the project manager. Since the third person might see the blind side that two people don't realize, decisions with less bias can be made.

Table 4.9.
Coding List with Interaction with Managers

Research Topic	Category	Coding	Key Concept (superior)	Coding	Key Concept (ordinary)
5. Interaction with managers	1. Ways to communicate	A5-1-1	Direct	B5-1-1	Direct
		A5-1-2	By sectional meetings	B5-1-2	By sectional meetings
		A5-1-3	Depends on the complexity	B5-1-3	Through managerial levels
	2. Disagreement with each other	A5-2-1	To understand each other's ideas	B5-2-1	To understand each other's ideas
		A5-2-2	Having discussions	B5-2-2	Respecting managers' ideas
		A5-2-3	Respecting managers' ideas	B5-2-3	Asking a third person to coordinate the ideas
	3. Relationships with managers	A5-3-1	Getting along with each other well	B5-3-1	Getting along with each other well
		A5-3-2	Managers are willing to help	B5-3-2	Still having some barriers between each other

Relationships with managers.

The relationships between the subordinates and the managers can affect the subordinates' satisfaction and the commitment toward the organization. If the subordinates feel the interaction with the managers or the responses from the managers tend to be more positive, they would be more willing to devote themselves in the required work. Participants from both groups mentioned that they got along well with their managers, even sometimes they hang out after work.

But, the participants from superior performance group mentioned that the managers were

more willing and active to help or provide opinions when it comes to problems. A4, an industrial designer, illustrated,

The manager in our department is very kind; he is always very willing to help us when we have some troubles. Even sometimes he comes to us before we ask him about anything! I think it (this kind of relationship with the manager) really helps a lot when you are running projects; it saves much time than just doing many things by yourself.

On the other hand, the participants from ordinary performance group mentioned that even they got along well with their superiors or managers, they didn't talk that often after work or when it wasn't about work. They thought there were still some barriers between them. B5, a thermal engineer, said,

I think the managers in our department are very kind, but we don't share too much time together when it's out of work; for us, managers are managers, you still feel nervous when talking to him, you might be worried that if you say something that you shouldn't say....

If the relationships between the subordinates and the managers, it might encourage the subordinates to work harder on the assigned projects.

Interaction with Colleagues

Having good relationship with colleagues is also very important in the working environment; it can raise the coherence in the team and the satisfaction for work, so the workers might tend to have better performance. In this research topic, the relationships with colleagues and the informal social interactions were discussed; detailed coding list was shown in table 4.10.

Relationships with colleagues.

For participants from both groups, they all got along well with their colleagues. Some participants mentioned that having good relationships with colleagues makes the working atmosphere better. A2, a quality control engineer illustrated,

The atmosphere in my team is very nice and harmony, we always have fun when we are working. Sometimes we hang out after work, and even go out on weekends. I also made some friends when I went traveling on business...

Other than that, encouraging each other at work was also mentioned by the participants when they were describing their relationships with colleagues. B4, a thermal engineer, said,

Sometimes when my team member brought out some good ideas or solution, I would send an email or leave a message to him saying he did well this time. We do that to each other to cheer up. I feel motivated to work harder after that.

Table 4.10.
Coding List with Interaction with Colleagues

Research Topic	Category	Coding	Key Concept (superior)	Coding	Key Concept (ordinary)
6. Interaction with colleagues	1. Relationships with colleagues	A6-1-1	Getting alone with each other well	B6-1-1	Getting alone with each other well
		A6-1-2	Encouraging each other at work	B6-1-2	Encouraging each other at work
	2. Informal social interactions	A6-2-1	Usually hanging out after work	B6-2-1	Not usually hanging out after work

Informal social interactions.

In addition to the relationships with colleagues at work, the informal social interaction can also change the devotion for work. The participants from the superior performance group mentioned that they hang out very often after work, and they considered this kind of activities can raise the coherence among the team or department. A1, a thermal engineer, illustrated,

Personally, I think the get-together after work is good for the atmosphere and the relationship in the team. Because when we are working, we focus on the projects and we are stressed that we might not have time to care each other... I think that hanging out with my team members more can increase the coherence in our team.

On the other hand, for the participants from normal performance group, they mentioned that they didn't used to go out with other colleagues after work. B2, a quality control engineer, said,

We only go out together to have dinner when we have the budget provided by the company. We don't really hang out that much. Sometimes we have lunch together during the lunch break, but we don't go out on weekends or the days that we don't work. Because most of my colleagues they have their own family, they have to be with them when they are not working...

The interactions with colleagues could change the atmosphere in workplace or the attitudes toward work, and subsequently might affect the performance of the workers.

