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Graduate Program in Workforce Education and Development

**MANAGERS/NON-MANAGERS' PERCEIVED IMPORTANCE  
AND IMPLEMENTATION OF SKILLS AND INFORMATION  
WORKPLACE PRACTICES AT IBM THAILAND**

A Thesis in  
Workforce Education and Development  
by  
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## ABSTRACT

This research investigated the perceptions of IBM Thailand managers and non-managers regarding the importance and implementation levels of the high-performance workplace practices as defined by the U.S. Department of Labor (1994). Data was collected from managers and non-managers of IBM Thailand by mail surveys and on-site in-depth interviews. A total of 260 questionnaires were distributed with a response rate of 216 (83%). There were seven interviews conducted with managers and non-managers. Descriptive statistics and inferential statistics were used to analyze the data.

The study revealed that managers and non-managers at IBM Thailand perceived all seven workplace practices in the skills and information category to be important at a very high level and to have been implemented at a moderate-high level. Managers perceived *sharing of performance information practices* and *training on an application of performance information practices* to be significantly less important than did non-managers. This and other findings suggest managers are still practicing the traditional and bureaucratic style of management. Interviews suggest this may be a Thai cultural factor.

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## Chapter 1

### INTRODUCTION

#### Background

Conventional wisdom, as shown in Michael Porter's famous framework, proposes five fundamental competitive forces that determine the ability of firms in an industry to earn above-normal returns. According to Porter, five forces are the entry of new competitors, the threat of substitutes, the bargaining power of buyers, the bargaining power of suppliers, and the rivalry among existing competitors (Porter, 1985). Pfeffer (1994) agreed with Porter's theory, but added that the source of competitive advantage has always shifted over time. Successful firms rely not on technology, patents, or strategic position, but on how they manage their workforce. Many firms achieve competitive success through people. A major concern of those firms, as a result, is the skills of their people. Consequently, one of the most obvious implications of the changing basis of competitive success is the growing importance of having a workforce with adequate skills. An integral part of new work systems is a greater commitment to training and skill development. Moreover, if people are to be a source of competitive advantage, clearly they must have information necessary to do what is required to be successful. At Lincoln Electric, "information is shared with all employees regarding the financial and market position of the organization using both oral and written media." (Pfeffer, 1994, 20).

With periodic shifts in competitive advantage, the strength of a country's economy now depends increasingly upon its success in markets in which firms

emphasize quality and are able to adapt rapidly to changing conditions. To accomplish these goals firms must rely more and more upon the creativity, ingenuity, and problem-solving ability of their workers. Firms need to move towards becoming flexible, high-performance organizations that support fast-paced decision-making, few layers of command, and team-based operations to sustain their competitiveness in a market. The U.S. Department of Labor (1994) defined high-performance workplaces as organizations that provide workers with the information, skills, incentives, and responsibility to make decisions essential for innovation, quality improvement, and rapid response to change. For those companies on the path to high performance, the U.S. Department of Labor's Office of the American Workplace published the guideline, Road to high-performance workplaces: A guide to better jobs and better business results (1994).

### Conceptual Framework

The conceptual framework for this study may be found in the U.S. Department of Labor's Road to high-performance workplaces: A guide to better jobs and better business results (1994). This guide used empirical evidence from successful companies to develop workplace practices that will lead to high performance. The purpose of the Office of the American Workplace's study was to help create better jobs and better business results. Finally, three useful categories were introduced: skills and information; participation, organization, and partnership; and compensation, security, and work environment.

There are two components in the skills and information category: continuous learning and information sharing. These two characteristics are often found together in high-performance work organizations. The participation, organization, and partnership category recognizes that employees are in a position to have a great impact on company success. Employees are often closest to the customer and have the best knowledge about products and services. In the compensation, security, and work environment category, high-performance organizations apply a variety of systems to recognize performance and skill attainment, to establish an employee stake in the organization's success, and to accommodate the diverse needs of their workforce.

In successful companies, high-performance workplace practices become part of a coordinated organizational strategy. They are fundamentally integrated into the way a firm does business. High-performance firms not only bundle the workplace practices, but also take integration one step further. They combine the workplace practices with other standard business priorities, new technologies, and marketing. Companies that practice total integration realize that workers are often in the best position to improve customer service and product quality. Rather than simply replacing workers with new machines, they provide employees with the training they need to use, manage, and modify new technologies. Companies that view these principles as part of a system not only achieve greater gains in profitability, quality, or customer satisfaction, but increase employee commitment as well.

### Purpose of the Study

The purpose of this study was to explore the perceived importance levels and the perceived implementation levels of the U.S. Department of Labor's high-performance workplace practices for managers and non-managers at IBM Thailand Company Limited (IBM Thailand). Using the three categories--skills and information; participation, organization, and partnership; and compensation, security, and work environment--listed by the U.S. Department of Labor (1994), statements in the skills and information category were selected for the study. The study also examined the relationships between the perceived importance levels and the perceived implementation levels of the workplace practices for managers and non-managers.

### Significance of the Study

Dixon (1993) described learning as a critical competency for organizational success based on the changing nature of work, a competitive global environment, and the rapid, unpredictable changes faced by organizations. High-performance workplaces share information about strategic plans, budget constraints, organizational priorities, financial and operational data, performance information on competitors, and new technology with their employees (U.S. Department of Labor, 1994). Carnevale, Gainer, and Villet (1990) also suggested that one of the critical elements for a successful strategy was to communicate an understanding of objectives to all levels within the organization. Although many studies have been conducted relating

to high-performance workplace practices, no research examined the practices at any company in Thailand.

Therefore, the main purpose of this study was to explore the perceived importance levels and the perceived implementation levels of the U.S. Department of Labor's high-performance workplace practices in the skills and information category for managers and non-managers at IBM Thailand. The category of skills and information was selected because it was crucial to the company's achievement as a high-performance organization.

### Research Questions

This study selected the skills and information category from the U.S. Department of Labor's guideline for high-performance workplaces as reported in the research-based publication, Road to high-performance workplaces: A guide to better jobs and better business results (1994). This publication was selected because it represented the major research on high-performance workplace practices at the time of the study.

This study attempted to answer the following questions:

1. To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived to be important by managers and non-managers at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived importance levels?



2. To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived by managers and non-managers to be implemented at IBM Thailand, and is there a statistical difference between managers and non-managers in the perceived implementation levels?
3. What are the relationships between the perceived importance levels and the perceived implementation levels for managers and non-managers, and is the gap between the perceived importance levels and the perceived implementation levels statistically different between managers and non-managers at IBM Thailand?

#### Definition of Terms

Assessment of Application of Training Practice – Examining whether an organization has a program to measure the application of training in the workplace.

Continuous Learning Practice – Examining whether an organization has a program to support continuous learning and development.

Effective Training Practice – Examining whether training programs are effective based on feedback from employees.

Higher Investment in Training Practice – Examining whether an organization invested in training and development at a higher level than other organizations.

High-Performance Workplace – “An organization that provides workers with the information, skills, incentives and responsibility to make decisions essential for innovation, quality improvement, and rapid response to change” (U.S. Department of Labor, 1994).

High-Performance Workplace Practices – “Organizational procedures and policies that allow individuals in an organization to perform effectively, such that both the organization and the individual succeed” (Lowthert, 1996, p. 6).

Human resources – “The people an organization employs, with their knowledge, skills, attitudes, and life experiences” (Rosow & Hickey, 1995, p. iii).

Information-sharing Practices – Subgroup of the recommended practices in the skills and information category. The study focused on three statements of practices: sharing of performance information, training to apply performance information, and an internal flow of communication.

Internal Flow of Communication Practice – Examining whether there are multiple mechanisms for internal communication flow in all directions of an organization.

Managers – “They are people who plan, organize, direct, and control in order to manage organizations and organizational units” (Wagner, III & Hollenbeck, 1995, p. 52). For this study specifically, they included employees of IBM Thailand in a position equivalent to an assistant manager, a manager, a director, and above.

Non-Managers – Those employees who are not involved in a managerial job. For this study specifically, they included employees of IBM Thailand in positions equivalent to specialist, representative, officer, senior officer, and below.

Sharing of Performance Information Practice – Examining whether all employees receive performance information from an organization.

Skill and Information Category – A group of recommended practices that workers needed to achieve high-performance work environment. This category is divided into training and continuous learning practices, and information-sharing practices.

Training and Continuous Learning Practices – Subgroup of recommended practices in the skills and information category. The study focused on four statements of practices: continuous learning and development, an assessment of application of training, an effective training program, and a greater investment in training and development of a company.

Training to Apply Performance Information Practice – Examining whether an organization provides a training program on an application of performance information to all employees to attain continuous improvement.

## Chapter 2

### REVIEW OF LITERATURE

#### Introduction

The main purpose of this chapter is to provide a review of the literature on characteristics and dimensions of the high-performance workplace, particularly the skills and information category listed in the publication, Road to high-performance workplaces: A guide to better jobs and better business results (U.S. Department of Labor, 1994). To find characteristics of the high-performance workplace (HPW), the researcher conducted an in-depth literature search on many of its aspects such as people, organizational structure, technology, training, and work environment. HPW dimensions were based primarily on the U.S. Department of Labor (1994) publication, which also was used as a conceptual framework for the study.

Not many research-based studies were conducted on the skills and information category of the HPW. As a result, the literature review on the category was basically a review of two doctoral studies: The relationship between importance and implementation of skills and information workplace practices at nuclear power plants (McGann, 1996), and The relationship between the implementation of high-performance workplace practices and unionized companies: A survey of Wisconsin firms (Benkowski, 1997). Each of those will be discussed individually with regard to its research questions, methodology, sample selection, limitations and assumptions, and response rates. A summary of findings for each also will be discussed.

Since IBM Thailand was the study population for this research, this chapter also summarizes the history and provides an overview of the IBM Corporation in the U.S. and IBM Thailand. A major part of the review focused on training and information-sharing policies and practices of the company.

### Characteristics of the High-Performance Workplace

Throughout this study high-performance workplace practices were described as organizational procedures and policies that allow individuals in an organization to perform effectively, such that both the organization and the individual succeed (Lowthert, 1996). A variety of phrases were used to describe organizations achieving high performance. Terms such as high-performance workplace (Becker & Steele, 1995; U.S. Department of Labor, 1994), high performance, high commitment organizations (Jewell & Jewell, 1992), high performing organizations (Thor, 1994), learning organizations (Senge, 1990; Watkins & Marsick, 1993), and high-performance work practices (Huselid, 1993) are synonymous with high-performance workplaces as used in this research.

Many authors wrote about the HPW workplace concepts (Appelbaum & Batt, 1994; Becker & Steele, 1995; Commission of the Skills of the American Workforce, 1990; Galagan, 1994; Hammer & Champy, 1993; Kanter, 1989; Levine, 1995; Meister, 1994; Mills, 1991; Nadler, Gerstein, & Shaw, 1992; Sherwood, 1988; Smith & Kearny, 1994; Toffler, 1985). However, they reported and discussed HPW in a

broad way, from a variety of aspects such as people and technology, organizational structure, training, and learning.

### People and Technology

Many authors described HPW as an integration of people and technology. High performance work environments were being created through the use of computers, high technology communications, and universal employee education (Commission of the Skills of the American Workforce, 1990). HPW emphasized people and technology which often leads to tracing its beginnings to the interdependence of social and technical subsystems advocated (Cole, 1989; Cummings, 1978; Pepitone, 1995; Susman, 1976; Weisbord, 1987). In addition to an emphasis on people and technology, HPW included innovative work design and greater dissemination of information to maximize integration of factors influencing success (Nadler, Gerstein & Shaw, 1992).

### Organizational Structure

Organizational structure was another characteristic used to explain the HPW. Mills (1991) recommended a cluster organization with few managers, a weak chain of command, and empowered workers who make decisions and take action with little management direction. Hammer and Champy (1993) believed that a radical reinvention of corporations was required for organizational success. They suggested an elimination of old organizational systems and starting over by inventing a better way of doing work. They defined reengineering as “the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical,

contemporary measures of performance, such as cost, quality, service, and speed” (Hammer & Champy, 1993, p. 32). Kanter (1989) saw the value of restructuring or reengineering to achieve synergy. She believed that changes made to organizations or processes would make the whole organization better.

### Work Environment

Although the high-performance workplace was defined in many ways, elements of reorganization, redesign, and reengineering are usually associated with innovations leading to high performance (Galagan, 1994). Sherwood (1988) used the term high-performance work culture to describe workplaces that gain competitive advantage through redesign of work organizations and competent, committed, flexible workers. This led to a conclusion shared by many authors about work environment characteristics of the high-performance workplaces. According to Smith and Kearny (1994), the physical work environment was important to achieve high performance. The physical work environment was an important part of the total work environment and a contributor to high-performance workplaces (Becker & Steele, 1995). Toffler (1985) also agreed and stated that innovation involved people and their work environment.

### Training and Learning

Meister (1994) wrote about the learning aspect of the high-performance work environment and recommended that training support the strategic organizational goals. All employees should have an opportunity for lifelong learning. Rosow and Hickey (1994) stated,

Human resources are the only remaining source of competitive advantage for organizations. Most other major components of competitiveness are universally available: natural resources can be bought, capital can be borrowed and technology can be copied. Only human resources--the people in the workforce, with their skills and commitment--and how they are organized are left to make the difference between economic success and failure. (p. 1)

This emphasized the importance of workers in the new high-performance organizations becoming critical thinkers; working as members of teams; taking responsibility for quality, inventories, and production; and solving problems and making decisions. "This change represented a departure from the requirements and expectations faced under the old-style Tayloristic mass production, where managers did the thinking" (Lawler, 1992, p. 26).

The implementation of a high-performance work organization emphasizes broader job categories and acute concern for quality (Bluestone & Bluestone, 1992). According to Levine (1995), "no magic formula exists for creating successful employee involvement. Nonetheless, organizations striving to tap into the resources of their workforce must build support from employees, managers, unions, and business partners" (p. 57).

#### High-Performance Workplace Practices

Nadler, Gerstein, and Shaw (1992) used the term high-performance work systems and identified ten core principles that characterize such workplaces: custom focus, empowered/autonomous workgroups, clear goals, built-in quality,



sociotechnical integration, accessible information, enriched/shared jobs, empowering human resource practices, empowering management structures, and ability to reconfigure. Results realized from implementing ten core principles include increased quality, decreased costs, motivated workforce, continuous learning, reduced turnover and absenteeism, and increased flexibility to respond to customers.

Appelbaum and Batt (1994) identified critical features required for workplaces to achieve high performance: flexible technology, increased quality, broader jobs, flatter organizations, teamwork, training, employment security, and compensation for performance. They identified two main models for high-performance workplaces now emerging in the United States: lean production, which focuses on top-down quality management; and team production, which focused on empowered workers who made decisions and implement innovations.

The above authors discussed various aspects of the HPW that reconfirmed the findings in the guideline of U.S. Department of Labor (1994). The guideline presented the high-performance workplace practices in three useful categories: skills and information; participation, organization, and partnership; and compensation, security, and work environment.

### Dimensions of High-Performance Workplace Practices

Lowthert (1996) reported a history of the U.S. Department of Labor's guide to high-performance workplace practices (1994). The federal government attempted to improve work environments for all workers through the U.S. Department of Labor. A

new division of the Department of Labor, the Office of the American Workplace (OAW), was created to promote the concept of HPW using progressive human resources management strategies and practices (Gerber, 1995). Lowthert (1996), in a personal communication with Barbara Schrader on August 17, 1995, reported that “one of the first activities of the Office of the American Workplace was research and publication of a guideline for organizations to develop HPW, gain better business results, and create better jobs” (p. 9).

The primary editor of the guideline was Barbara Schrader. The research was performed by a team of Department of Labor employees and outside experts. The team assembled a database of exemplary workplace practices. They also reviewed existing Department of Labor data with the Department of Labor Relations Cooperative Program’s database. The team performed reviews of journals and magazines to identify potential high-performance practices, and later assembled data into the Office of the American Workplace Best Practices Clearinghouse database. A revision was made to ensure that the organization was actually successful and that existing labor laws and Department of Labor criteria were not being violated. As the data was assembled various practices began to emerge (Lowthert, 1996).

Lowthert (1996) also talked with Steve Marlet, the lead writer for the guideline, and explained that:

The guideline was originally intended for the financial investment community. The Department of Labor was interested in creating a shift from the short term focus on quarterly financial results to a long term development centered

strategy. The financial community reacted unfavorably. However, the researcher identified a broader constituency. They believed that the high-performance workplace practices would benefit operating organizations. The guideline was designed to persuade chief executive officers to include high-performance workplace practices into their long-term strategies. The workplace practices checklist portion of the guideline allows organizations to self check their practices against those in the guideline. (p. 12)

In 1994, the Road to high-performance workplace: A guide to better jobs and better business results (1994) was published by the U.S. Department of Labor's Office of the American Workplace as a guideline for an organization on the path to HPW. This guide used empirical evidence from successful companies to develop workplace practices that would lead to high performance. Finally, three useful categories were introduced: skills and information; participation, organization, and partnership; and compensation, security, and work environment. The purpose of the OAW study was to help create better jobs and better business results.