Critical Incidents

The critical incident technique was first introduced by Flanagan (1954) who had initially developed the approach during the 1950s for use within the military as part of an aviation psychology program to explore why pilots could not learn to fly. A “critical incident” is an observable form of action or form of expression, which is complete enough in itself to allow inferences to be drawn (Davis, 2006). When using CIT the respondent is required to relate in narrative form a positive or negative experience. CIT is a qualitative technique, which Flanagan (1954) defined as a way of identifying the significant factors that contributed to either the success or failure of a particular human event.

In accordance with the characteristics of the critical incidents technique, the researcher applied this kind of technique in the interviews with the participants by asking them the events that made them proud and frustrated.

Events that Made Them Proud

The researcher asked the interview about the events that made them feel good or proud in their work, the participants answered many things that had ever happened to them when they were working in this consumer electronics company. After coding, the researcher divided those events into three categories: operational situations, working conditions and professional improvement. The detailed coding list was presented in table 4.11.

Operational situations.

There several things mentioned by the participants were categorized in the operational aspect. Some participants felt great and the sense of accomplishment when their product designs were accepted by the clients, and they learned some different product design along the way with the progress. A3, an industrial design engineer, illustrated,

I used to be in the team that only brings out the design ideas but doesn't have the chance to really carry out the design in products. When my design was accepted by the clients, I had the chance to be transferred to another team; moreover, I could the

products with my design in the market! I mean, I will see people buying things that were designed by me. I feel very proud of this!

For the participant, he not only had the chance of getting promoted but also felt proud and motivated about his work. This kind of achievement in work can help the engineer to keep improving his or her performance and feel motivated at the same time.

Another event mentioned by participants from both groups was traveling on business, but the reasons that made them proud were different. For the participants from the superior performance group, they considered traveling on business was an honor for them since not every engineer had the chance to be selected and they could learn different techniques and practical knowledge from the experience of working in the manufacture campus. A2, a quality control engineer illustrated,

I was chosen by the clients to solve the production issues in our manufacture campus in China. For me, it's a very good opportunity to learn. I got to have the chance to know the real production line, and the knowledge from the engineers there... so when I came back here working on the design, I could avoid the problems that might happen in the production line.

On the other hand, the participants from the normal performance group felt good because they had the chance to travel to different countries and experience the cultures. B3, a mechanical engineer, said,

I was assigned by the client to the manufacture campus in Czech Republic for one month. I traveled a lot in there and experienced the life there. It was very special experience for me to work there. Even though I had difficulties communicating with the people working there, I still made many friends there.

The participants from the superior performance group focused more in the professional area learning than their personal interest. In comparison, the participants from the normal performance group they cared more about their own interest.

Working conditions.

The participant from the superior performance group mentioned about he felt proud when he got the chance to work with the director of the department in the same project, when he just got in to the company. Even though he was assigned to do many things, he felt honored that he had the opportunity to learn more professional skills from working with the director. A3, an industrial design engineer, illustrated,

When I first started working here, I was assigned to work with the director of our department in the same project. I didn't expect that I can work him since he's far more experienced than me...At the end, the project went well, and the defective rate of the product did decrease. I learned a lot from this project experience.

In contrast, the experience that made the normal-performance participant proud was handling the project alone. Even though both of them did have the chance to learn more things through the process, the participants from the superior performance group preferred to learn from the senior who had more experiences; in the contrary, the participant from the normal performance group preferred to learn by himself.

Professional Improvement.

In this category, the events that mentioned by the participants were related to the improvement of their professional skills. Some participants from the superior performance group mentioned that they understood more different product design and gained lots of experiences, they considered these kind of things help them not only become more professional but also improve their job performance.

One participant from the superior performance group mentioned that she got awarded for the outstanding performance, she felt happy about it because she felt the effort she paid was worthy. Meanwhile, the participants also illustrated they felt proud when their work was appreciated by their supervisors or clients. For both groups, the recognition for their effort was very important for them to keep improving their professional skills.

Table 4.11.

Coding List with Events that Made Them Proud

Research Topic	Category	Coding	Key Concept (superior)	Coding	Key Concept (ordinary)	
7. Events that made them proud	1. Operational situations	A7-1-1	Product design accepted by clients	B7-1-1	Developing new systems for the companies	
		A7-1-2	Traveling on business	B7-1-2	Traveling on business	
		A7-1-3	Understanding different product design	B7-1-3	Solving problems for clients	
	2. working conditions	A7-2-1	Working with director of the department	B7-2-1	Handling the projects alone	
		3. Professional improvement	A7-3-1	Understanding different product design	B7-3-1	Appreciated by supervisors or clients
			A7-3-2	Gaining different project experiences	B7-3-2	More familiar with the details of projects
		A7-3-3	Awarded for the outstanding performance			

Events that Made Them Frustrated

After knowing what events that made them proud and happy, it was also significant for the research to understand what might make the frustrated at work, and what can be the obstacles they had. This topic was categorized into two categories: structural problems and interpersonal aspect. The detailed coding list was presented in table 4.12.