There were two components in the skills and information category, including training and continuous learning and information sharing (U.S. Department of Labor, 1994). These two characteristics were often found together in HPW. Lowthert (1996) reported that successful companies were changing from training for specific jobs to emphasizing broader skills that equipped workers with the ability to solve problems and to interact with customers, other workers, and other departments. These skills included problem solving and interpersonal interactions, team building, and basic

business operation. Classroom, work-based training, and rotations through a series of jobs were used to develop multiple skills. A HPW found across-the-board information sharing critical to their success. Some examples of information shared within a HPW were strategic plans, organizational priorities, budget constraints, operating results by business unit, competitors' relative performance, and plans for new technology. New technologies such as e-mail and networks could enhance the distribution of information.

The participation, organization, and partnership category recognized that employees were in a position to have a great impact on company success (U.S. Department of Labor, 1994). Employees were often closest to the customer and had the best knowledge about the products or services. A HPW attempted to provide greater worker autonomy and gain a greater sense of commitment from employees. Employee participation was enhanced through self-directed work teams, consultative committees of workers, and allowing workers authority previously reserved for managers. To achieve participation and empowerment of the workforce, organizational structures should have few levels of hierarchy, a streamlined process, and cross-functional teams to build workforce participation and empowerment. The OAW, however, pointed out that labor management conflicts and collective bargaining agreements might be impediments in this category. Companies had to work to end and/or prevent employee-management confrontations and to develop higher levels of mutual trust and respect to achieve high performance. Management

should release its authority and jointly address issues with employees. Internal governance systems should be based on trust rather than power or contractual rights.

In the compensation, security, and work environment category, an HPW applied a variety of systems to recognize performance and skill attainment, to establish an employee stake in the organization's success, and to accommodate the diverse needs of their workforce (U.S. Department of Labor, 1994). Compensation was linked to corporate, team, and individual performance. A HPW considered employees as key investments. They minimized layoffs and downsizing, but provided an explicit commitment to employment security. Business cycle needs could be met with the use of temporary and seasonal help without layoffs. Advanced notice, out-placement service, and supplemental unemployment compensation had to be provided if layoffs could not be avoided. Supportive work environments were essential to the productivity and commitment of the workforce. A high-performance environment offered a balance between work and family life, initiated flexible work schedules, accommodated disabilities, provided child care, eliminated barriers that unfairly discriminate, and promoted fitness, health, and safety.

It was stated in the guideline that "the practices described must be implemented as part of a coordinated strategy, that is integrated into the business process" (U.S. Department of Labor, 1994, p. 18). Employees in high-performance organizations performed well on critical corporate indicators such as return on investment and capital utilization (U.S. Department of Labor, 1994).

### Learning Organization

A learning organization has been reviewed from several different viewpoints (Dixon, 1993; Fiol & Lyles, 1985; Greenwood, Wasson, & Giles, 1993; Hedberg, 1981; Huber, 1991; Levitt & March, 1988; Lawler, 1992; Pepitone, 1995; Senge, 1990; Shrivastave, 1983). This type of organization has a culture that values the capacity to learn and adapt in order to continuously improve processes, products, service, workers, and management (Bennet & O'Brien, 1994).

Greenwood, Wasson, and Giles (1993) described a learning organization as one that continuously improved processes, products, and services through individual and team learning of its workers so that the organization could transform itself to produce results and achieve strategic goals. Senge (1990) prescribed implementing five learning disciplines: systems thinking, mental models, shared vision, team learning, and personal mastery to develop a learning organization. He defined learning as the creating of new knowledge and described a learning organization as a continuous process rather than a final state to achieve.

Dixon (1993) described learning as a critical competency for organizational success based on the changing nature of work, a competitive global environment, and the rapid, unpredictable changes organizations face. Pepitone (1995) emphasized that organizational learning required more extensive and effective resources than traditional training did because organizational learning began after traditional learning when workers understood, applied, and developed new knowledge to improve the workplace.

High-performance workplaces (HPWs) provided workers with open access to information (Pepitone, 1995). The U.S. Department of Labor (1994) recommended that HPWs share information about strategic plans, budget constraints, organizational priorities, financial and operational data, performance information on competitors, and new technology. This information was crucial for worker involvement (Lawler, 1992).

From a study of 25 successful companies that made a commitment to becoming a learning organization and demonstrated that commitment, Bennet and O'Brien (1994) identified 12 key factors that influence an organization's ability to learn and change: strategy and vision; executive support; management practices; climate; organizational/job structures; information flow; individual and team practices; work practices; performance goals and feedback; training and education; individual and team development; and rewards and recognition. None of the companies excelled in all 12 areas but all achieved a sufficient balance of the key factors to achieve success.

#### Formal and Informal Learning Process

The learning process is an important characteristic of a learning organization. A learning technique can be pretty daunting when presented in a traditional academic fashion (Zemke, 1998); this problem leads to an emergence of informal learning and incidental learning. Informal learning and incidental learning happen "outside formally structured, institutionally sponsored classroom-based activities, taking place under non-routine conditions or in routine conditions where reflection and critical

reflection are used to clarify the situation” (Marsick & Watkins, 1990, p. 7). While formal training includes both an expressed organization goal and a defined process, informal learning can occur whether or not there is an expressed goal. The latter can serve individual as well as corporate objectives when it works best. Examples of formal learning situations are classroom training and workshop. An informal learning situation can include self-directed learning, networking, coaching and mentoring, and performance planning. Learning from involvement, learning from mistakes/trial and error, assumptions, beliefs, and values are some highlights of an incidental learning situation.

### Skills and Information

The emphasis on skill development to gain competitive advantage (Commission on the Skills of the American Workforce, 1990; Dertouzos, Lester, & Solow, 1989; Porter, 1990; Reich, 1991) has led to increases in the amount of training and also changes in the types of training. Moreover, some of the success of employee involvement programs was based on sharing information with workers on goals, operating results, technology, financial performance, and competitors (Levine, 1995).

Studies indicated that the U.S. did not invest in training as heavily as other countries, particularly in comparisons of specific industries (MacDuffie & Kafcik, 1992; Pfeffer, 1994). Yet, HPWs invest more heavily in training (Appelbaum & Batt, 1994; Levine, 1995; Lawler, 1992; Osterman, 1994). Two doctoral studies were



reviewed to demonstrate the importance of skills and information workplace practices in an organization.

The relationship between importance and implementation of skills and information workplace practices at nuclear power plants (McGann, 1996)

McGann (1996) studied the relationship between the U.S. Department of Labor's HPWs in the skills and information category, and the training practices at nuclear power plants as perceived by training managers. The study also attempted to identify the relationships between implementation levels and importance levels of the workplace practices at nuclear power plants and the relationships between implementation levels and the performance level of nuclear power plants.

Questionnaires were sent by mail to all operating commercial nuclear power plants in the United States. Data were then collected from one training manager from each of the nuclear power plants. Fifty-five surveys were completed for a response rate of 79%. Descriptive statistics (mean, median, standard deviation, minimum and maximum) were used to describe the implementation levels and importance levels. Correlation coefficients were calculated to determine the relationship between implementation levels and importance levels. Least square regression analysis was used to determine the relationships between the implementation levels and the importance levels of nuclear plants.

There was a question on a consensus of a single definition for the HPW. The study used the practices identified in the Road to high-performance workplaces: A guide to better jobs and better business result (1994) by the U.S. Department of

Labor's Office of the American Workplace as its foundation. Since the study included only commercial operating nuclear power plants, generalization of the study's findings were limited to the responding organizations.

Four main study findings were described by McGann (1996). Workplace practices in the category of skills and information (U.S. Department of Labor, 1994) have been implemented at most nuclear plants. Overall implementation levels showed a mean of 73%, a median of 71.4%, and a standard deviation of 12.77%. Overall implementation levels ranged from a minimum of 41.4% to a maximum of 100%. Workplace practices in the category of skills and information (U.S. Department of Labor, 1994) were perceived as important at most nuclear plants. Overall importance levels showed a mean of 4.21, a median of 4.16, and a standard deviation of 0.478. Overall implementation ranged from a minimum of 3.28 to a maximum of 5.00. The finding indicated a positive relationship between the implementation levels and the importance levels, at a .05 level of significance, for all seven workplace practices when considered as a group ( $r = 0.560$ ). No relationship was indicated between the implementation level of workplace practices in the category of skill and information and the performance level of U.S. nuclear plants.

McGann (1996) recommended further study using other categories in the Department of Labor guideline within the nuclear power industry and other industries. She suggested that there were numerous opportunities for further research in areas concerning workplace practices in the nuclear industry and in other industries. One was to determine if there was a lag between implementing the

workplace practices and identifying relationships with performance levels. Another recommendation was to investigate the percentage of the workforce at nuclear power plants involved in the implementation of workplace practices. Moreover, further research to identify relationships between the implementation of the guideline and performance levels might be conducted. Additional studies could help increase awareness of the recommended guideline, promote its application, and establish benchmarks for companies pursuing a HPW.

The relationship between the implementation of high performance workplace practices and unionized companies: A survey of Wisconsin firms (Benkowski, 1997)

Another study pertaining to high-performance workplace practices was conducted to identify which characteristics of the HPWs as recommended by the U.S. Department of Labor's Office of the American Workplace (1994) in the categories of training, participation, organization, and partnership were being practiced at unionized companies in Wisconsin (Benkowski, 1997). A survey instrument was used to collect the data from unionized companies in Wisconsin. The adjusted study population included 272 unionized Wisconsin firms. A total of 159 surveys were returned from participants representing a 52.3% return rate. Of the 159 surveys returned, 65 came from union representatives and 94 from management.

The study relied upon a single perspective in each organization. Other viewpoints from those of line managers, trainers, workers and stewards might be equally and sometimes more valid. All possible unionized manufacturing companies

did not participate in the study. While the results might be useful, they could not be generalized and might not be applicable to all unionized companies.

Benkowski (1997) found that all 15 workplace practices as recommended by the U.S. Department of Labor's Office of the American Workplace (1994) were being implemented at various levels in unionized manufacturing companies in Wisconsin. The research found a positive relationship between the implementation levels of four workplace practices: (1) workers modify their work processes to correct safety problems or procedures; (2) workers modify their work processes to correct production problems or procedures; (3) workers modify their work processes to correct quality problems or procedures; and (4) the company and union engage in innovative collective bargaining agreements. Three workplace practices did not have a high level of relationship: workers are actively involved in redefining their jobs; current training programs are developed to support continuous learning; and workers are actively involved in selecting new technology. Although study findings indicated that more work was needed to increase the partnership between labor and management, several elements indicated that both sides recognized the importance of building a partnership for a survival of unionized American industry.

In the study with unionized companies, Benkowski (1997) recommended an expansion of further study to include non-manufacturing organizations. Moreover, a survey of perception on importance levels could be examined instead of implementation levels with minor changes in each section of the study. The study

could be conducted in several years to determine if economic conditions have increased or decreased union/management relationships on these workplace practices.

### IBM Corporation and IBM Thailand

#### History of IBM and its corporate culture

Beginning with the company's origin in the punched-card technology of the late nineteenth century, the International Business Machines (IBM) Corporation was founded by Thomas J. Watson, Sr., in 1914. The history of IBM is filled with success. Under the leadership of Thomas J. Watson, Sr., IBM grew into a major corporate power, creating and building new markets for accounting machinery during the first half of the century. Thomas J. Watson, Jr., then assumed the presidency in 1952 and built on his father's success. He brought IBM into the age of computers, leading the company to a position of a dominant player in business history.

The Watsons' tenets are uncomplicated and can be easily understood by everyone from the CEO's office to the mailroom. They are (1) the individual must be respected, (2) the customer must be given the best possible service, and (3) excellence and superior performance must be pushed. The practices have many things to do with human resources management at IBM. Excellence begins with the recruiting program. "IBM believes that the best students selected from the nation's best colleges may be the most responsive to the company's intensive training program and the most highly motivated to do superior work" (Rogers & Shook, 1986, p. 17). To achieve excellence, employees need superior training and must feel compelled to succeed.

The world of computing is changing rapidly and dramatically, so an internal highly competitive environment of IBM creates an atmosphere that nurtures excellence.

Roger and Shook (1986) also explained an organizational culture of IBM as follows:

Needless to say, a great deal of peer pressure exists. Nobody owns a job at IBM. With the intensity of competition and the continual emphasis on education, there is no room for individual complacency. This insistence on peak performance sets a rigid pace. (p. 17)

Considering employees as human capital, IBM invests a lot of money in its people. Total estimated expenses for education and training ran in excess of \$600 million in 1984 (Roger & Shook, 1986, p. 97). Skills and information sharing are two of many key components that IBM never misses in order to sustain its competitiveness in the market. Thomas Watson, Sr., believed that top management should spend 40% to 50% of its time educating and motivating its people.

IBM's training program is well-funded, planned, and structured so by the time the trainee is finished, he has the skills to meet the customer confidence. Rogers and Shook (1986) mentioned IBM's practice in training, which could be an excellence example to understand IBM's training policy.

It's not enough for marketing rep or system engineer to know the new technological advances made by the company and by the information-processing industry. He must stay on top of what's happening in his area of specialization, whether it be banking, transportation or whatever. It is estimated that an experienced IBM marketing rep will spend fifteen days

annually in the classroom, and attend special industry schools and conferences. (p. 72)

IBM also has a fundamental program that is designed to enhance communications as it boosts morale. The executive interview offers an employee a scheduled but rather informal conference with management one level above the person he or she works for. Open door policy is a normal practice at IBM. It is a basic communication channel, a policy that is deeply established in the company's history. Although there is no required reading list, considerable material is distributed to the field to be studied. Each week the company announces an average of ten different products plus new programs, so the marketing people must deal with a continuous flow of information. The sale force has a compelling need for information, and it is the responsibility of management to get that information to them.

### IBM Thailand

IBM Thailand was founded in 1952 during the leadership of Thomas J. Watson, Jr. The very first project of the company was to install a card machine for a national population census. IBM Thailand then expanded its products and services into many industries in Thailand: it established the first IBM 1620 at Chulalongkorn University (1960s), and the first airline on-line reservation system (1970s), and introduced the automatic teller machine (ATM) network in Thailand (1980s) and the first on-line banking system. The company still implements its headquarters policy as stated in the company's vision, "IBM Thailand is a world class quality company that excels in contributing innovative IT solutions to help our customers become

successful through our motivated and professional employees” (“Inside IBM: Company’s vision,” 1999).

Employees are the company’s most important asset. Recognizing this, the company continually evaluates its personnel programs, plans, and policies to ensure it keeps pace with the changing concerns and needs of its employees. Pay for contributions and skills proficiency are key components of its competitive total compensation system to reward superior performance. Employees directly influence their earning through sustained or improved job performance.

IBM Thailand applies the worldwide corporate policy of IBM Corporation in terms of skills and information sharing. A training policy of IBM Thailand reads:

Everyone in the company receives extensive skills training and culturing to develop a real career. All IBMers have an international exposure, working with different people from all over the world, and also responsibilities to broaden your horizon. To the right candidate, we provide the right environment and numerous opportunities to further yourself and your career. (“IBM believes equality in opportunities,” 1999)

### Summary of Literature Review

This chapter discussed the characteristics and dimensions of the high-performance workplace as well as viewpoints on the learning organization. Many authors stated that a high-performance workplace could be achieved through people, technology, organization structure, and work environment. The review of literature confirmed the practices recommended by the U.S. Department of Labor in the



publication, the Road to high-performance workplaces: A guide to better jobs and better business results (1994). This publication grouped the high-performance workplace practices into three useful categories: skills and information; participation, organization, and partnership; and compensation, security, and work environment.

The review of literature revealed several viewpoints on the learning organization. Many authors agreed that a learning organization involved continuous improvement of processes, products, and services through individual and team learning based on the changing nature of work, a competitive global environment, and rapid, unpredictable changes.

The findings of the literature review, especially the guideline created by the U.S. Department of Labor, can serve as a good basis for research pertaining to the high-performance work organization.

## Chapter 3

### RESEARCH METHODOLOGY

This chapter describes the study population, sampling technique, instrumentation, structure of the instrument, data collection methods, statistical analysis and treatment of data, and limitations of the study. The main objective of this study was to explore the perceived importance levels and the implementation levels of the U.S. Department of Labor's skills and information workplace practices of managers and non-managers at IBM Thailand Company Limited (IBM Thailand). Statements were selected from the three categories--skills and information; participation, organization, and partnership; and compensation, security, and work environment--listed by the U.S. Department of Labor (1994). The study also examined the relationships between the perceived importance levels and the perceived implementation levels of the workplace practices for managers and non-managers.

#### Study Population and Sampling

Because of its outstanding role in terms of training and human development in the Thai market, the researcher selected IBM Thailand as the study population. Like IBM Corporation (IBM) of the U.S., IBM Thailand perceives its employees as the company's most important asset. Recognizing this, IBM Thailand continually evaluates its personnel programs, plans and policies to ensure it keeps pace with the

changing concerns and needs of its employees. Pay for contributions and skill proficiency are key components of IBM Thailand's competitive compensation system designed to reward superior performance. Employees directly influence their earning through sustained and improved job performance.

#### Survey/Questionnaire Sample

A sample size (Reaves, 1992) was developed that had a 95% confidence level that yielded the sample proportion within  $\pm 0.05$  of the population proportion. IBM Thailand has 460 employees; a total of 260 mail questionnaires were initially distributed to a randomly selected group of employees.

Simple random sampling was used so that each person in the population had an equal opportunity for selection. Fink and Kosecoff (1998) reported that simple random sampling was the simplest of all probability sampling methods. Nevertheless, a major disadvantage of simple random sampling was not being able to divide respondents into subgroups or strata. To facilitate the sampling and have a sample that was statistically representative of IBM Thailand's employees, the researcher used a table of random numbers (Fisher & Yates, 1963, pp. 337-338) to select a sample by assigning numbers to all 460 employees and randomly selecting 260 survey participants.

#### In-depth Interview Sample

Two criteria were used in deciding how many participants were enough for the interviews (Seidman, 1991). The first was sufficiency. The researcher had to decide whether there were sufficient numbers to reflect the range of participants and

sites that made up the population so that others outside the sample might have a chance to connect to the experiences of those in it. The other was saturation of information. A number of writers (Douglas, 1976; Glaser & Strauss, 1967; Lincoln & Gula, 1985; Rubin & Rubin, 1995) discussed saturation as the point in a study at which the interviewer began to hear the same information reported. At some point, however, when nothing new was learned or when the process of interviewing itself was becoming laborious rather than pleasurable (Bertaux, 1981), no more participants would be interviewed. The researcher eventually reached sufficiency and saturation of information after conducting seven interviews with managers and non-managers at IBM Thailand.

### Instrumentation

Two instruments were used in this study: a survey instrument and an in-depth interview questionnaire.

#### The Survey Instrument

All questions in the survey instrument were modified from a questionnaire by McGann (1996) for the purpose of identifying the implementation levels and the importance levels of workplace at nuclear plants in order to determine the relationships between the implementation levels and the importance levels as well as the relationships between the implementation levels and the performance levels at nuclear power plants.

The researcher primarily used a survey instrument to collect the data pertaining to the research questions. Two references in particular were helpful in the design and modification of the survey: Dillman's book, Mail and telephone surveys: The total design method (1978); and Fink and Kosecoff's How to conduct surveys: A step-by-step guide (1998). The final version of the survey was submitted for a protection of human subjects review by the Office for Regulatory Affairs at The Pennsylvania State University.

The questionnaire contained three main sections: Part I, training and continuous learning; Part II, information sharing; and Part III, personnel data. All questions used the Likert response scale with a scale of 0 to 10, except personnel data questions. To ensure the validity and reliability of the instrument, the researcher asked five training professionals, consultants, and statisticians to review the survey instrument for clarity and suggestions. The final version of the questionnaire is shown in Appendix B as the "High-Performance Workplace Data Sheet." Table 1 provides a profile of the survey instrument.

Table 1

Profile of Survey Instrument and Related Data Analysis Techniques

<u>Research Question #1</u>	<u>Survey Sources of Data</u>	<u>Type of Data</u>	<u>Data Analysis Technique</u>
To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived to be important by managers and non-managers at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived importance levels?	<u>Training and continuous learning - Part 1</u> Questions 1-4	Likert Scale (Interval)	Means, Standard Deviation, Frequency, t-test
	<u>Information sharing - Part 2</u> Questions 5-7	Likert Scale (Interval)	Means, Standard Deviation, Frequency, t-test
	<u>Personal data - Part 3</u> Question 8	(Nominal)	
<u>Research Question #2</u>	<u>Survey Sources of Data</u>	<u>Type of Data</u>	<u>Data Analysis Technique</u>
To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived by managers and non-managers to be implemented at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived importance levels?	<u>Training and continuous learning - Part 1</u> Questions 1-4	Likert Scale (Interval)	Means, Standard Deviation, Frequency, t-test
	<u>Information sharing - Part 2</u> Questions 5-7	Likert Scale (Interval)	Means, Standard Deviation, Frequency, t-test
	<u>Personal data - Part 3</u> Question 8	(Nominal)	
<u>Research Question #3</u>	<u>Survey Sources of Data</u>	<u>Type of Data</u>	<u>Data Analysis Technique</u>
What are the relationships between the perceived important levels and the perceived implementation levels for managers and non-managers, and is the gap between the perceived importance levels and perceived implementation levels statistically difference between managers and non-managers at IBM Thailand?	<u>Training and continuous learning - Part 1</u> Questions 1-4	Likert Scale (Interval)	t-test, Analysis of Correlation
	<u>Information sharing - Part 2</u> Questions 5-7	Likert Scale (Interval)	t-test, Analysis of Correlation
	<u>Personal data - Part 3</u> Question 8	(Nominal)	

### In-depth Interviews

In regard to the interview questions, the content of the interview included not only a set of items/questions, but also alternative subsequent items depending on the responses obtained and suggestions for probes (Robson, 1993). The interview part of this study used open-ended questions, which provided no restrictions on the content or manner of the reply other than the focus on the subject area.

Seidman (1991) also recommended a pilot study of the proposed interview. The pilot study uncovered whether an interview structure was appropriate for the study, some of the practical aspects of establishing access, making contact, and conducting the interview. The pilot could alert researchers to elements of their own interview techniques that support the objectives of the study and to those that detract from those objectives. The researcher conducted a pilot study of the interview questions with employees at IBM Thailand, and made adjustments to the questions. Finally, the semi-structured high-performance interview guide (Appendix D) was developed by the researcher to use as an aid in the interviews.

### Structure of the Instrument

Both the survey instrument and interview questions were composed of seven major questions relating to high-performance workplace practices in the skills and information category. Responses to all items were used to answer the three research questions for this study. They were composed of three major sections of questions as shown in Table 2.

Table 2

Source of Information from Survey

<b><u>Research Question #1</u></b>	<b><u>Source of Information from Survey</u></b>
To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived to be important by managers and non-managers at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived importance levels?	<u>Training and continuous learning – Part 1</u> Questions 1-4  <u>Information sharing – Part 2</u> Questions 5-7  <u>Personal data – Part 3</u> Question 8
<b><u>Research Question #2</u></b>	<b><u>Source of Information from Survey</u></b>
To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived by managers and non-managers to be implemented at IBM Thailand, and is there a statistical difference between managers and non-managers for the implementation levels?	<u>Training and continuous learning – Part 1</u> Questions 1-4  <u>Information sharing – Part 2</u> Questions 5-7  <u>Personal data – Part 3</u> Question 8
<b><u>Research Question #3</u></b>	<b><u>Source of Information from Survey</u></b>
What is the relationships between the perceived importance levels and the implementation levels for managers and non-managers, and is the gap between the perceived importance levels and the implementation levels statistically different between managers and non-managers at IBM Thailand?	<u>Training and continuous learning – Part 1</u> Questions 1-4  <u>Information sharing – Part 2</u> Questions 5-7  <u>Personal data – Part 3</u> Question 8

All questions in Parts 1 and 2 were modified from a questionnaire by McGann (1996) to identify the relationship between the U.S. Department of Labor's high-performance workplace practices in the skills and information category, and the



training practices at nuclear power plants as perceived by training management. Please also refer to Appendix A for a survey data sheet. A semi-structured high-performance interview guide can be found in Appendix D.

### Data Collection

In order to neutralize any bias inherent in particular data sources, investigation, and methods, this study utilized the concept of “triangulation” (Jick, 1979, p. 610). A combination of a questionnaire and an in-depth interview were used in the study.

Triangulation is a term borrowed from navigation and military strategy, to argue for the combination of methodologies in the study of the same phenomenon. It is based on the assumption that any bias inherent in particular data sources, investigation, and method would be neutralized when used in conjunction with other data sources, investigations, and methods. (Jick, 1979, p. 610)

### Questionnaire/Survey

The mail survey package included a cover letter, an instruction/consent form, and a high-performance data sheet. A well-designed cover letter was critical to ensuring a good response rate. The letter was one page in length; used professionally produced letterhead; and make it clear how people could get in touch with the researcher. The letter told tell why the study was important. The cover letter started with the significance of the study, explained who was being asked to participate in the

study, and emphasized voluntary participation and confidentiality. The researcher stated how to return the questionnaire. The letter was easy to read, and also explained that the returned survey would be kept confidential and information provided was anonymous (Mangione, 1995).

According to Lockhart (1984), “the survey follow-up is another important factor in obtaining a successful rate of return” (p. 51). The researcher followed a recommendation of Dillman (1978) in the three mailing follow-up sequences as follows:

One week, a postcard reminder sent to everyone. It serves as both a thank you for those who have responded and as a friendly and courteous reminder for those who have not. Three weeks, a letter and replacement questionnaire sent only to non-respondents. Nearly the same in appearance as the original mailout, it has a shorter cover letter that informs non-respondents that their questionnaire has not been received, and appeals for its return. Seven weeks, this final mailing is similar to the one that preceded it except that it is sent by certified mail to emphasize its importance. Another replacement questionnaire is enclosed. (p. 183)

### In-depth Interviews

In-depth interviewing is a data collection technique relied on quite extensively by qualitative researchers. It is often described as “A conversation with a purpose” (Kahn & Cannel, 1957, p. 149). Interview questions were generally similar to the

mail survey question, but the researcher explored each topic to help uncover the participants' perspective.

According to the Office of Regulatory Compliance, an informed consent form had to be presented and signed by interview participants, employers, and the researcher. The consent form included an explanation of the study and the rights of research participant. An example of the informed consent form may be found in Appendix C. The original, signed informed consent form obtained from the interview participants was later stored at the Office of Regulatory Compliance in a sealed envelope. No one other than the researcher had authority to open the envelope without his permission.

The human resources department at IBM Thailand arranged meetings for the researcher to talk with managers and non-managers. This process happened after 216 survey questionnaires were returned and analyzed. The researcher used the semi-structured high-performance interview guide (Appendix D) as an aid in the interviews. An in-depth interview was conducted with seven managers and non-managers at IBM Thailand.

### Data Analysis

Data analysis results provided information to answer the three research questions. Each workplace practice was studied independently. To answer the first two research questions, descriptive statistics were provided to indicate the extent of the perceived importance levels and the perceived implementation levels of the

workplace practices. The frequency distribution, mean, median, standard deviation, minimum, and maximum of the perceived importance levels and the perceived implementation levels of each workplace practice were reported for managers and non-managers, respectively. The analysis of whether there was a statistical difference between managers and non-managers for the perceived importance levels and the perceived implementation levels of the workplace practices were reported using inferential statistics.

In order to apply inferential statistics to the study, the researcher drew a study sample in a random fashion using a table of random numbers (Fisher & Yates, 1963). This method provided a representative sample of all employees at IBM Thailand. A t-test was used to complete hypothesis testing relating to the research questions. This procedure was done to examine statistical differences between managers and non-managers for the perceived importance levels and the perceived implementation levels individually. The researcher selected t-test because the scale of measurement for dependent variables of the study (seven workplace practices) was interval/ratio and there were only two levels of the independent variable (managers or non-managers). A 95% significance level was used for the null hypothesis, with critical value at  $\pm 1.96$ . The alpha level of .05 was a cut-off to accept or reject the null hypothesis.

Research question 3 was analyzed by an analysis of correlation and a t-test. A Pearson product moment correlation coefficient was used to test the relationships between the levels of implementation and the levels of importance for each workplace

practice. Table 3 shows an interpretation of the correlation coefficient reported according to Fitz-Gibbons and Morris (1978).

Table 3

Interpretation of Correlation Coefficient

<u>Interpretation</u>	<u>Range</u>
Little Correlation	-0.0 to -0.3 and +0.0 to +0.3
Low Correlation	-0.3 to -0.5 and +0.3 to +0.5
Moderate Correlation	-0.5 to -0.7 and +0.5 to +0.7
High Correlation	-0.7 to -0.9 and +0.7 to +0.9
Very High Correlation	-0.9 to -1.0 and +0.9 to +1.0

A level of significance for correlation coefficient explained the relationships between the sample correlation coefficient and the population correlation coefficient. It followed a cut-off recommended by Zuwaylif (1974). Since the sample size of managers was 63, the correlation coefficient was regarded as significant at the .05 level whenever its absolute value exceeded 0.25, and was regarded as significant at the .01 level whenever its absolute value exceeded 0.325. For non-managers with the sample size of 153, the correlation coefficient was regarded as significant at the .05 level whenever its absolute value exceeded 0.159 and regarded as significant at the .01 level whenever its absolute value exceeded 0.208.

Research question 3 also tried to compare a gap of the perceived importance levels and the perceived implementation levels of the workplace practices between managers and non-managers. The researcher calculated differences between the perceived importance levels and the perceived implementation levels of each workplace practice for managers and non-managers were examined individually. The findings were then used to analyze the differences (gaps) between two groups using a t-test. A 95% significance level was used for the null hypothesis, with a critical value at  $\pm 1.96$ . The alpha level of .05 was a cut-off to accept or reject the null hypothesis.

Table 4 introduced individual workplace practices to be analyzed after data were collected by the survey instrument and in-depth interview methodology.

Table 4

Recommended Workplace Practices

Number	Workplace Practice
1	Programs are in place to support continuous learning and development-- hereafter will also be referred to as "Continuous Learning."
2	Programs are in place to measure the application of the training in the workplace-- hereafter will also be referred to as "Assessment of Training Application."
3	Training programs are effective based on feedback from the workplace-- hereafter will also be referred to as "Effective Training."
4	Investments in training and development are higher than in other organizations-- hereafter will also be referred to as "Higher Investment in Training."
5	All workers receive performance information (e.g., financial, operating, organizational) for your organization--hereafter will also be referred to as "Performance Information."
6	All workers are trained to apply performance information (e.g., financial, operating, organizational) to attain continuous improvement--hereafter will also be referred to as "Training on Performance Information."
7	There are multiple mechanisms for internal communication to flow in all directions throughout the organization--hereafter will also be referred to as "Internal Communication Flow."

Limitations of the Study

Some limitations of this study must be mentioned.

- (1) "The reliability and validity of the responses to the survey questions are difficult to establish" (Dickinson & Blunt, 1980, p. 54). Though the study used triangulation to neutralize a bias in the questionnaire, there was no guarantee that response could achieve a perfect reliability and validity test.

- (2) The study's generalizability will be limited as this is a study of one particular organization--a case study. Although inferential statistics were used, analysis could not be generalized to a population other than IBM Thailand. Moreover, interpretation of high-performance organization might differ among employees and between organizations. As a result, generalizing the findings must be done cautiously.
- (3) With the implication of an in-depth interview, an assumption fundamental to qualitative research must be made--the participant's perspective on the social phenomenon of interest should unfold as the participant views it, not as the researcher views it (Marshall & Rossman, 1989).



## Chapter 4

### ANALYSIS OF FINDINGS

#### Introduction

The purpose of this study was to explore the perceived importance levels and the perceived implementation levels of the U.S. Department of Labor's high-performance workplace practices for managers and non-managers at IBM Thailand Company Limited (IBM Thailand). From the three categories--skills and information; participation, organization, and partnership; and compensation, security, and work environment--listed by the U.S Department of Labor (1994), statements in the skills and information category were selected for the study. This research also examined the relationships between the perceived importance levels and the implementation levels for the workplace practices between managers and non-managers.

This study used the workplace practices that were recommended by the U.S. Department of Labor (1994) in the publication Road to high-performance workplaces: A guide to better jobs and better business results as a framework. The data for the perceived importance levels and the perceived implementation levels were obtained using questionnaire surveys and in-depth interview methodology. A total of 260 mail surveys were distributed with a response of 216 (83% response rate): 63 were from managers and 153 were from non-managers. Seven interviews were conducted with managers and non-managers. This chapter reports study findings, organized to correspond to each research question presented in the statement of the problem.

### Research Question 1

*To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived to be important by managers and non-managers at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived importance levels?*

Table 5 reports the frequency distribution for the perceived importance levels of workplace practices in the category of skills and information for managers. Zero indicates no importance and 10 indicates full importance of the workplace practice.

For workplace practice #1, “programs are in place to support continuous learning and development,” 8 was the most frequent perceived importance level reported (22/63 or 35%). The least frequent perceived importance level reported for the practice were 1, 3, and 6 (3/63 or 5%).

For workplace practice #2, “programs are in place to measure the application of training in the workplace,” 8 was the most frequent perceived importance level reported (21/63 or 33%). The least frequent perceived importance level reported for the practice was 2 (2/63 or 3%).

Table 5

Importance Levels of Workplace Practices for Managers

Workplace Practice	Importance Levels										
	0	1	2	3	4	5	6	7	8	9	10
Continuous Learning	0%	5%	0%	5%	0%	10%	5%	8%	35%	17%	16%
Assessment of Training Application	0%	0%	3%	6%	0%	8%	11%	5%	33%	19%	14%
Effective Training	0%	3%	0%	6%	0%	0%	14%	10%	35%	19%	13%
Higher Investment in Training	0%	0%	0%	5%	5%	5%	5%	5%	29%	24%	24%
Performance Information	0%	0%	0%	0%	5%	14%	5%	10%	30%	5%	32%
Training on Performance Information	0%	0%	0%	8%	2%	21%	0%	5%	27%	19%	19%
Internal Communication Flow	0%	0%	0%	0%	10%	0%	10%	5%	27%	13%	37%

N = 63

For workplace practice #3, “training programs are effective based on feedback from the workplace,” 8 was the most frequent perceived importance level reported (22/63 or 35%). The least frequent perceived importance level reported for the practice was 1 (2/63 or 3%).