Structural problems.

There were some events that the participants mentioned in the interviews, they were not something that can be solved by the participants themselves, and they were the structural problems from the company system or the organizational structure.

One participant from the superior performance group mentioned that the job responsibility system in the company made him feel frustrated at work. A3, an industrial designer, illustrated, “The job responsibility system is making people frustrated; I always have to leave my work very late.” Another participant from the superior performance group also said that the tight project schedule made him feel frustrated sometimes. A1, a thermal engineer, said,

Because we are working on some research projects with university labs, the schedule is always very tight for us; we spend so much time on communicating and then we still have to do the research. At the same time, we have some other projects on hand from the company... I will hope to share some workload, or plan the projects again with more sufficient time.

For the participants from the normal performance group, they considered not having enough manpower in the team and the forced distributions in performance appraisal system were the things that made them frustrated at work. B2, a quality control engineer, illustrated,

After the layoff in 2011, we lost a lot of manpower in our department. Our order increased more than before, but there are still four people working on the same amount of work. How can we finish everything on time? Even we finish all the requirements; the quality won't be that good.

Some other participants also mentioned that the forced distribution in the performance appraisal system made them lose the motivation. Forced distribution usually requests with for example 10 or 20 percent in the top category, 70 or 80 percent in the middle, and 10 percent in the bottom; the top-ranked employees are considered “high-potential” employees and are often targeted for a more rapid career and leadership development programs. In contrast, those ranked at the bottom might be denied bonuses and pay increases. They may be given a probationary period to improve their performance.

The forced distribution can cause the junior engineers be ranked at the bottom just because they have less seniority. This kind of situation can make them lose the motivation for work and feel frustrated by not recognized for the effort. B4, a thermal engineer, illustrated,

The thing that I don't have good performance evaluation result made me feel tired from my work. ... Because the director in our department he always gave the good grade for performance to the senior engineers who have more years working in here...and then he would tell me, “You have less years working in here, so this year you will be ranked at the bottom.” So sometimes I am thinking, if somehow I'm not going to receive good performance evaluation result, why should I work harder?

Interpersonal aspect.

In this category, the participants mentioned about different events that they encountered and they felt frustrated. One participant mentioned that when he just started being the leader in his team, he had some arguments with his subordinates and he felt very frustrated about the situation. But, by taking the training courses given by the company about communication skills, his communication skills were improved step by step. Another event about communication was that one participant mentioned he had some problems with communicating with clients. A4, an industrial designer, illustrated,

When I just started working in here, I was very frustrated about talking with the clients. Firstly, we had to discuss the issues in English; secondly, I wasn't that good at debating or negotiating, I had problems of expressing my ideas sometimes. But, after some training and the experiences I got, the situation got better. At least, I am more willing to communicate with them.

For some participants from the normal performance group, they mentioned about asking help from other people at work. B5, a thermal engineer, mentioned,

The clients always come to complain to us (thermal engineer), but it's not always our problems. In that case, I have to ask people from other function, like: mechanical, to help me to solve the problem. You know we (engineers) are not fluent at talking, and asking help from others is more difficult. Sometimes, it's very frustrating to see people's bad faces.

Because of this kind of frustration, the participants learned not only the communication skills but also the importance of emotion management.

Table 4.12.

Coding List with Events that Made Them Frustrated

Research Topic	Category	Coding	Key Concept (superior)	Coding	Key Concept (ordinary)
8. Events that made them frustrated	1. Structural problems	A8-1-1	Job responsibility system	B8-1-1	Lack of manpower in the team
		A8-1-2	Tight project schedule	B8-1-2	Forced distribution in Performance appraisal system
	2. Interpersonal aspect	A8-2-1	Arguments with subordinates	B8-2-1	Asking help from other people
		A8-1-2	Communicating with clients	B8-2-2	Understanding the importance of emotion management
		A8-1-3	Improving communication skills	B8-2-3	Improving communication skills
		A8-1-4	Understanding the importance of teamwork		

Contributions to Better Performance

At the end of the interviews, the researcher asked several questions to the participants, in order to know their point of views about improving performance. In accordance with the research topic, the categories were: helpful for improving performance and useless for improving performance. The detailed coding list was shown in table 4.13.