For workplace practice #4, “investments in training and development are higher than other organizations,” 8 was the most frequent perceived importance level reported (18/63 or 29%). The least frequent perceived importance levels reported for the practice were 3, 4, 5, 6, and 7 (3/63 or 5%).

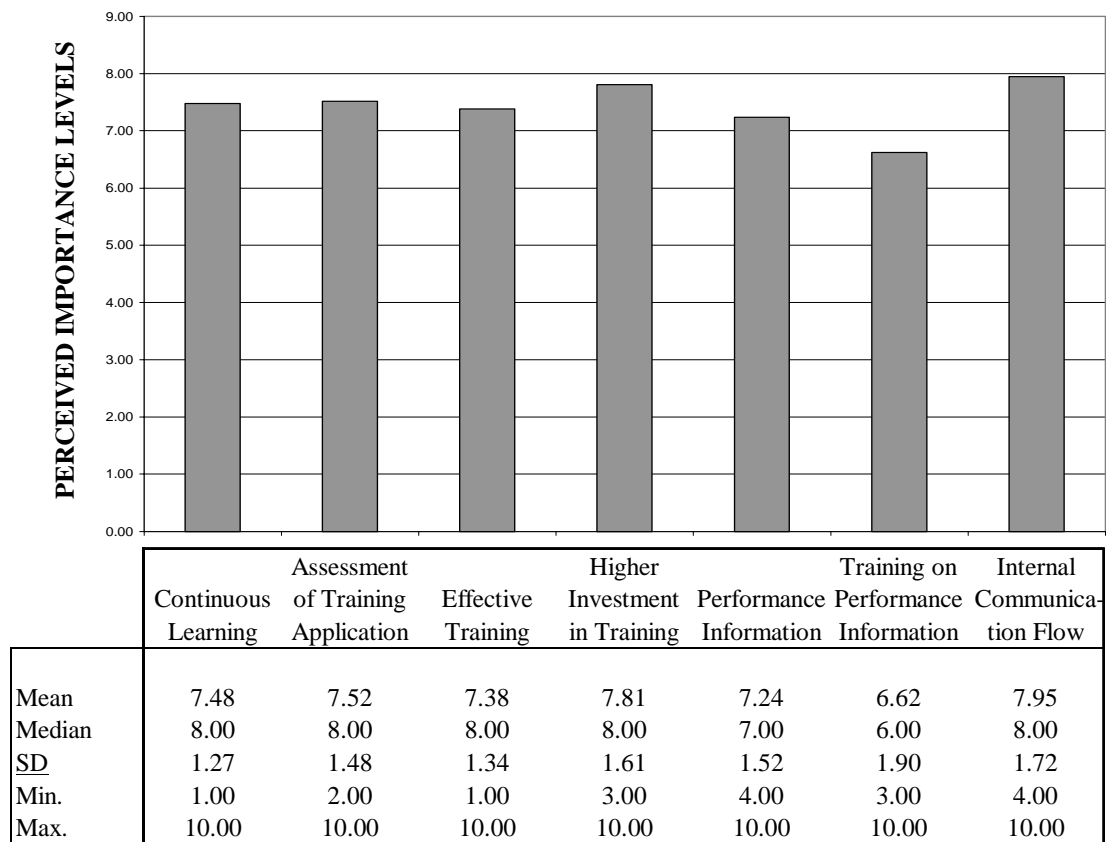
For workplace practice #5, “all workers receive performance information from your organization,” 10 was the most frequent perceived importance level reported (20/63 or 32%). The least frequent perceived importance levels reported for the practice was 4, 6, and 9 (3/63 or 5%).

For workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” 8 was the most frequent perceived importance level reported (17/63 or 27%). The least frequent perceived importance level reported for the practice was 4 (1/63 or 2%).

For workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” 10 was the most frequent perceived importance level reported (23/63 or 37%). The least frequent perceived importance level reported for the practice was 7 (3/63 or 5%).

Figure 1 reports central tendency and variability descriptive statistics for the perceived importance levels of workplace practices for managers at IBM Thailand. The average perceived importance levels across the seven workplace practices showed a mean of 7.43, a median of 8, and a standard deviation of 1.60. The average perceived importance levels ranged from a minimum of 1 to a maximum of 10.

The means for the perceived importance levels of the individual workplace practices ranged from a low of 6.62 for workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” to a high of 7.95 for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization.”



**Figure 1.** Descriptive Statistics and Importance Levels for Managers

Bar graph represents the mean score of the perceived importance levels of the workplace practices.

The highest means reported were for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization” (7.95), workplace practice #4, “investments in training and development are higher than other organizations” (7.81), and workplace practice #2, “programs are in place to measure the application of training in the workplace” (7.52).

The lowest means reported were for workplace practice #5, “all workers receive performance information from your organization” (7.24), and workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement” (6.62).

Table 6 reports the frequency distribution regarding the perceived importance levels of workplace practices in the category of skills and information of non-managers. Zero indicates no importance and 10 indicates full importance of the workplace practice.

Table 6

Importance Levels of Workplace Practices for Non-managers

Workplace Practice	Importance Levels										
	0	1	2	3	4	5	6	7	8	9	10
Continuous Learning	0%	0%	0%	1%	5%	4%	10%	27%	35%	12%	6%
Assessment of Training Application	0%	0%	0%	5%	1%	8%	16%	33%	18%	14%	5%
Effective Training	0%	0%	0%	0%	2%	6%	16%	31%	25%	16%	4%
Higher Investment in Training	0%	0%	0%	0%	0%	7%	2%	20%	39%	18%	13%
Performance Information	0%	0%	0%	0%	0%	12%	15%	25%	20%	10%	18%
Training on Performance Information	0%	0%	0%	0%	4%	25%	10%	22%	14%	14%	12%
Internal Communication Flow	0%	0%	0%	0%	0%	3%	7%	14%	43%	13%	20%

N = 153

For workplace practice #1, “programs are in place to support continuous learning and development,” 8 was the most frequent perceived importance level reported (54/153 or 35%). The least frequent perceived importance level reported for the practice was 3 (2/153 or 1%).

For workplace practice #2, “programs are in place to measure the application of training in the workplace,” 7 was the most frequent perceived importance level reported (51/153 or 33%). The least frequent perceived importance level reported for the practice was 4 (2/153 or 1%).

For workplace practice #3, “training programs are effective based on feedback from the workplace,” 7 was the most frequent perceived importance level reported (48/153 or 31%). The least frequent perceived importance level reported for the practice was 4 (3/153 or 2%).

For workplace practice #4, “investments in training and development are higher than other organizations,” 8 was the most frequent perceived importance level reported (60/153 or 39%). The least frequent perceived importance level reported for the practice was 6 (3/153 or 2%).

For workplace practice #5, “all workers receive performance information from your organization,” 7 was the most frequent perceived importance level reported (39/153 or 25%). The least frequent perceived importance level reported for the practice was 9 (15/153 or 10%).

For workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” 5 was the most frequent perceived

importance level reported (39/153 or 25%). The least frequent perceived importance level reported for the practice was 4 (6/153 or 4%).

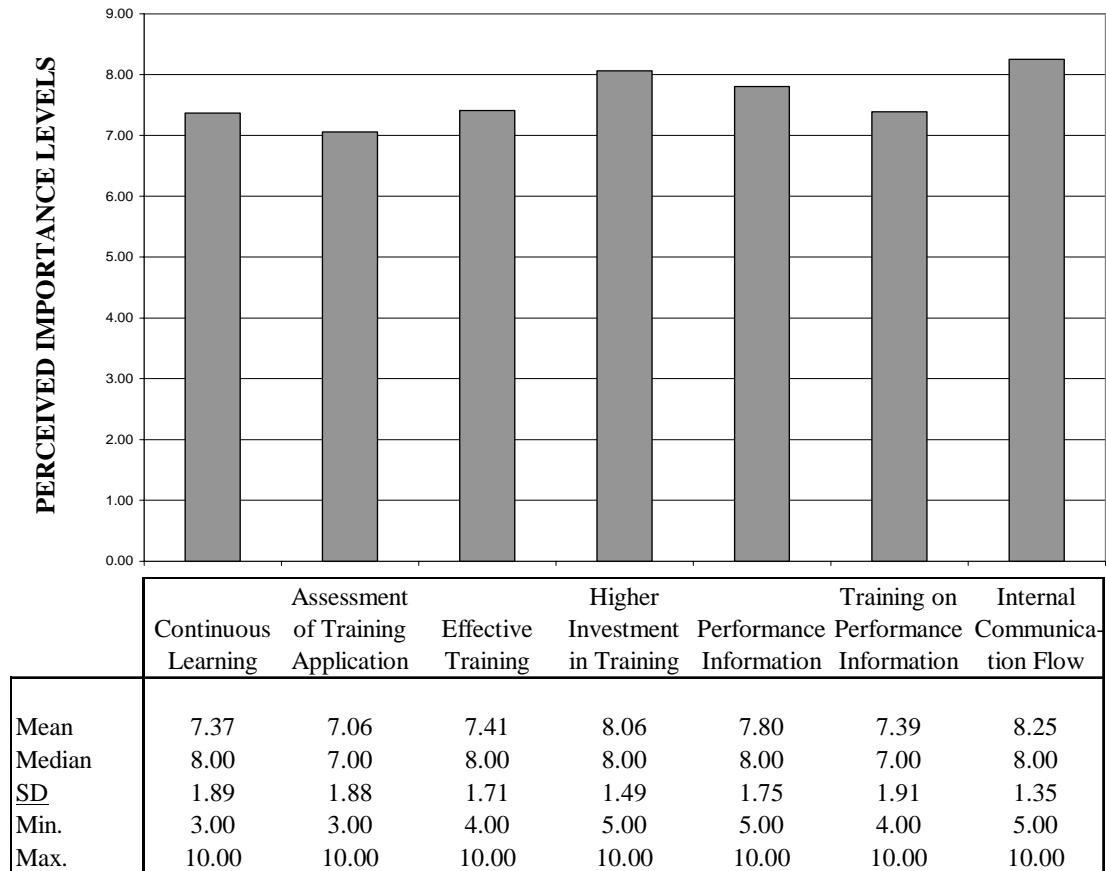
For workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” 8 was the most frequent perceived importance level reported (66/153 or 43%). The least frequent perceived importance level reported for the practice was 5 (5/153 or 3%).

Figure 2 reports central tendency and variability descriptive statistics for the perceived importance levels of workplace practices for non-managers at IBM Thailand. The average perceived importance levels across the seven workplace practices showed a mean of 7.62, a median of 8, and a standard deviation of 1.76. The average perceived importance levels ranged from a minimum of 3 to a maximum of 10.

The means for the perceived importance levels of the individual workplace practices ranged from a low of 7.06 for workplace practice #2, “programs are in place to measure the application of training in the workplace,” to a high of 8.25 for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization.”

The highest means reported were for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization” (8.25), workplace practice #4, “investments in training and development are higher than other organizations” (8.06), and workplace practice #5, “all workers receive performance information from your organization” (7.80).





**Figure 2.** Descriptive Statistics and Importance Levels for Non-managers  
Bar graph represents the mean score of the perceived importance levels of the workplace practices.

The lowest means reported were for workplace practice #1, “programs are in place to support continuous learning and development” (7.37), and workplace practice #2, “programs are in place to measure the application of training in the workplace” (7.06).

Table 7 reports whether there was a statistical difference between managers and non-managers for the perceived importance levels of each workplace practice.

Table 7

T-Test Results for Importance Levels between Managers and Non-managers

	Workplace Practice						
	1 Continuous Learning	2 Assessment of Training Application	3 Effective Training	4 Higher Investment in Training	5 Performance Information	6 Training on Performance Information	7 Internal Communica- tion Flow
Managers' mean	7.48	7.52	7.38	7.81	7.24	6.62	7.95
Non-Managers' mean	7.37	7.06	7.41	8.06	7.80	7.39	8.25
t value	0.40	1.75	-0.13	-1.09	-2.24	-2.71	-1.38
p	0.69	0.08	0.90	0.28	<b>0.03*</b>	<b>0.01*</b>	0.17

Note. \* indicates a statistical difference ( $p < .05$ ).

The t-test results indicated a statistically significant difference for perceived importance levels between managers and non-managers at the 95% confidence level ( $\pm 1.96$ ) for workplace practice #5, “all workers receive performance information from your organization,” and workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement.”

For workplace practice #5, the absolute value of the observed t score (2.24) was greater than the critical t score for the 95% confidence level. Therefore, the null hypothesis associated with the research question was rejected. The analysis of findings indicated a statistically significant difference at 95% level of confidence between managers and non-managers for the perceived importance levels of this workplace practice. The mean score of managers (7.24) was lower than that of non-managers (7.80).

For workplace practice #6, the absolute value of the observed  $t$  score (2.71) was greater than the critical  $t$  score for the 95% confidence level. Therefore, the null hypothesis associated with the research question was rejected. The analysis of findings indicated a statistically significant difference at 95% level of confidence between managers and non-managers for the perceived importance levels of this workplace practice. The mean score of managers (6.62) was lower than that of non-managers (7.39).

#### Interviews with Managers and Non-managers

With regard to training and continuous learning practices, participants one, two, and six said that it was IBM's corporate and workplace policy to make skill development the first priority. Participant three perceived an importance of 8 for workplace practice #1, saying that, "The scale is a little low, I would give it at least 8.0. There is an e-mail message informing all employees to update and improve their own skills and explaining an importance of skill systems." Participant two, however, added that, "We do not evaluate direct application, but skill development." Participant two disagreed with the mean-score of 7.2 for workplace practice #2, saying that "it was the end result that the company gave importance to, not a measuring tool." In terms of feedback, participant two commented that it depended on the willingness of employees to give feedback, which led to the value of the feedback. For workplace practice #4, participant four added that, "most or all employees obviously know that IBM provides better training and puts more investment in training than other companies, New applicants want to join our company to get training."

When we look at information-sharing practices, participant one said that every employee hoped to get information and IBM kept them informed. Participant two believed the IBM work teams were one global team so there was no bounding to each specific team. Participant three perceived the importance of workplace practice #6 at 7.0 because not everyone could use this information. Participant five also added that, “We can learn or apply it from daily business or experience.” Participant seven was concerned about confidentiality and accuracy of the information (adjusted figures). And last, participant two talked about internal communication that, “Complexity of organization is a factor, If we do not have a chain of command, there will be a breakdown of the whole team.”

### Research Question 2

*To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived by managers and non-managers to be implemented at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived implementation levels?*

Table 8 shows the frequency distribution regarding the perceived implementation levels of workplace practices in the category of skills and information for managers. Zero indicates no implementation and 10 indicates full implementation of the workplace practice.

Table 8

Implementation Levels of Workplace Practices for Managers

Workplace Practice	Implementation Levels										
	0	1	2	3	4	5	6	7	8	9	10
Continuous Learning	0%	5%	6%	8%	0%	10%	5%	27%	25%	3%	11%
Assessment of Training Application	0%	3%	6%	10%	5%	5%	5%	33%	19%	10%	5%
Effective Training	0%	0%	5%	10%	5%	6%	8%	29%	25%	5%	8%
Higher Investment in Training	0%	8%	2%	0%	10%	5%	3%	5%	30%	24%	14%
Performance Information	0%	5%	0%	6%	5%	8%	5%	14%	17%	13%	27%
Training on Performance Information	0%	0%	8%	0%	11%	10%	5%	30%	10%	13%	14%
Internal Communication Flow	0%	0%	0%	10%	2%	5%	8%	10%	29%	10%	29%

N = 63

For workplace practice #1, “programs are in place to support continuous learning and development,” 7 was the most frequent perceived implementation level reported (17/63 or 27%). The least frequent perceived implementation level reported for the practice were 9 (2/63 or 3%).

For workplace practice #2, “programs are in place to measure the application of training in the workplace,” 7 was the most frequent perceived implementation level reported (21/63 or 33%). The least frequent perceived implementation level reported for the practice was 1 (2/63 or 3%).

For workplace practice #3, “training programs are effective based on feedback from the workplace,” 7 was the most frequent perceived implementation level reported (18/63 or 29%). The least frequent perceived implementation levels reported for the practice were 2, 4, and 9 (3/63 or 5%).

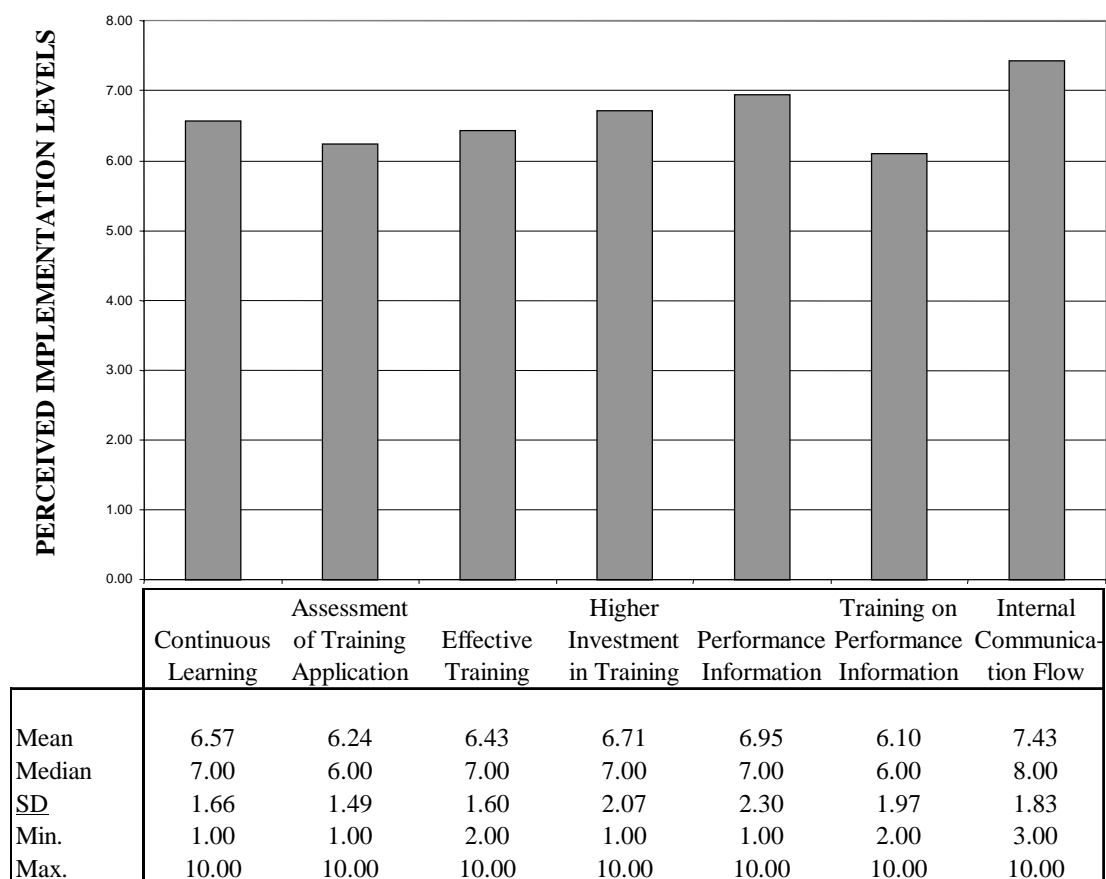
For workplace practice #4, “investments in training and development are higher than other organizations,” 8 was the most frequent perceived implementation level reported (19/63 or 30%). The least frequent perceived implementation level reported for the practice was 2 (1/63 or 2%).

For workplace practice #5, “all workers receive performance information from your organization,” 10 was the most frequent perceived implementation level reported (17/63 or 27%). The least frequent perceived implementation levels reported for the practice were 1, 4, and 6 (3/63 or 5%).

For workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” 7 was the most frequent perceived implementation level reported (19/63 or 30%). The least frequent perceived implementation level reported for the practice was 6 (3/63 or 5%).

For workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” 8 and 10 were the most frequent perceived implementation levels reported (18/63 or 29%). The least frequent perceived implementation level reported for the practice was 4 (1/63 or 2%).

Figure 3 reports central tendency and variability descriptive statistics for the perceived implementation levels of workplace practices for managers at IBM Thailand. The average perceived implementation levels across the seven workplace practices showed a mean of 6.63, a median of 7, and a standard deviation of 1.90. The average perceived implementation levels ranged from a minimum of 1 to a maximum of 10.



**Figure 3.** Descriptive Statistics and Implementation Levels for Managers  
Bar graph represents the mean score of the perceived implementation levels of the workplace practices.

The means for the perceived implementation levels of the individual workplace practices ranged from a low of 6.10 for workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” to a high of 7.43 for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization.”

The highest means reported were for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization” (7.43), workplace practice #5, “all workers receive performance information from your organization” (6.95), and workplace practice #4, “investments in training and development are higher than other organizations” (6.71).

The lowest means reported were for the workplace practice #2, “programs are in place to measure the application of training in the workplace” (6.24), and workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement” (6.10).

Table 9 reports the frequency distribution regarding the perceived implementation levels of workplace practices in the category of skills and information for non-managers. Zero indicates no implementation and 10 indicates full implementation of the workplace practice.



Table 9

Implementation Levels of Workplace Practices for Non-managers

Workplace Practice	Implementation Levels										
	0	1	2	3	4	5	6	7	8	9	10
Continuous Learning	0%	0%	3%	7%	6%	14%	18%	27%	16%	8%	2%
Assessment of Training Application	0%	0%	4%	8%	8%	18%	27%	18%	14%	3%	1%
Effective Training	0%	0%	0%	7%	8%	8%	27%	22%	18%	8%	2%
Higher Investment in Training	0%	0%	0%	6%	2%	14%	20%	16%	20%	12%	12%
Performance Information	0%	0%	0%	5%	3%	10%	25%	22%	14%	7%	15%
Training on Performance Information	0%	0%	0%	6%	10%	16%	26%	15%	10%	8%	9%
Internal Communication Flow	0%	0%	0%	1%	1%	6%	8%	31%	25%	9%	18%

N = 153

For workplace practice #1, “programs are in place to support continuous learning and development,” 7 was the most frequent perceived implementation level reported (42/153 or 27%). The least frequent perceived implementation level reported for the practice was 10 (3/153 or 2%).

For workplace practice #2, “programs are in place to measure the application of training in the workplace,” 6 was the most frequent perceived implementation level reported (41/153 or 27%). The least frequent perceived implementation level reported for the practice was 10 (2/153 or 1%).

For workplace practice #3, “training programs are effective based on feedback from the workplace,” 6 was the most frequent perceived implementation level reported (42/153 or 27%). The least frequent perceived implementation level reported for the practice was 10 (3/153 or 2%).

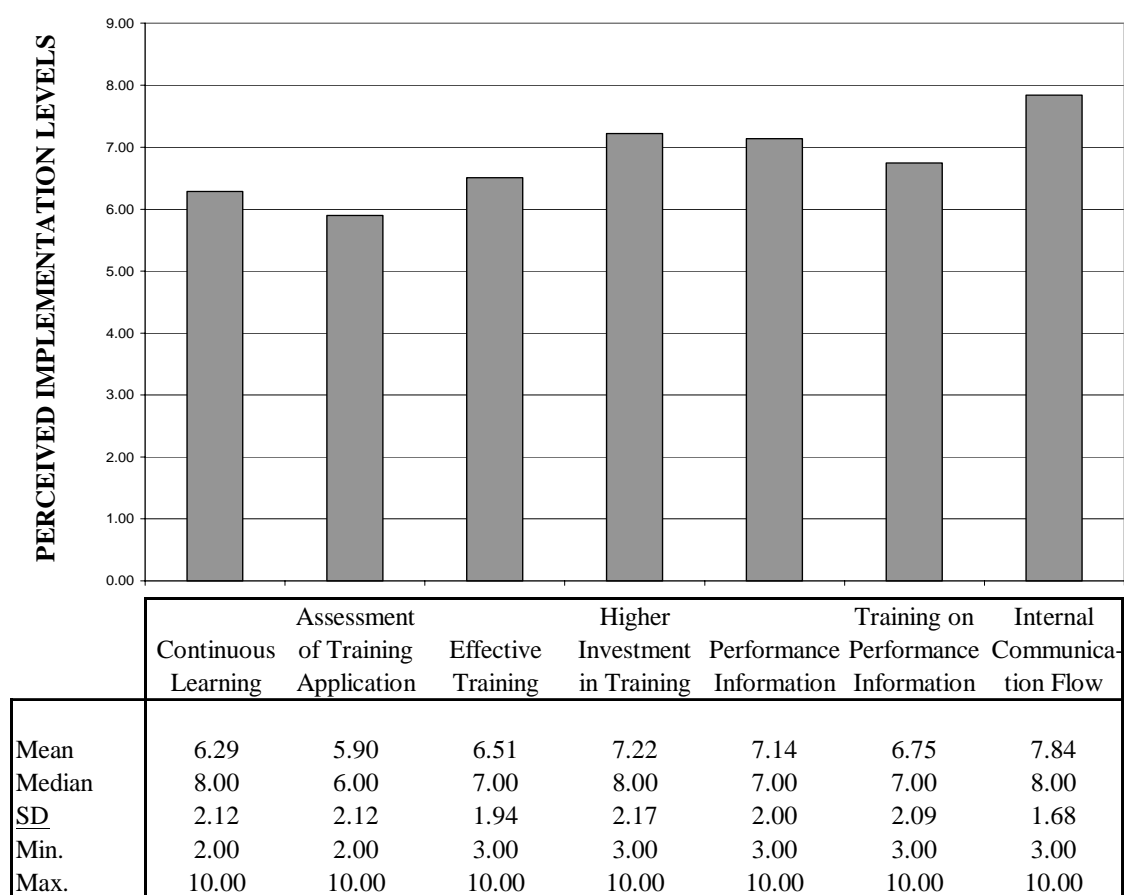
For workplace practice #4, “investments in training and development are higher than other organizations,” 6 and 8 were the most frequent perceived implementation levels reported (30/153 or 20%). The least frequent perceived implementation level reported for the practice was 4 (3/153 or 2%).

For workplace practice #5, “all workers receive performance information from your organization,” 6 was the most frequent perceived implementation level reported (39/153 or 25%). The least frequent perceived implementation level reported for the practice was 4 (4/153 or 3%).

For workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” 6 was the most frequent perceived implementation level reported (40/153 or 26%). The least frequent perceived implementation level reported for the practice was 3 (9/153 or 6%).

For workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” 7 was the most frequent perceived implementation level reported (47/153 or 31%). The least frequent perceived implementation level reported for the practice was 4 (1/153 or 1%).

Figure 4 reports central tendency and variability descriptive statistics for the perceived implementation levels of workplace practices for non-managers at IBM Thailand. The average perceived implementation levels across the seven workplace practices showed a mean of 6.81, a median of 7, and a standard deviation of 2.11. The average perceived implementation levels ranged from a minimum of 1 to a maximum of 10.



**Figure 4.** Descriptive Statistics and Implementation Levels for Non-managers  
Bar graph represents the mean score of the perceived implementation levels of the workplace practices.

The means for the perceived implementation levels of the individual workplace practices ranged from a low of 5.90 for workplace practice #2, “programs

are in place to measure the application of training in the workplace,” to a high of 7.84 for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization.”

The highest means reported were for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization” (7.84), workplace practice #4, “investments in training and development are higher than other organizations” (7.22), and workplace practice #5, “all workers receive performance information from your organization” (7.14).

The lowest means reported were for workplace practice #1, “programs are in place to support continuous learning and development” (6.29), and workplace practice #2, “programs are in place to measure the application of training in the workplace” (5.90).

Table 10 shows whether there was a statistical difference between managers and non-managers on the perceived implementation levels of each workplace practice.

Table 10

T-Test Results for Implementation Levels between Managers and Non-managers

	Workplace Practice						
	1 Continuous Learning	2 Assessment of Training Application	3 Effective Training	4 Higher Investment in Training	5 Performance Information	6 Training on Performance Information	7 Internal Communica- tion Flow
Managers' mean	6.57	6.24	6.43	6.71	6.95	6.10	7.43
Non-Managers' mean	6.29	5.90	6.51	7.22	7.14	6.75	7.84
t value	0.93	1.15	-0.29	-1.56	-0.59	-2.11	-1.61
p	0.36	0.25	0.77	0.12	0.55	<b>0.04*</b>	0.11

Note. \* indicates a statistical difference ( $p < .05$ ).

The t-test results indicated a statistically significant difference for the perceived implementation levels between managers and non-managers at the 95% confidence level ( $\pm 1.96$ ) for workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement.” The absolute value of the observed t score (2.11) was greater than the critical t score for the 95% confidence level. Therefore, the null hypothesis associated with the research question was rejected. The analysis of findings indicated a statistically significant difference at 95% level of confidence between managers and non-managers for the perceived implementation levels of this workplace practice. The mean score of managers (6.10) was lower than that of non-managers (6.75).

Interviews with Managers and Non-managers

With regard to training and continuous learning practices, participants three and five agreed that opportunity for training was there, but not often and it took time for each member of a department. “Skill V2” was a skill development program used

by IBM. Participant six said that, “We are developing skill specialization such as industry specific knowledge. Some examples were e-business (1-IBM team, e-business booklet to enable employees about e-business), supply-chain-management (to capture trend in the market).” However, participant two added that, “It is difficult to measure and application takes time. Employees also did not see how IBM made use of feedback.”

For the information-sharing practices, participant six showed some examples of information distribution: IBM-TV which broadcast daily, unit monthly meetings, and department meetings. Participant two said that mean-score might be higher for some business units, “For back office unit, they need a lot of information while billing or account receivable personnel might not need the same level of information. Marketing department on the other hand needs information to analyze and stay competitive in the market.” Participant five explained that, “We have marketing intelligence both worldwide and regional. Moreover, there is a web-site that everyone can browse to study about what is going on in the company.”

### Research Question 3

*What are the relationships between the perceived importance levels and the perceived implementation levels for managers and non-managers, and is the gap between the perceived importance levels and the perceived implementation levels statistically different between managers and non-managers at IBM Thailand?*

Table 11 reports a relationship between the levels of perceived importance and the levels of perceived implementation of the workplace practices in the category of skills and information for the manager group.

Table 11

#### Relationships between Importance Levels and Implementation Levels for Managers

	Workplace Practice						
	1	2	3	4	5	6	7
	Continuous Learning	Assessment of Training Application	Effective Training	Higher Investment in Training	Performance Information	Training on Performance Information	Internal Communication Flow
<u>r</u>	.56	.51	.56	.30	.67	.71	.84

For workplace practice #1, “programs are in place to support continuous learning and development,” there was a positive relationship ( $r = 0.56$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.31$ , indicated a 31% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #2, “programs are in place to measure the application of training in the workplace,” there was a positive relationship ( $r = 0.51$ ), significant at the .01 level, between the level of perceived importance and the level of perceived

implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.26$ , indicated a 26% shared variance between the level of perceived importance and the level of perceived implementation of workplace practice.

For workplace practice #3, “training programs are effective based on feedback from the workplace,” there was a positive relationship ( $r = 0.56$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.31$ , indicated a 31% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #4, “investments in training and development are higher than other organizations,” there was a positive relationship ( $r = 0.30$ ), significant at the .05 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.09$ , indicated a 9% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #5, “all workers receive performance information from your organization,” there was a positive relationship ( $r = 0.67$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.45$ , indicated a 45% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.



For workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” there was a positive relationship ( $r = 0.71$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.50$ , indicated a 50% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” there was a positive relationship ( $r = 0.84$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.70$ , indicated a 70% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

Table 12 reports the gaps and standard deviation between the perceived importance levels and the implementation levels of each workplace practice for managers.

Table 12

Gaps between Importance Levels and Implementation Levels for Managers

	Workplace Practices						
	1	2	3	4	5	6	7
	Continuous Learning	Assessment of Training Application	Effective Training	Higher Investment in Training	Performance Information	Training on Performance Information	Internal Communication Flow
Gap	0.91	1.28	0.95	1.10	0.29	0.52	0.52
<u>SD</u>	1.19	1.46	1.41	2.20	1.71	1.48	1.01

Note. Gap value could range from 0 to 10.

The gaps between the perceived importance levels and the perceived implementation levels of the individual workplace practices for managers ranged from a minimum of 0.29 for workplace practice #5, “all workers receive performance information from your organization,” to a maximum of 1.28 for workplace practice #2, “programs are in place to measure the application of training in the workplace.”

The top three relatively large gaps reported were for workplace practice #2, “programs are in place to measure the application of training in the workplace” (1.28), workplace practice #4, “investments in training and development are higher than other organizations” (1.10), and workplace practice #3, “training programs are effective based on feedback from the workplace” (0.95).

The last three relatively small gaps reported were for the workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement” (0.52), workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization” (0.52),

and workplace practice #5, “all workers received performance information from your organization” (0.29).

The variability for the gap between the perceived importance levels and the perceived implementation levels for managers ranged from a standard deviation of 1.01 for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” to a standard deviation of 2.20 for workplace practice #4, “investments in training and development are higher than other organizations.”

Table 13 reports whether there was a relationship between the levels of perceived importance and the levels of perceived implementation of the workplace practices in the category of skills and information for non-manager group.