Helpful for Improving Performance

For participants from superior performance group, some of them considered if they can accumulate more project experiences, they could have better performance. A2, an engineer from quality control department, said,

I think if I can have more experiences in project, I can have better performance. Because I will be able to finish the projects on time and with good result, it will be easier to reach the performance goals set at the beginning of the year.

Meanwhile, the participants from normal performance group also mentioned about the performance goals, but with different aspect. They thought the goals set by the managers were

not clear enough for them to follow so they had difficulties achieving them. Therefore, they considered if the performance goals are clear enough, they could improve their performance.

Increasing the incentives was mentioned by both groups of participants. They considered the incentives were the motivations for them to keep working on new invention or new projects. The incentives can be the addition of their salary, the bonus or the prize for some specific activities. *“Increasing the salary will be the most direct way to make us (employees) work harder, and our performance will be better afterwards.”* (A4)

Some participants from the superior performance group mentioned that the external training courses can help to improve performance. *“I think the external training courses are a good way to learn more professional skills; in that way, we can improve our (employees) performance.”* (A2) On the other hand, the participants were more specific about the external training, they said if the company increasing the budget of external training, they considered it's helpful for improving performance.

For participants from both groups, they all considered fulfilling the requirements from the managers can improve performance. Since some of the performance goals were set by the managers or supervisors, they thought if they could at least fulfill the basic requirements, it would be easier for them to improve performance in the future by making more effort in different things. A3, an industrial designer, said,

For me, to improve performance is to finish what your boss asks you to do first and then bring out some other new ideas or creation, so you can make him (your boss) happy and have some achievements to improve your performance as well.

Some participants mentioned about that the lack of manpower in their team made them feel frustrated and exhausted from their work, so they considered if they could have more sufficient manpower, their performance can be better. *“Having enough people in our team can help us work more efficiently; in that case, we can do better job.”* (B2)

From the interviews with two groups, the researcher found out that the participants from the normal performance group tended to blame more onto the external factors than themselves.

Table 4.13.

Coding List with Contributions to Better Performance

Research Topic	Category	Coding	Key Concept (superior)	Coding	Key Concept (ordinary)
9. Contributions to better performance	1. Helpful for improving performance	A9-1-1	Accumulating more project experience	B9-1-1	Having clear performance goals
		A9-1-2	Increasing incentives	B9-1-2	Increasing incentives
		A9-1-3	Increasing external training courses	B9-1-3	Increasing the budget for external training courses
		A9-1-4	Fulfilling the requirements from managers	B9-1-4	Fulfilling the requirements from managers
		A9-1-5	Fully equipped	B9-1-5	Having sufficient manpower
	2. Useless for improving performance	A9-2-1	Negative emotions at work	B9-2-1	Private emotions from managers
		A9-2-2	System of job responsibility	B9-2-2	Performance goals without flexibility
				B9-2-3	Company's performance appraisal system

Useless for Improving Performance

Emotions at work were mentioned by participants from both groups. The difference was that the participants from superior performance group said that their own negative emotions can affect the performance at work; meanwhile, the participants from normal performance group thought that the private emotions from managers were useless for improving performance.

About performance goals, one participant from the normal performance group mentioned that the goals were not flexible enough. B4, a thermal engineer, illustrated,

The big goals for the department were set up by the head of department, and the projects we received which were in accordance with the big goals; we didn't have too much power to decide our own performance goals, sometimes it could be the reason why we don't have good performance.

About the structural aspect, the participants from normal performance group considered the performance appraisal system in the company could be useless for performance improvement. As

mentioned in the events that made the participants frustrated, the forced distribution in the appraisal system can discourage them to work less or not creative enough.

CHAPTER V CONCLUSIONS AND SUGGESTIONS

In this chapter, the research conclusions would be presented first, including the model for performance improvement and some suggestions for the case company; and then the recommendations would be in the last section.

Conclusions

This research aims to explore the relations between the background of the workers before coming in to the company and their performance after they were hired. Develop a model for performance improvement by following the performance improvement process and identify the factors that can affect the performance, and then provide the countermeasures for improving the performance. Literature regarding the performance improvement was reviewed as the base of this research. In order to gain in-depth data for this research, the case-study research method was applied, including document review and semi-structured interviews. The categorizing analysis was used to analyze the data collected from the interviews, and coding system provided the systematic findings for the researcher to answer the research questions and develop a model for performance improvement.

Educational Levels, IQ Test Results, and English Proficiency Test Results

The findings from this research showed the relations between the educational levels of the engineers and their performance in the company. The engineers who have master degree seem to have more potential to improve their performance than the engineers having bachelor degree. In accordance with the findings, for the HR practitioner in recruitment & selection department, it is necessary for some specific job positions that need more creation and continuous improvement to search for the talent with master degree.

In the findings, it was shown that the engineers who had higher IQ test results didn't have obviously higher performance. This finding echoed with the conclusion that McClelland (1973) claimed in his published article "Testing for competence rather than for intelligence" in 1973. McClelland claimed that aptitude tests, which had traditionally been used by psychologists to predict performance, did not in-fact predict job performance (McClelland, 1973). In this case, for

the HR practitioners, the IQ tests results used in the selection process cannot be seen as an absolute reference for the future performance.

The preliminary finding showed that engineers who have higher English proficiency test results have obviously higher performance. This explains why there are many companies now require TOEIC or TOFEL test results or English proficiency test in the process of interview, because the English proficiency test results can be the reference for the future performance; though it's not an absolute indicator, it still worthy for some value in the selection process.

Previous Performance in Schools

Previous performance in schools can be a very critical indicator for HR when choosing the right talent for the company. Especially for the job positions with managerial function, employees who had more participation in schools, including the clubs and students' associations, tended to have more superior performance. On the other hand, the participation in schools as leaders can be the early-stage training of socialization and their interpersonal skills in communication and leadership. Moreover, they have more potential to improve their performance at work.

Orientation Training

Most of the people considered that the orientation training held by the company was very helpful for them to quickly adapt into the new working environment, be familiar with both internal and external environment, and build the connection with the colleagues or other employees. Based on the findings from the interviews, the training can increase the coherence for the company and build the trust from communication among the employees, and consequently lead to better performance at work. But, the effectiveness of the orientation training would be better if it could be held earlier when the employees just got into the company; in that case, they would be able to adapt the environment earlier and make the contribution at work.

On-the-Job Training

There were many articles showing that the training effectiveness has positive relations with the employees' work performance. Dessler (2003) mentioned the benefit of training in his book, *Human Resource Management*,

For the employees, the benefits are the learning for new techniques or skills and the change of working behavior, knowledge and attitudes; for the organization,

the benefits from training are the increase of profit and enhancing the quality of manpower and the competitiveness of the organization.

For the employees, if they receive enough on-the-job training related to their professional skills and assigned tasks, they have more tendencies to improve their performance. Moreover, the training can enable them to make the work-life balance, improve their communication skills and increase their learning speed.

A Model for Performance Improvement

Based on the findings from the document review and semi-structured interviews, a model for performance improvement was developed by the researcher, it was presented in Figure 5.1.

The model consists five parts: recruitment & selection, orientation training, on-the-job training, performance appraisal and performance improvement. First, in the recruitment & selection section, the recruiters or human resource specialists can put more attention on the educational levels and English proficiency when selecting the talent for the job positions, and the previous leadership experiences in schools. Second, for human resource development department, they could arrange the orientation training immediate or not too long after the new employees get in the company; so that they could adapt into the new working environment with sufficient knowledge of the company. Third, more soft-skills training programs and sufficient communication among supervisors and subordinates are need for the internal training to keep the improvement of employees' performance; more budget and equal chances for attending the external should be arranged since the external courses were considered very important for the employees to develop their skills. In the process of performance appraisal, clear and flexible performance goals should be discussed by the supervisors (managers) and the employees, so the employees can achieve the goals effectively. Since some of the employees mentioned that private emotions of the managers sometimes can affect the performance appraisal results, the researcher suggested that the HR department should provide extra management training for the managers to avoid biased judgments. Besides, fair proportions for the performance evaluation levels are also needed to keep the equity of the appraisal; otherwise, the unfair performance appraisal might discourage the employees to work harder. On the other hand, the organizational communication also plays an important role in employees' performance improvement. If the relation between the

employee's and their managers are harmonious and the managers are willing to help and encourage the employees, they have more probabilities to learn and feel motivated.

Implications

Nowadays, due to the booming of new technology, the external environment has been changing very quickly, especially for industries like consumer electronics industry. Consequently, keeping the competitiveness became even more crucial for the organization, so the human resource department would not only have to recruit more talent but also develop the existing human resource. Performance improvement is necessary in human resource development, this research can contribute to the HR practitioners about the linkage between recruitment & selection and employees' performance and what can be the factors affecting performance improvement, so that they could adjust the system to be more effective and efficient for continuous performance improvement.

Recruitment & Selection

Based on the findings from this research, the engineers who have master degree did have more potential in improving their performance at work. Nowadays, many people try to pursue higher academic degree and the companies are seeking professional talent with higher educational level as well; this research showed that the educational level can be an indicator for future performance. For the recruiters in companies, paying more attention to the educational levels can also increase the effectiveness of selection for the job positions.