Table 13

Relationships between Importance Levels and Implementation Levels for Non-managers

	Workplace Practice						
	1	2	3	4	5	6	7
	Continuous Learning	Assessment of Training Application	Effective Training	Higher Investment in Training	Performance Information	Training on Performance Information	Internal Communication Flow
$r$	.72	.57	.31	.44	.73	.78	.80

For workplace practice #1, “programs are in place to support continuous learning and development,” there was a positive relationship ( $r = 0.72$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,

$r^2 = 0.52$ , indicated a 52% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #2, “programs are in place to measure the application of training in the workplace,” there was a positive relationship ( $r = 0.57$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.32$ , indicated a 32% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #3, “training programs are effective based on feedback from the workplace,” there was a positive relationship ( $r = 0.31$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.10$ , indicated a 10% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #4, “investments in training and development are higher than other organizations,” there was a positive relationship ( $r = 0.44$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.19$ , indicated a 19% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #5, “all workers receive performance information from your organization,” there was a positive relationship ( $r = 0.73$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.54$ , indicated a 54% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement,” there was a positive relationship ( $r = 0.78$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.61$ , indicated a 61% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

For workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” there was a positive relationship ( $r = 0.80$ ), significant at the .01 level, between the level of perceived importance and the level of perceived implementation of this workplace practice. The coefficient of determination,  $r^2 = 0.63$ , indicated a 63% shared variance between the level of perceived importance and the level of perceived implementation of the workplace practice.

Table 14 reports the gaps and standard deviation between the perceived importance levels and the perceived implementation levels of each workplace practice for non-managers.

Table 14

Gaps between Importance Levels and Implementation Levels for Non-managers

	Workplace Practices						
	1 Continuous Learning	2 Assessment of Training Application	3 Effective Training	4 Higher Investment in Training	5 Performance Information	6 Training on Performance Information	7 Internal Communica- tion Flow
Gap	1.08	1.16	0.90	0.84	0.66	0.64	0.41
<u>SD</u>	1.36	1.88	2.15	2.02	1.39	1.33	1.02

Note. Gap value could range from 0 to 10.

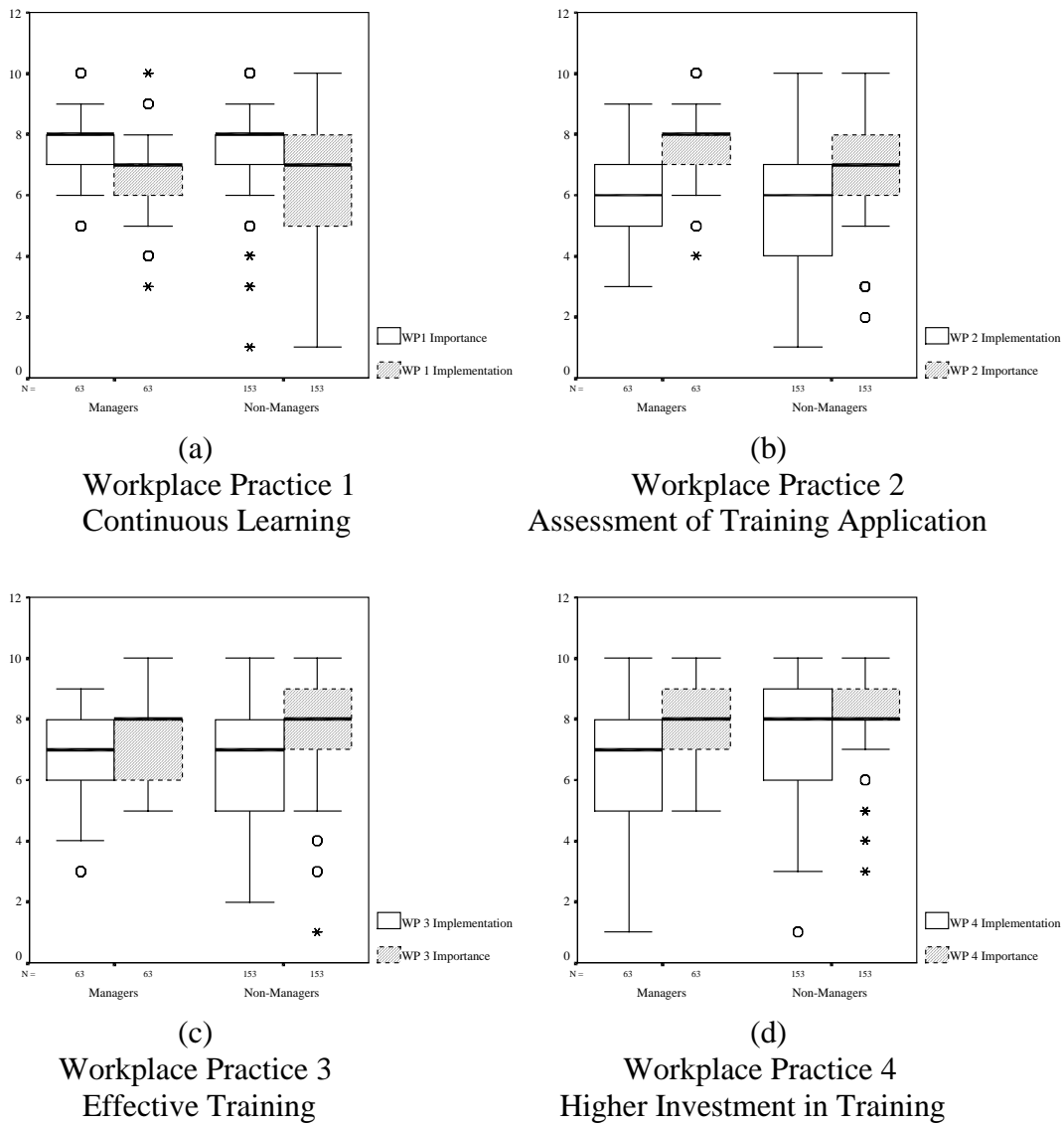
The gaps between the perceived importance levels and the perceived implementation levels of the individual workplace practices for non-managers ranged from a minimum of 0.41 for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” to a maximum of 1.16 for workplace practice #2, “programs are in place to measure the application of training in the workplace.”

The top three relatively large gaps reported were for workplace practice #2, “programs are in place to measure the application of training in the workplace” (1.16), workplace practice #1, “programs are in place to support continuous learning and development” (1.08), and workplace practice #3, “training programs are effective based on feedback from the workplace” (0.90).

The last three relatively small gaps reported were for the workplace practice #5, “all workers receive performance information from your organization,” workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement” (0.64), and workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization” (0.41).

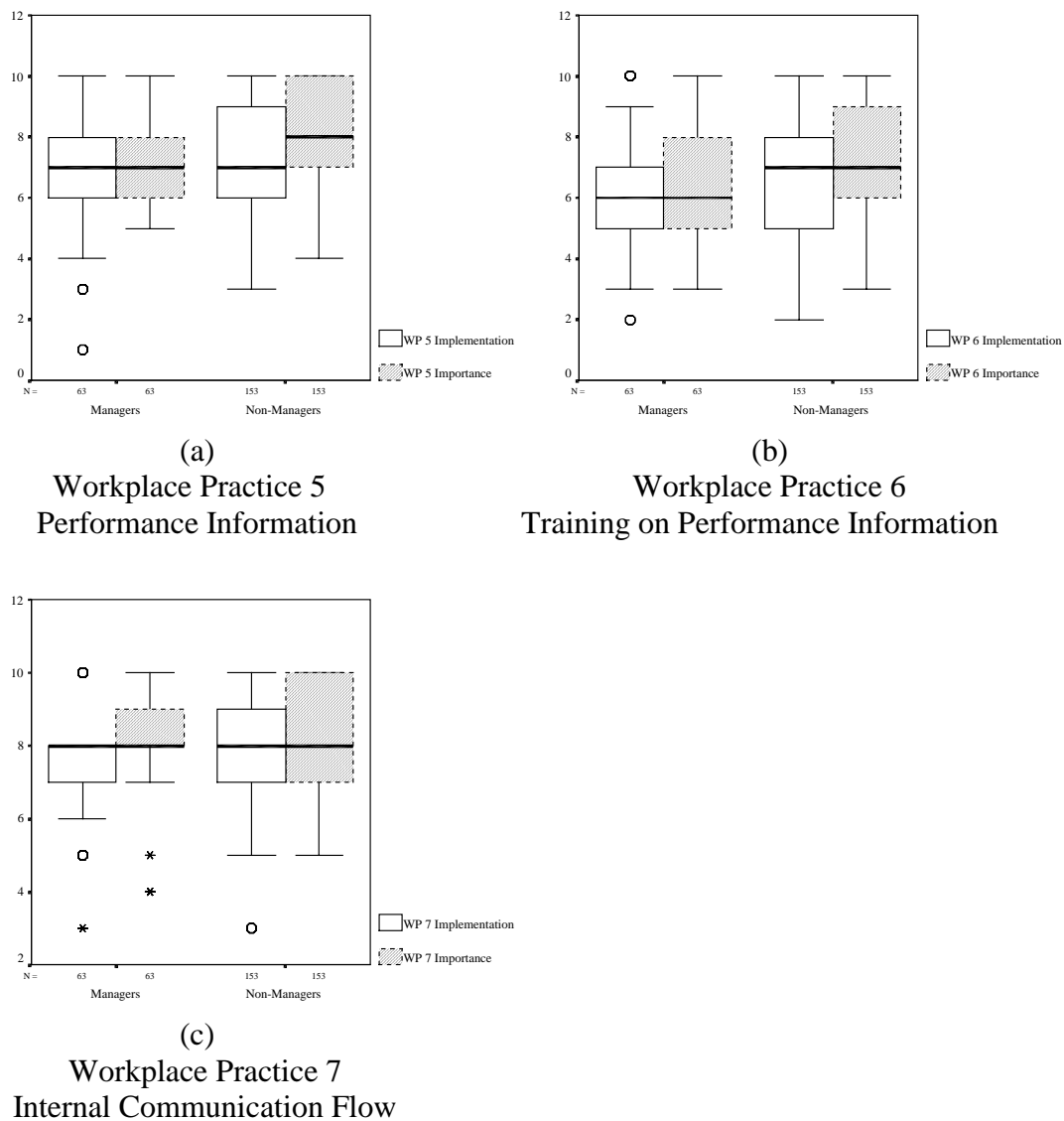
The variability for the gap between the perceived importance levels and the implementation levels for non-managers ranged from a standard deviation of 1.02 for workplace practice #7, “there are multiple mechanisms for internal communication to flow in all directions throughout the organization,” to a standard deviation of 2.15 for workplace practice #3, “training programs are effective based on feedback from the workplace.”

Figures 5 and 6 summarize the differences in variability between perceived importance levels and perceived implementation levels and between managers and non-managers with a box and whiskers plot of the perceived importance levels and the perceived implementation levels of all seven workplace practices.



**Figure 5.** The Box and Whiskers Plot of Importance and Implementation for Managers and Non-managers for Workplace Practices 1 to 4  
**Bold type lines in the box represent the median. “O” represents outliers--cases with values between 1.5 and 3 box lengths from the upper and lower edges of the box. “\*” represents extremes--cases with values more than 3 box lengths from the upper and lower edges. The box length is the inter-quartile range.**





**Figure 6.** The Box and Whiskers Plot of Importance and Implementation for Managers and Non-managers for Workplace Practices 5 to 7  
**Bold type lines in the box represent the median. “O” represents outliers--cases with values between 1.5 and 3 box lengths from the upper and lower edges of the box. “\*” represents extremes--cases with values more than 3 box lengths from the upper and lower edges. The box length is the inter-quartile range.**

Table 15 reports whether there was a statistical difference between managers and non-managers in the gaps between perceived importance levels and perceived implementation levels for each workplace practice.

Table 15

T-Test Results for Gaps between Importance Levels and Implementation Levels for Managers and Non-managers

	Workplace Practice						
	1	2	3	4	5	6	7
	Continuous Learning	Assessment of Training Application	Effective Training	Higher Investment in Training	Performance Information	Training on Performance Information	Internal Communication Flow
Managers' gap	0.91	1.28	0.95	1.10	0.29	0.52	0.52
Non-Managers' gap	1.08	1.16	0.90	0.84	0.66	0.64	0.41
t value	0.78	0.49	0.17	0.81	-1.71	-0.60	0.74
p	0.44	0.63	0.86	0.42	0.09	0.55	0.46

The t-test results indicated that each of the seven workplace practices had no statistically significant difference at the 95% level of confidence for the gaps between perceived importance levels and perceived implementation levels for managers and non-managers for the 95% confidence level ( $\pm 1.96$ ).

Interviews with Managers and Non-managers

With regard to training and continuous development practices, participants one and two added that short-term implementation of training seemed to be less because of the financial crisis in 1997. Participant two, however, mentioned that “IBM is trying to invest more as opportunity permitted. I believe that everything is getting better if we can overcome the economic situation.” Three of the interview

participants (participants one, four, and six) all agreed that time constraints prohibited measurement of the application of training. Participant five added that difference between actual implementation and expectation was inevitable. There were budget constraints and a constraint from business requirements. Participant seven observed an absolute difference and showed an example of the difference in consulting fields. It was stated that every consultant should be certified, but not everyone in a consulting team was certified.

With regard to information-sharing practices, participant two believed that it was because the company chose to implement training in some levels and some units. Participant six suggested that “management should expose themselves more. We have to minimize the difference between vertical industries and local customization requirement.” Participant four mentioned that there was room for improvement in this practice; “For example, it depends on a skill of unit manager to interpret data and coach his subordinates in the next level.”

## Chapter 5

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Introduction

The strength of a country's economy depends increasingly upon its success in markets in which firms emphasize quality and are able to adapt rapidly to changing conditions. To accomplish these goals firms must rely more and more upon the creativity, ingenuity, and problem-solving abilities of their workers. Firms need to move to flexible, high-performance organizations that support fast-paced decision-making, few layers of command, and team-based operations to develop their competitive advantage in the market. "High-performance work organizations provide workers with the information, skills, incentives, and responsibility to make decisions essential for innovation, quality improvement, and rapid response to change" (U.S. Department of Labor, 1994). For those companies on the path to high performance, the U.S. Department of Labor's Office of the American Workplace published the guide, Road to high-performance workplaces: A guide to better jobs and better business results (1994, p. 18), and grouped these practices into three categories: skills and information; participation, organization and partnership; and compensation, security and work environment. This chapter summarizes the study procedures, offers conclusions and implications of the findings, and proposes recommendations to IBM Thailand, particularly to the human resources department at IBM Thailand, and for future educational research.

### Statement of the Problem

Although many studies were conducted relating to high-performance workplace practices, no research examined the practices at companies in Thailand. Hence, the purpose of this study was to explore the perceived importance levels and the perceived implementation levels of the U.S. Department of Labor's high-performance workplace practices in the skills and information category for managers and non-managers at IBM Thailand Company Limited (IBM Thailand). The research also examined the relationships between the perceived importance levels and the perceived implementation levels of the workplace practice for managers and non-managers.

Specifically, the intent of this study was to answer the following research questions:

1. To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived to be important by managers and non-managers at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived importance levels?
2. To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived by managers and non-managers to be implemented at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived implementation levels?
3. What are the relationships between the perceived importance levels and the implementation levels for managers and non-manager, and is the gap between the

perceived importance levels and the perceived implementation levels statistically different between managers and non-managers at IBM Thailand?

### Summary of Study Procedures

#### Sample Population

The study included 460 employees of IBM Thailand. This office was chosen for its outstanding role in training and human development in the Thai market. Because IBM Thailand perceives its employees as the company's most important asset, the company continually evaluates its personnel programs, plans, and policies to ensure it keeps pace with the changing concerns and needs of its employees. Pay for contributions and skill proficiency, for example, are key components of IBM's competitive compensation system to reward superior performance. Employees directly influence their earnings through sustained or improved job performance.

#### Instrumentation

Two instruments were used in this study: a survey instrument and an in-depth interview methodology. A survey instrument was used primarily to collect data pertaining to the research questions. The instrument contained three main sections.

Part I: Training and continuous learning practices, Questions 1-4, were modified from a questionnaire by McGann (1996) for the purpose of identifying the implementation levels and the importance levels of workplace practices at nuclear plants in order to determine the relationships between the implementation levels and

the importance levels as well as the relationships between implementation levels and performance levels of nuclear power plants;

Part II: Information sharing practices, Questions 5-7, were modified from a questionnaire by McGann (1996) for the purpose of identifying the implementation levels and the importance levels of workplace practices at nuclear plants in order to determine the relationships between the implementation levels and the importance levels as well as the relationships between implementation levels and performance levels of nuclear power plants;

Part III: Personal information, Question 8, was developed by the researcher.

The interview part of this study used open-ended questions, which provided no restrictions on the content or manner of the reply other than to focus on the subject area. The researcher developed a semi-structured high-performance workplace interview guide (Appendix D) and used it as an aid in the interviews. The main purpose of the interviews was to get in-depth feedback from managers and non-managers at IBM Thailand regarding whether they agreed or disagreed with the findings from the questionnaire surveys. The interviews also provided an opportunity for the researcher to gather detailed information needed to analyze findings for the three research questions.

#### Data Collection and Survey Response Rate

Data collection was separated into two phases: questionnaire surveys and in-depth interviews. A total of 260 mail surveys were sent out with a response rate of 216 (83%): 63 were from managers and 153 were from non-managers. After the 216

mail questionnaires were returned, the researcher analyzed them using descriptive statistics (mean, median, standard deviation, minimum, and maximum), an analysis of correlation, and a t-test before proceeding to the interview phase. Seven interviews were conducted with managers and non-managers of IBM Thailand.