Orientation Training

The timing of orientation training is very important for the new employees. In the previous studies also showed about this point; many researchers had the consensus in their research that the orientation training should be occur to the individuals immediately after entering the organizations (Feldman, 1988). Since the orientation training is supposed to guide the new comers for the adaptation process in the organizations, if the orientation training can be held sooner after they get on board, it will be better for them to fit in the new environment and help them start working efficiently.

Most of the orientation trainings in the organizations focus on passing on the culture of the organization and introducing the regulations in the organization, and they are short of the flexibility for employees with different job positions and seniority. If the company can

differentiate the orientation training based on the seniority and provide them specific introduction for their jobs, the new employees will be able to contribute to the organization with shorter adaptation period.

On-the-Job Training

There are internal training and external training provided by the company to develop the talent. Most of the employees are very willing to participate or attend the training courses, but it's not absolutely that they can have the chances to join the courses. The chances for the employees should be equal, unless the training courses are specified for some kinds of job positions. Since attending training courses can motivate the employees to work harder and enable them to have a better work-life balance, it will be better for them to have equal right for it. Moreover, the production and satisfaction will increase after they are motivated.

Performance Appraisal

Performance appraisal is important not only for the organization but also for the employees themselves. For the employees, the performance appraisal is a way to check their effort and contribution. If their effort is recognized and appreciated, they will be motivated and encouraged to keep working with positive energy; if not, they might start to devote themselves in the work as much as they can. From the findings from this research, it was discovered that the forced distribution in the performance appraisal could make them frustrated from work, due to the lack of recognition for their effort. It might be necessary to keep the distribution for the performance evaluation levels, but it could be more flexible for different job positions or seniority.

The communication when setting the performance goals is also considered as a very critical part for improving employees' performance. Some of the performance gaps are caused by the misunderstanding of the performance goals or the lack of flexibility for discussion, if they employees and their supervisors or managers can have consensus on the performance goals, the performance goals can be achieved possibly and effectively. The flexibility also includes the timely communication in the process of achieving the goals.

Organizational Communication

Good communication among the organizations is considered as an important factor for the organization to operate smoothly. In addition, smoother communication among the organization can enable the employees to be more willing to contribute to the organization or learn from the colleagues. Most of the employees they get along well with their supervisors or managers, but

some of them think there are barriers between them. For the managers or supervisors who are more willing to help or interact with their subordinates, the employees tend to learn more from the working experiences and the performance seems to be better. If the company can provide some training related to organization communication, it might help to improve the performance of the employees.

Suggestions

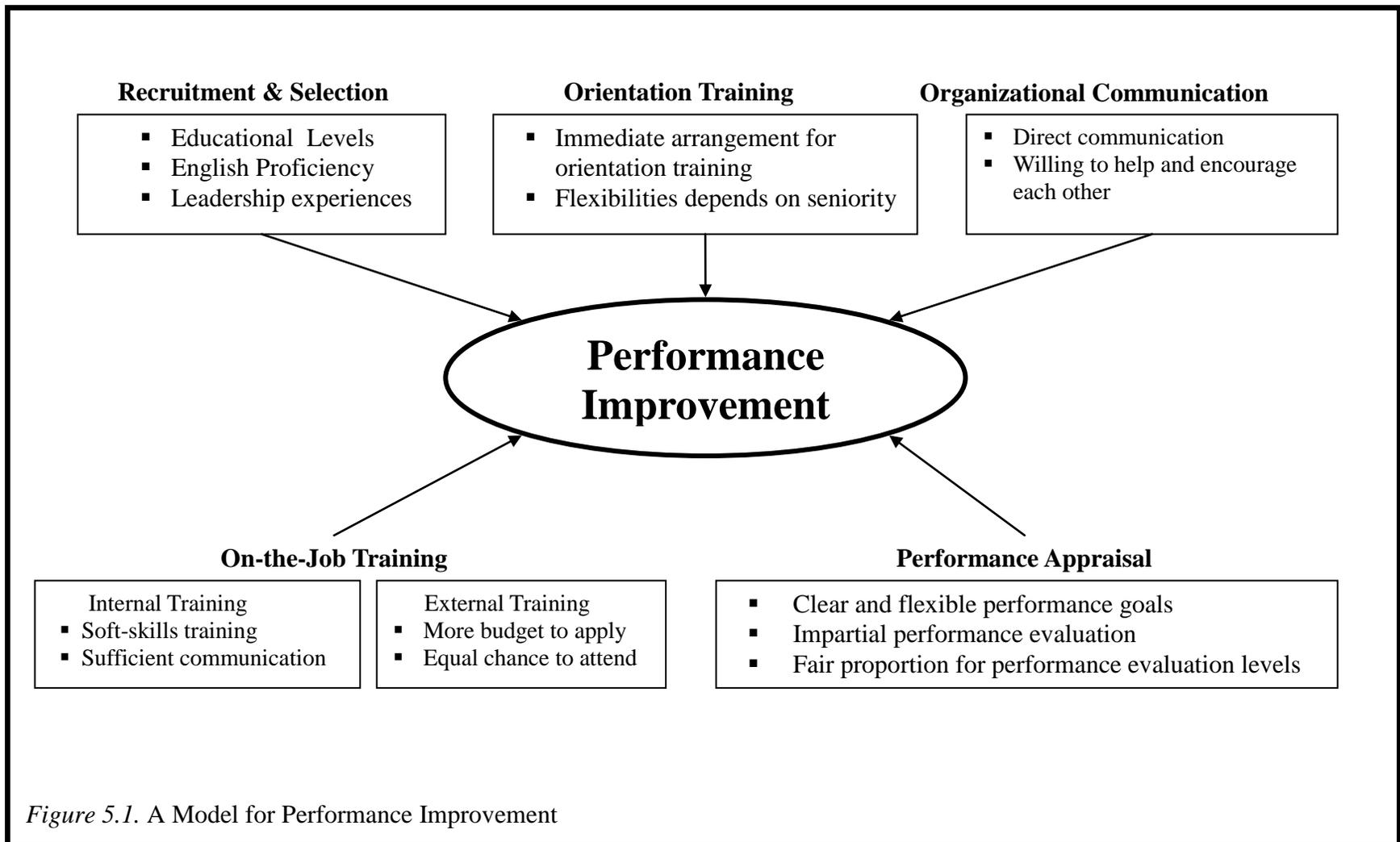
In this research, the main purpose was to develop a model for performance improvement. An overall structure and model for performance improvement has already developed. For focusing on the relation between the recruitment & selection and employees' performance, future studies can concentrate on the reason why the English proficiency would have positive relation with the employees' performance; in that case, the company can also design training courses related to it to develop the existing talent.

For orientation training, future studies can focus on design the structure for the orientation training based on the seniority of the employees, to increases the training effectiveness and also the production of new employees.

For on-the-job training, researchers can concentrate on what kind of training courses will be more helpful for improving the employees' performance and design a learning map for the human resource development department to keep developing the talent in the company.

For performance appraisal, how to solve the issues about forced distribution in the performance appraisal system can be the future studies to avoid the inequality occurred in the process of performance evaluation.

Companies with different background and in different industries will have dissimilar performance management practices. This research was a case study of Consumer Electronics Company, a company from ODM industry, and the target samples were mainly engineers from different functions. Future studies can choose other industries, with other job positions, and then make the comparisons between different industries and job positions.



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APPENDIX A: INTERVIEW QUESTIONS

績效改善模型的發展 訪談邀請函

敬愛的前輩：您好！

冒昧在 您繁忙之際打攪，尚祈 您見諒、海涵。因為績效管理議題深深影響企業員工和組織，特以「績效改善模型的發展」為主題，希望透過資深專家訪談的方式，深入探討企業員工對於如何能實際改善員工績效的看法。獲得的結果，除了將可提供作為人才發展和管理的實務精進參考之外，也可提供人力資源管理部門在招募及甄選時較客觀的選才條件。

素仰 您豐富專業的實務經驗，本研究需要 您提供寶貴意見及建議。您的姓名不會納入訪談紀錄；所有的訪談資料，也僅作為本研究分析之用。本研究將善盡資料保密責任，敬請 放心。在此向 您致上最誠摯的邀請，懇請 您能在百忙之中惠允 撥冗提供協助，並請 多多指導。

敬祝 您

事事順心如意平安、健康快樂。

國立臺灣師範大學國際人力資源發展研究所

研究生 楊育欣

指導教授 蔡錫濤

敬上

聯絡資訊：楊育欣 Giselle Yang

電子信箱：gis0726@yahoo.com.tw

績效改善模型的發展 訪談同意函

- 一、本人同意參與研究訪談，將與研究者進行一次，約 30 分鐘的訪談，分享個人針對績效改善議題相關的想法。
- 二、訪談過程中我同意接受錄音，且知道錄音資料將轉換為逐字稿，以利研究者整理分析。在研究進行中，研究者會妥善保管錄音內容，並避免外流，在論文完成後，銷毀檔案，不再做為他用。我個人的身分資料，研究者會保密。
- 三、在本人確認的情況下，允許研究者摘錄訪談過程的部分對話或片段，使研究分析和結果能更易於真實呈現。
- 四、我同意和研究者一同檢核分析內容與我個人經驗的符合度，並於研究完成後得到研究成果作為回饋。