### Research Question 1

*To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived to be important by managers and non-managers at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived importance levels?*

Table 16 summarizes the average descriptive statistics across the seven workplace practices for perceived importance levels for managers and non-managers at IBM Thailand.

Table 16

#### Summary of Descriptive Statistics for Importance Levels

Groups	Mean	Median	<u>SD</u>	Min.	Max.
Managers	7.43	8.00	1.60	1.00	10.00
Non-Managers	7.62	8.00	1.76	3.00	10.00

Both managers and non-managers at IBM Thailand have perceived workplace practices in the category of skills and information (U.S. Department of Labor, 1994) to be important at a very high level. Nevertheless, there is room for an increase in



managers' and non-managers' perceived importance levels of high-performance workplace practices in the skills and information category. IBM Thailand may consider conducting its own assessment program to examine if management is satisfied with the current perception of managers and non-managers on the importance levels for workplace practices. If the current perceived importance levels are not high enough, the company should develop a strategy to change managers' and non-managers' perceptions toward the importance of workplace practices.

When comparing the perceived importance levels between managers and non-managers, only two practices under the information-sharing practices showed a statistically significant difference at the 95% confidence level ( $\pm 1.96$ ). They were workplace practice #5, "all workers receive performance information from your organization," and workplace practice #6, "all workers are trained to apply performance information to attain continuous improvement." Managers showed a lower mean score than non-managers in the perceived importance levels of both workplace practices (workplace practice #5: 7.24 for managers and 7.80 for non-managers, and workplace practice #6: 6.62 for manager and 7.39 for non-managers).

The findings imply a barrier to effective communication in the organization because managers are responsible for controlling information sent "downward." Wexley and Yukl (1984, p. 96) reported that a lack of sufficient downward communication sometimes occurs because a manager is not aware that the information helps subordinates improve their performance, and that a manager may withhold information because he/she feels insecure and wants to maintain control. At

IBM Thailand, since managers perceived the importance of the information-sharing practices at a lower level than did non-managers, they tended to filter incoming information and pass information to non-managers only as they deem appropriate. Wagner, III and Hollenbeck (1995, p. 295) suggested that beliefs and values of an information receiver would shape the way he/she interpreted and passed a message. The findings also implied a traditional school of management practices such as Max Weber's model of bureaucracy (Gerth & Mills, 1946). The model was based on clearly defined authority, formal record, and standardized procedures necessary to get a specific job done. The traditional school of management thought ignored satisfaction and personal development aspects that encourage employee involvement, growth, development, and satisfaction. The traditional practice was also characterized by a large degree of power distance of a manager (Wagner, III & Hollenbeck, 1995, p. 24). So a manager holds beliefs such as he/she should be inaccessible to subordinates or he/she is entitled to special rights and privileges. These implications represent the information-sharing practices at IBM Thailand where managers perceived the practices at a lower level than non-managers did.

According to the above-mentioned implications, IBM Thailand should investigate and develop a plan to increase the managers' perceived importance of levels of the information-sharing practices (workplace practices #5 - #7). Attention should be paid to sharing performance information practice (workplace practice #5) and the training to apply performance information to attain continuous improvement practice (workplace practice #6).

Research Question 2

*To what extent are the workplace practices of the U.S. Department of Labor (1994) in the category of skills and information perceived by managers and non-managers to be implemented at IBM Thailand, and is there a statistical difference between managers and non-managers for the perceived implementation levels?*

Table 17 summarizes the average descriptive statistics across all seven workplace practices for the perceived implementation levels for managers and non-managers at IBM Thailand.

Table 17

Summary of Descriptive Statistics for Implementation Levels

Groups	Mean	Median	<u>SD</u>	Min.	Max.
Managers	6.63	7.00	1.90	1.00	10.00
Non-Managers	6.81	7.00	2.11	2.00	10.00

Managers and non-managers at IBM Thailand perceived the workplace practices in the category of skills and information (U.S. Department of Labor, 1994) to have been implemented at a moderate to high level at IBM Thailand. However, there is room for IBM Thailand to increase the perceived implementation levels of high-performance workplace practices in the skills and information category for managers and non-managers. IBM Thailand should conduct its own training needs assessment program to determine whether management is satisfied with the current perceived implementation levels of workplace practices. If findings from the

assessment program call for higher perceived implementation levels, it is recommended that a training program and an organization development plan be conducted to achieve that objective.

When considering the comparison between managers and non-managers regarding perceived implementation levels of workplace practices at the 95% confidence level ( $\pm 1.96$ ), findings revealed a statistically significant difference in workplace practice #6, “all workers are trained to apply performance information to attain continuous improvement.” Managers’ mean score was 6.10 while non-managers’ mean score was 6.75. The findings can be interpreted as showing that non-managers perceived implementation of training to apply performance information at a higher level than did managers. So, according to non-managers’ beliefs, both managers and non-managers were perceived as being able to apply the information-sharing practice at a high level. These findings contradict those for research question 1, where managers perceived information-sharing practices as less important than did non-managers, and tended not to disseminate performance information to non-managers. Hence, IBM Thailand should examine relationships among perceived importance levels, perceived implementation levels, and actual implementation levels of information-sharing practices for both managers and non-managers. The company should pay special attention to the subcategory of training to apply performance information practice (workplace practice #6). Study findings also will reveal whether managers actually pass performance information to non-managers.

### Research Question 3

*What are the relationships between the perceived importance levels and the perceived implementation levels for managers and non-managers, and is the gap between the perceived importance levels and the perceived implementation levels statistically different between managers and non-managers at IBM Thailand?*

The findings indicated a positive relationship between perceived importance levels and perceived implementation levels, significant at the .01 level, for all seven workplace practices for each independent group ( $r = 0.5995$  for managers, and  $r = 0.6392$  for non-managers) at IBM Thailand. The magnitude of correlation for managers ranged from a low level (0.3 – 0.5) to a high level (0.7 – 0.9), and the magnitude of correlation for non-managers ranged from a moderate level (0.5 – 0.7) to a high level (0.7 - 0.9).

Both managers and non-managers showed relatively large gaps between perceived importance levels and perceived implementation levels in training and continuous learning practices (workplace practices #1 - #4). The gaps between perceived importance levels and perceived implementation levels of individual workplace practices for managers ranged from a minimum of 0.29 for workplace practice #5, “all workers receive performance information from your organization,” to a maximum of 1.28 for workplace practice #2, “programs are in place to measure the application of training in the workplace.” The gaps between perceived importance levels and perceived implementation levels of individual workplace practices for non-managers ranged from a minimum of 0.41 for workplace practice #7, “there are

multiple mechanisms for internal communication to flow in all directions throughout the organization,” to a maximum of 1.16 for workplace practice #2, “programs are in place to measure the application of training in the workplace.” Findings indicated a potential problem in implementing training and continuous learning practices at IBM Thailand. It is recommended that IBM Thailand conduct a study to examine the relationships between perceived implementation levels and actual implementation levels of training and continuous learning practices for managers and non-managers. If high correlation is reported, the finding suggests a relatively large gap will appear between perceived importance levels and actual implementation levels of practices. This analysis will then call for a training plan to improve the deficiency.

In comparing perceived importance levels and perceived implementation levels gaps between managers and non-managers, no single workplace practice showed a statistically significant difference between the two groups at the 95% confidence level ( $\pm 1.96$ ). The findings indicate that managers and non-managers agreed on the existence and magnitude of gaps for seven workplace practices in the category of skills and information.

### Conclusions and Implications

This research found that all seven workplace practices as recommended by the U.S. Department of Labor’s Office of the American Workplace (1994) were perceived to be important at a very high level and perceived to have been implemented at a moderate to high level at IBM Thailand. There were positive

relationships between perceived importance levels and implementation levels for all seven workplace practices for managers and non-managers. Table 18 lists the workplace practices and correlation levels between perceived importance levels and perceived implementation levels for each workplace practice. The magnitude of the correlation varied depending on the workplace practice.

Table 18

Magnitude of Correlation: Importance and Implementation

Number	Workplace Practice	Correlation	
		Managers	Non-Managers
1	Programs are in place to support continuous learning and development.	Moderate	High
2	Programs are in place to measure the application of the training in the workplace.	Moderate	Moderate
3	Training programs are effective based on feedback from the workplace.	Moderate	Moderate
4	Investments in training and development are higher than other organizations.	Low	Moderate
5	All workers receive performance information (e.g., financial, operating, organizational) from your organization.	Moderate	High
6	All workers are trained to apply performance information (e.g., financial, operating, organizational) to attain continuous improvement.	High	High
7	There are multiple mechanisms for internal communication to flow in all directions throughout the organization.	High	High

Note: A low correlation ranged from 0.3 to 0.5, a moderate correlation ranged from 0.5 to 0.7, and a high correlation ranged from 0.7 to 0.9.

IBM Thailand should pay attention to the training and continuous learning practices (workplace practice #1 - #4). Both managers and non-managers showed a moderate to high correlation between perceived importance levels and perceived implementation levels. The findings revealed relatively large gaps between perceived importance levels and perceived implementation levels for these practices. The company should be cautious about these gaps and examine relationships between perceived implementation levels and actual implementation levels of training and continuous learning practices for managers and non-managers. Should there be high correlation between perceived and actual implementation levels, the first priority of the company will be to provide a training program on training and continuous learning practices for managers and non-managers so they can improve their implementation levels for these practices.

#### Information-sharing Practices

The findings for research question 1 indicate that managers perceived information-sharing practices as being less important than did non-managers. This implies managers' traditional gatekeeper role and bureaucratic practices, which ignore employee involvement, growth, development, and satisfaction. This could lead to insufficient downward communication and a withholding of information by managers. IBM Thailand should investigate and develop an intervention to increase managers' perceptions of the importance of information-sharing practices, particularly workplace practice #4 (sharing of performance information) and workplace practice #5 (training on an application of performance information).



Nevertheless, findings for research question 2 suggest that according to non-managers, both managers and non-managers were perceived as being able to apply information-sharing practice at a high level. This contradicts the findings for research question 1. The discrepancy calls for a study by IBM Thailand, to ascertain whether any relationship exists among perceived importance levels, perceived implementation levels, and actual implementation levels of information-sharing practices for managers and non-managers.

#### Training Needs Assessment and Organization Development

Another important implication from the findings is the need for a plan to improve managers' and non-managers' perceived importance levels and perceived implementation levels of high-performance workplace practices: a training needs assessment plan and an organization development plan.

A training needs assessment is the study that aims to help management make effective decisions and recommendations by examining a problem or innovation, and incorporating data and options from various sources. For a training needs assessment to be effective, the company should allow employees to be involved in data collection, and the design and conduct of a training plan. Moreover, training the trainees is an important component of this step as it is important to teach them how to effectively learn and teach others. Rossett (1987) recommended a 5-step training needs assessment process: analysis, design, development, implementation, and evaluation. The findings from a training needs assessment will be useful later to management as it makes decisions about an organization development plan.

Organization development is not a practice that can be achieved in the short term. It is a long-term solution to bring change to a complex organizational problem. Some key components of successful organization development are the support of top managers, and employees' participation throughout the process (Rothwell, Sullivan, & McLean, 1995). Employees can contribute to diagnosing problems, considering solutions, selecting a solution, identifying change objectives, implementing planned change, and evaluating results. The human resources department at IBM Thailand should be aware of these key components in order to make changes in the organization and achieve high-performance organization status.

#### Formal and Informal Learning

One explanation for the gaps between perceived importance levels and perceived implementation levels of high-performance workplace practices by managers and non-managers is their lack of understanding of formal and informal learning situations. Both managers and non-managers might associate training with formal training such as classroom training and workshops. Rectifying this is the job of management and the human resources department at IBM Thailand, who should explain the various types of learning to managers and non-managers. One recommendation is to introduce the terms "learning" and "skills development" to replace the term "training." Then, managers and non-managers may be introduced to a formal learning situation (e.g., classroom training and workshop), an informal learning situation (e.g., self-directed learning, networking, coaching and mentoring, and performance planning), and an incidental learning situation (e.g., learning from

involvement, learning from mistakes and error, assumptions, beliefs, and values). IBM Thailand's managers and non-managers might eventually discover that they have broader perceptions of the implementation of workplace practices in the skills and information category.

#### The Financial Crisis of 1997

A critical incident that might explain gaps between perceived importance levels and perceived implementation levels was the financial crisis in Southeast Asia in 1997. Since that time, IBM Thailand has decreased its budget for training and human development programs. For example, some overseas training programs were replaced by in-country sessions. The human resources department had to decrease the number participating in training programs from each department. The crisis and lower training budget might lead to wider gaps between perceived importance levels and perceived implementation levels as compared to what the gaps might have been under normal business conditions. It is recommended that IBM Thailand conduct a study after the financial crisis to ascertain whether there has been any change in perceived importance levels and perceived implementation levels for high-performance workplace practices in the skills and information category after the business recovers.

### Recommendations to IBM Thailand

The following recommendations are based on study results and research questions, and are proposed to IBM Thailand.

1. The company should conduct its own assessment program to determine whether the current perceived importance levels of high-performance workplace practices in the category of skills and information are satisfied by management. If there is a demand for higher levels of perceived importance, it is recommended that a strategy be developed to improve managers' and non-managers' perceptions of the importance of the high-performance workplace practices.
2. It is recommended that an investigation and an intervention be conducted to increase managers' perceptions of the importance of information-sharing practices (workplace practices #5 - #7).
3. The company should conduct its own assessment program to determine whether current perceived implementation levels of high-performance workplace practices in the skills and information category are satisfied by management. If the perceived implementation levels are not high enough, an organization development plan should be conducted to improve managers' and non-managers' perceived implementation levels of workplace practices.
4. It is recommended that a study be conducted to examine the relationships among perceived importance levels, perceived implementation levels, and actual implementation levels of information-sharing practices (workplace practices #5 - #7) for managers and non-managers.

5. It is recommended that a study be conducted to examine the relationships between perceived implementation levels and actual implementation levels for the training and continuous learning practices (workplace practices #1 - #4) for managers and non-managers.

#### Recommendation to the Human Resources Department

This recommendation, based on study results and research questions, is proposed to the human resources department and organization development team at IBM Thailand. It is recommended that the terms “learning” and “skills development” be introduced to employees to replace an association with the term “training” with “formal training.” Managers and non-managers may be introduced to formal, informal, and incidental learning situations. Informal learning and incidental learning situations can serve as tools to broaden managers’ and non-managers’ perceptions of the implementation levels of high-performance workplace practices in the skills and information category.

#### Recommendations for Educational Research

The following recommendations are based on study results and research questions, and are proposed for further study.

1. Additional research should be conducted on the remaining two categories-- participation, organization, and partnership; and compensation, security, and work environment--in the U.S. Department of Labor (1994) guideline, to examine the

- extent of perceived importance levels and perceived implementation levels for all categories at IBM Thailand.
2. Additional research may be expanded to include other companies in the computer industry and/or other industries, or to include a study of all Thai industries' perceptions of the high-performance workplace.
  3. The study may be expanded to examine the relationships of these high-performance workplace practices with the performance levels of a company, an industry, or a market.
  4. Research may be conducted to determine if other variables--e.g., education, job-related attitudes, environmental factors, influence of change agents, and work status--affect perceived importance levels and perceived implementation levels of workplace practices suggested in the guideline.
  5. This study may be replicated in several years to determine if economic conditions have increased or decreased the relationships of perceived importance levels and perceived implementation levels in these workplace practices.
  6. Research may be conducted to determine what changes, which occur over time, affect perceived importance levels and perceived implementation levels of workplace practices suggested in the guideline.
  7. This study or the above-recommended future study may be replicated in countries other than Thailand.
  8. This study or the above-recommended future study may be replicated and expanded to include a comparison between two or more countries.

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**Appendix A**

**HUMAN SUBJECTS APPROVAL LETTER**

PENNSTATE



Vice President for Research  
Office for Regulatory Compliance

The Pennsylvania State University  
212 Kern Graduate Building  
University Park, PA 16802-3301

(814) 865-1775  
Fax: (814) 863-3999  
Website: [www.research.psu.edu/orc/](http://www.research.psu.edu/orc/)

April 27, 1999

Dawarit Tansuphasiri  
2504 Plaza Drive  
State College, PA 16801

Re: Results of Review of Proposal - Expedited (ORC#990450-00)  
Approval Expiration Date: April 27, 2000  
"The Relationship Between Importance and Implementation of Skills and Information Workplace Practices at IBM Thailand Co. Ltd."

Dear Mr. Tansuphasiri:

The Behavioral and Social Sciences Committee of the Institutional Review Board has reviewed and approved your proposal for use of human subjects in your research. This approval has been granted for a one-year period.

Approval for use of human subjects in this research is given for a period covering one year from today. If your study extends beyond this approval period, you must contact this office to request an annual review of this research.

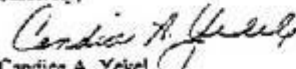
Attached are confidential labels you can use to seal the envelopes that contain the original, signed informed consent forms obtained from the subjects of your study. These envelopes are then to be mailed to the address listed above. Contact this office if you need more labels.