受訪者

_____/_____/_____

績效改善模型的發展 訪談題綱

一、受訪者基本資料

1. 目前在公司的職位及部門：
2. 曾參加過公司的哪些訓練課程：

二、訪談問題大綱

1. 在學校的表現，例如：有無參加社團活動或系學會。
2. 進來公司之後，公司所提供的新人訓練對於工作有無實際幫助？學到了什麼？有什麼建議？
3. 歷年來，公司所提供的訓練課程對工作上的幫助？工作上被指派過的專案有哪些？收穫是什麼？
4. 與同仁、主管間的互動如何？
5. 請例舉過去幾年來，分別兩件你的覺得得意/糟糕的事件？為什麼？過程如何？
→什麼情境、跟誰一起，什麼樣的任務，做了什麼，預期結果、實際結果、及學到了什麼
6. 覺得哪些事情是能對績效有幫助的？哪些事情是對績效沒有幫助的？

APPENDIX B: EXAMPLE OF CODING PROCESS

Date: 10 April, 2014
Interviewee: 陳樺鋒 Norman (N)
Sample from Group A (better performance)

G: Norman 您目前的部門是? 職位?
 N: 散熱設計部門, 代副理。
 G: 你有沒印象之前有參加過公司的訓練課程?
 N: 去年陸陸續續有一些跟管理相關, 一些跟提升績效、及怎麼帶領部屬(團隊)這些相關的課程, 跟 Leadership 相關的訓練課程。
 G: 想跟 Norman 您確認一下, 當初您進公司時有參加公司所舉辦的新人訓練嗎?
 N: 新人訓練唔~有阿! 一定的。是去年才開始上管理的課程。上課時間大概都是一整天。
 G: 是在公司內部舉辦的嗎?
 N: 對, 是在公司內部。
 G: 以上是一些基本資料的部份, 接下來想了解一下您之前大學跟研究所是唸哪間學校的。
 N: 大學是唸淡江大學, 研究所是唸中山大學。
 G: 是唸什麼科系呢?
 N: 都是機械系, 大學及研究所都是相同領域的。
 G: 大學或研究所時有參加社團活動或是系學會嗎?
 N: 大學時的社團活動是口琴社, 研究所沒有參加社團活動; 大學時有參加系學會活動, 但不是系學會的幹部。
 G: 那有當過班級幹部(班代)嗎?
 N: 都沒有
 G: 所以在學期間都沒有擔任過 leader 的角色? 那開始工作之後, 當 Lea

Step 1: Type the interview content into transcript, and underline the important data.

逐字稿	關鍵概念
G: Norman 您目前的部門是? 職位? N: 散熱設計部門, 代副理。 G: 你有沒印象之前有參加過公司的訓練課程? N: 去年陸陸續續有一些跟管理相關, 一些跟提升績效、及怎麼帶領部屬(團隊)這些相關的課程, 跟 Leadership 相關的訓練課程。 G: 想跟 Norman 您確認一下, 當初您進公司時有參加公司所舉辦的新人訓練嗎? N: 新人訓練唔~有阿! 一定的。是去年才開始上管理的課程。上課時間大概都是一整天。 G: 是在公司內部舉辦的嗎? N: 對, 是在公司內部。	A1-01-01 在職訓練:管理課程 A2-01-02 績效提升課程 A3-01-03 領導訓練 A1-01-04 新人訓練

Step 2: Form the key concepts.

Research Topic	Category	Coding	Key Concept (Superior)	Coding	Key Concept (Ordinary)
3. On-the-job training	1. Internal training courses	A3-1-1	Technical courses	B3-1-1	Technical courses
		A3-1-2	Management courses	B3-1-2	Group training workshops
		A3-1-3	Soft skills programs	B3-1-3	Soft skills programs
		A3-1-4	Language learning programs		
		A3-2-1	Training courses provided by suppliers		
2. External training courses	3. Outputs from training courses	A3-2-2	External training institutions		
		A3-3-1	Improving communication		
		A3-3-2	Improving working performance		
		A3-3-3	Gaining professional knowledge		
		A3-3-4	Work-life balance		
4. Attitudes towards on-the-job training		A3-3-5	Increasing the learning speed		
		A3-4-1	Training courses are helpful for work	B3-4-1	Over-expectation from managers
		A3-4-2	Expecting more training courses	B3-4-2	Limited chances to attend the training courses
				B3-4-3	Feeling motivated by the soft skills program

Step 3: Give Code. A3= Participant No. 01 = Page of transcript 03 = Serial No.

Step 4: Combine the concepts into key concepts.