Subjects must receive a copy of any informed consent documentation that was submitted to the Compliance Office for review.

By accepting this decision you agree to notify the Compliance Office of (1) any additions or procedural changes that modify the subjects' risks in any way and (2) any unanticipated subject events that are encountered during the conduct of this research. Prior approval must be obtained for any planned changes to the approved protocol. Unanticipated subject events must be reported in a timely fashion.

On behalf of the committee and the University, I thank you for your efforts to conduct your research in compliance with the federal regulations that have been established for the protection of human subjects.

Sincerely,

  
Candice A. Yekel  
Director of Regulatory Affairs

CAY/jlm

Attachments

cc: K. Gray  
E. Farmer  
E. Herr

**Appendix B**

**SURVEY COVER LETTER AND DATA SHEET**



<Date>

<Inside Address>

<Address>

<Address>

Dear <Name>;

The main purpose of my study is to explore the extent of the perceived importance levels and the perceived implementation levels of the U.S Department of Labor's high-performance workplace practices at IBM Thailand Company Limited. The category of skills and information has been selected for this study.

Your name was drawn through a scientific sampling process in which every employee of IBM Thailand had equal chance of being selected. In order for the results of this study to be truly representative of the opinion of all IBM Thailand it is essential that each person in the sample return his/her questionnaire.

You may be assured of complete confidentiality. The questionnaire has an identification number for data collection purposes only. So I can check your number off the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire. Your participation is important for the success of this research; however, it is completely voluntary.

Attached is a short data collection sheet that will require 10 minutes for you to complete. Please provide all seven responses and return it to me. I have also attached an instruction/consent sheet.

In appreciation of your time and information, you may receive data summary and conclusions of this study or a copy of the Road to High-Performance Workplaces publication by indicating your selection at the end of the data sheet.

I would be most happy to answer any question you might have.

Thank you for your assistance.

Sincerely yours,

Dawarit Tansuphasiri

## Instruction / Consent

This research is being conducted to explore the extent of the perceived importance levels and the perceived implementation levels of the work practices outlined in the report, Road to High-Performance Workplace, the U.S. Department of Labor at IBM Thailand. The category of skills and information has been selected for this study.

Your participation in this research will require only 10 minutes of your time to estimate the importance and implementation level of seven items listed on the attached data sheet.

Confidentiality of responses will be ensured by assigning code numbers to the data sheets so that individual name does not appear on them or will appear in the study. No one except the researcher will be able to associate codes with participants and the researcher will not reveal that information nor include it in described relationships.

In appreciation for your participation, the conclusions and a summary of the summary data will be available to you. Additionally, the researcher will provide you with a copy of the U.S. Department of Labor's work practices report if you are interested in receiving it. If the results or work practices should be sent to someone other than the addressee, please phone, fax or mail delivery information separately to ensure confidentiality of data sheet responses.

Your participation is important for the success of this research. However, your participation is completely voluntary. You may decline to answer specific questions on the data sheet. You may choose to return the data sheet unanswered or disposed of it. You can contact me at the numbers below should you have questions about this research.

If you agree to participate, please respond to the items on the data sheet and return it in the stamped, addressed envelope. Returning the data sheet with responses indicates your informed consent to participate in this research.

Dawarit Tansuphasiri  
2504 Plaza Drive  
State College, PA 16801  
Phone: (814) 861-1360  
Fax: (814) 861-1360  
E-mail: dxt127@psu.edu

142 Soi Attavimol  
Phayathai, Bangkok 10400  
Phone: (662) 246-3136  
Fax.: (662) 247-2760

## HIGH-PERFORMANCE WORKPLACE DATA SHEET

This data sheet contains examples of seven workplace practices that are suggested in the U.S. Department of Labor's Road to high-performance workplaces publication.

You are requested to provide two responses for each practice:

The first response describes the perceived importance of the practice at your organization.

The second response describes the perceived implementation of the practice at your organization.

Please **circle** *one response for importance* and *one response for implementation* from 0, 1, ..., 10 that best describes your estimation of the practice at your organization.

**1. Programs are in place to support continuous learning and development (e.g., job rotation and cross-functional team training.)**

	No		Somewhat		Moderate		Very		Highly		
Importance level	0	1	2	3	4	5	6	7	8	9	10
	None		Limited		Moderate		High		Full		
Implementation level	0	1	2	3	4	5	6	7	8	9	10

**2. Programs are in place to measure the application of training in the workplace.**

	No		Somewhat		Moderate		Very		Highly		
Importance level	0	1	2	3	4	5	6	7	8	9	10
	None		Limited		Moderate		High		Full		
Implementation level	0	1	2	3	4	5	6	7	8	9	10

**3. Training programs are effective based on feedback from the workplace.**

	No		Somewhat		Moderate		Very		Highly		
Importance level	0	1	2	3	4	5	6	7	8	9	10
	None		Limited		Moderate		High		Full		
Implementation level	0	1	2	3	4	5	6	7	8	9	10

**4. Investment in training and development are higher than other organizations.**

	No		Somewhat		Moderate		Very		Highly		
Importance level	0	1	2	3	4	5	6	7	8	9	10
	None		Limited		Moderate		High		Full		
Implementation level	0	1	2	3	4	5	6	7	8	9	10

Please **circle** *one response for importance* and *one response for implementation* from 0, 1, ..., 10 that best describes your estimation of the practice at your organization.

**5. All workers receive performance information (e.g., financial, operating, organizational) for your organization.**

	No		Somewhat		Moderate		Very		Highly		
Importance level	0	1	2	3	4	5	6	7	8	9	10
	None		Limited		Moderate		High		Full		
Implementation level	0	1	2	3	4	5	6	7	8	9	10

---

**6. All workers are trained to apply performance information (e.g. financial, operating, organizational) to attain continuous improvement.**

	No		Somewhat		Moderate		Very		Highly		
Importance level	0	1	2	3	4	5	6	7	8	9	10
	None		Limited		Moderate		High		Full		
Implementation level	0	1	2	3	4	5	6	7	8	9	10

---

**7. There are multiple mechanisms for internal communication to flow in all directions throughout the organization.**

	No		Somewhat		Moderate		Very		Highly		
Importance level	0	1	2	3	4	5	6	7	8	9	10
	None		Limited		Moderate		High		Full		
Implementation level	0	1	2	3	4	5	6	7	8	9	10

---

**8. Personal Information**

\_\_\_\_\_ Managerial levels (e.g., assistant manager, manager, director, and above)

\_\_\_\_\_ Non-managerial levels (e.g., senior officer, specialist, representative, and below)

---

**In appreciation for your participation, I will be happy to send you:**

1. The Road to high-performance workplaces publication
2. Data summary and conclusions of this study

Please **circle the number** of each item you would like to receive.

Return the data sheet in the enclosed stamped envelope. Thank you very much.

**Appendix C**

**INFORMED CONSENT FORM**

**Informed Consent Form for Individuals Involved in a  
Behavioral Research Study  
The Pennsylvania State University**

**Page 1 of 2**

**Title of Project:** *The relationship between importance and implementation of skills and information workplace practice at IBM Thailand*

**Person in Charge:** *Dawarit Tansuphasiri*

2504 Plaza Drive	142 Soi Attavimol, Rajprarop Rd.
State College, PA 16801	Phayathai, Bangkok 10400
USA.	Thailand
Phone: 814-861-1360	Phone: 662-246-3136
FAX: 814-861-1360	FAX: 662-247-2760
E-Mail: dxt127@psu.edu	E-mail: dxt127@psu.edu

**1. Explanation of the Study**

A. The study in which you will be participating is a research study intended to explore the extent of the perceived importance levels and the implementation levels of the U.S. Department of Labor's high performance workplace practices at IBM Thailand Company Limited.

B. If you agree to participate, you will be asked questions about high performance workplace practices within your organization.

C. Your participation in this research will take approximately 30 minutes or less.

D. If you do not wish to participate in this study, please indicate that now.

E. This study will involve the use of audio tape recording, which will be used by the researcher. Your name will not be identified in this study. Only summary results will be reported. The responses within specific work units will not be reported. The responses of specific individuals will not be reported. The audio tape will be destroyed after the researcher completes data analysis stage or no later than December 15, 1999.

**2. Your Rights as a Research Participant**

A. You may ask any questions about the research procedures, and these questions will be answered.

B. Your participation in this research is *confidential*. Only the researcher will have access to your identity and to information that can be associated with your identity. In the event of publication of this research, no personally identifying information will be disclosed.

C. Your participation is voluntary. You are free to stop participating in the research at any time, or to decline to answer any specific questions without penalty.

D. This study involves minimal risk; that is, no risks to your physical or mental health beyond those encountered in the normal course of everyday life.

E. Participation or non-participation in this study will have no impact on the participant's employment.

**Participant:**

*I agree to participate in a research study intended to explore an extent of the perceived importance levels and the implementation levels of the U.S. Department of Labor's high performance workplace practices at IBM Thailand Company Limited.*

*I understand the information given to me, and I have received answers to any questions I may have had about the research procedure. I understand and agree to the conditions of this study as described.*

*I understand that I will receive no compensation for participating.*

*I understand that my participation in this research is voluntary, and that I may withdraw from this study at any time by notifying the person in charge.*

*I am 18 years of age or older.*

*I understand that I will receive a signed copy of this consent form.*

*I understand that participation or non-participation in this study will have no impact on my employment.*

<i>Signature</i>	<i>Date</i>	<i>Address</i>
------------------	-------------	----------------

**Researcher:**

*I certify that the informed consent procedure has been followed, and that I have answered any questions from the participant above as fully as possible.*

<i>Signature</i>	<i>Date</i>	<i>Address</i>
------------------	-------------	----------------

**Informed Consent Form for Individuals Involved in a  
Behavioral Research Study  
The Pennsylvania State University**

**Page 1 of 2**

**Title of Project:** *The relationship between importance and implementation of skills and information workplace practice at IBM Thailand*

**Person in Charge:** *Dawarit Tansuphasiri*

2504 Plaza Drive	142 Soi Attavimol, Rajprarop Rd.
State College, PA 16801	Phayathai, Bangkok 10400
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Phone: 814-861-1360	Phone: 662-246-3136
FAX: 814-861-1360	FAX: 662-247-2760
E-Mail: dxt127@psu.edu	E-mail: dxt127@psu.edu

**1. Explanation of the Study**

A. The study in which you will be participating is a research study intended to explore the extent of the perceived importance levels and the implementation levels of the U.S. Department of Labor's high performance workplace practices at IBM Thailand Company Limited.

B. If you agree to participate, you will be asked questions about high performance workplace practices within your organization.

C. Your participation in this research will take approximately 30 minutes or less.

D. If you do not wish to participate in this study, please indicate that now.

E. This study will involve the use of audio tape recording, which will be used by the researcher. Your name will not be identified in this study. Only summary results will be reported. The responses within specific work units will not be reported. The responses of specific individuals will not be reported. The audio tape will be destroyed after the researcher completes data analysis stage or no later than December 15, 1999.

**2. The Rights of Research Participants**

A. You may ask any questions about the research procedures, and these questions will be answered.

B. Your participation in this research is *confidential*. Only the researcher will have access to your identity and to information that can be association with your identity. In the event of publication of this research, no personally identifying information will be disclosed.

C. Your participation is voluntary. You are free to stop participating in the research at any time, or to decline to answer any specific questions without penalty.

D. This study involves minimal risk; that is, no risks to your physical or mental health beyond those encountered in the normal course of everyday life.

E. Participation or non-participation in this study will have no impact on the participant's employment.



**For the Employer:**

*I authorize participation of one or more individuals employed in this organization a research study intended to explore an extent of the perceived importance levels and the implementation levels of the U.S. Department of Labor's high performance workplace practices at IBM Thailand Company Limited.*

*I understand the information given to me, and I have received answers to any questions I may have had about the research procedure. I understand and agree to the conditions of this study as described.*

*I understand that neither research participant nor his or her employer will receive compensation for participating in this study.*

*I understand that the individual's participation in this research is voluntary, and that he or she may withdraw from this study at any time by notifying the person in charge of the study.*

*I understand that all research participants in this study must be at least 18 years of age or older.*

*I understand that I will receive a signed copy of this consent form.*

*I understand that participation or non-participation in this study will have no impact on an individual's employment.*

<i>Signature</i>	<i>Date</i>	<i>Address</i>
------------------	-------------	----------------

**Researcher:**

*I certify that the informed consent procedure has been followed, and that I have answered any questions from the participant's employer above as fully as possible.*

<i>Signature</i>	<i>Date</i>	<i>Address</i>
------------------	-------------	----------------

**Appendix D**

**HIGH-PERFORMANCE WORKPLACES**

**INTERVIEW GUIDE**

## HIGH PERFORMANCE WORKPLACE INTERVIEW GUIDE

Page 1 of 7

<b>Name:</b>	<b>Job Title:</b>
<b>Practice 1:</b>	
<b>1. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be important at a scale of 7.4 out of 10.0?</b>	
<b>2. Why or why not?</b>	<b>3. Any example(s) to support your comment?</b>
<b>4. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be implemented at a scale of 6.4 out of 10.0?</b>	
<b>5. Why or why not?</b>	<b>6. Any example(s) to support your comment?</b>
<b>7. Do you agree with the finding that there is significant difference between the extent that the workplace practice is implemented and the importance of that practice?</b>	
<b>8. Any recommendation of how to improve this practice at IBM (Thailand)?</b>	

<b>Practice 2:</b>	
<b>1. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be important at a scale of 7.2 out of 10.0?</b>	
<b>2. Why or why not?</b>	<b>3. Any example(s) to support your comment?</b>
<b>4. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be implemented at a scale of 6.0 out of 10.0?</b>	
<b>5. Why or why not?</b>	<b>6. Any example(s) to support your comment?</b>
<b>7. Do you agree with the finding that there is significant difference between the extent that the workplace practice is implemented and the importance of that practice?</b>	
<b>8. Any recommendation of how to improve this practice at IBM (Thailand)?</b>	

<b>Practice 3:</b>	
<b>1. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be important at a scale of 7.4 out of 10.0?</b>	
<b>2. Why or why not?</b>	<b>3. Any example(s) to support your comment?</b>
<b>4. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be implemented at a scale of 6.5 out of 10.0?</b>	
<b>5. Why or why not?</b>	<b>6. Any example(s) to support your comment?</b>
<b>7. Do you agree with the finding that there is significant difference between the extent that the workplace practice is implemented and the importance of that practice?</b>	
<b>8. Any recommendation of how to improve this practice at IBM (Thailand)?</b>	

<b>Practice 4:</b>	
<b>1. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be important at a scale of 8.0 out of 10.0?</b>	
<b>2. Why or why not?</b>	<b>3. Any example(s) to support your comment?</b>
<b>4. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be implemented at a scale of 7.1 out of 10.0?</b>	
<b>5. Why or why not?</b>	<b>6. Any example(s) to support your comment?</b>
<b>7. Do you agree with the finding that there is significant difference between the extent that the workplace practice is implemented and the importance of that practice?</b>	
<b>8. Any recommendation of how to improve this practice at IBM (Thailand)?</b>	

<b>Practice 5:</b>	
<b>1. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be important at a scale of 7.6 out of 10.0?</b>	
<b>2. Why or why not?</b>	<b>3. Any example(s) to support your comment?</b>
<b>4. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be implemented at a scale of 7.1 out of 10.0?</b>	
<b>5. Why or why not?</b>	<b>6. Any example(s) to support your comment?</b>
<b>7. Do you agree with the finding that there is significant difference between the extent that the workplace practice is implemented and the importance of that practice?</b>	
<b>8. Any recommendation of how to achieve this practice at IBM (Thailand)?</b>	

<b>Practice 6:</b>	
<b>1. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be important at a scale of 7.2 out of 10.0?</b>	
<b>2. Why or why not?</b>	<b>3. Any example(s) to support your comment?</b>
<b>4. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be implemented at a scale of 6.6 out of 10.0?</b>	
<b>5. Why or why not?</b>	<b>6. Any example(s) to support your comment?</b>
<b>7. Do you agree with the finding that there is significant difference between the extent that the workplace practice is implemented and the importance of that practice?</b>	
<b>8. Any recommendation of how to achieve this practice at IBM (Thailand)?</b>	



<b>Practice 7:</b>	
<b>1. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be important at a scale of 8.2 out of 10.0?</b>	
<b>2. Why or why not?</b>	<b>3. Any example(s) to support your comment?</b>
<b>4. Do you agree with the finding that employees of IBM (Thailand) perceive this practice to be implemented at a scale of 7.7 out of 10.0?</b>	
<b>5. Why or why not?</b>	<b>6. Any example(s) to support your comment?</b>
<b>7. Do you agree with the finding that there is significant difference between the extent that the workplace practice is implemented and the importance of that practice?</b>	
<b>8. Any recommendation of how to achieve this practice at IBM (Thailand)?</b>	

THANK YOU FOR YOUR TIME AND INFORMATION

## VITA

### DAWARIT TANSUPHASIRI

#### **Education:**

- 1999 Ph.D. Workforce Education and Development The Pennsylvania State University  
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#### **Work Experience:**

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