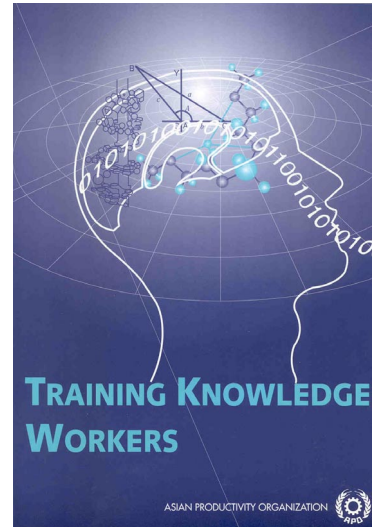


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1-2-10 Hirakawacho, Chiyoda-ku, Tokyo 102-0093, Japan

Tel: (81-3) 5226 3920 • **Fax:** (81-3) 5226 3950

E-mail: apo@apo-tokyo.org • **URL:** www.apo-tokyo.org

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TRAINING KNOWLEDGE WORKERS

ASIAN PRODUCTIVITY ORGANIZATION



Report of the APO Survey on In-Company Training Strategies for Knowledge Workers
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FOREWORD

Along with the transition to the knowledge economy, knowledge workers are assuming increasingly important roles. They constitute an important part of a firm's intangible assets and form key sources of competitive advantages. The central issue is how to develop appropriate training and education programs and strategies for these knowledge workers so as to attract and retain them, maximize their performance, and thereby enhance the intellectual capital of enterprises as a whole.

The APO launched a survey on "In-company Training Strategies for Knowledge Workers" to examine the situation in the Asia-Pacific region. The survey was launched in August 2002 and its primary objectives were to identify best practices in the training strategies of companies in the region and to define the critical success and hindering factors for dissemination to others. Mr. Enrique V. Abadesco, Jr. from the Philippines led the survey and served as the chief expert. This publication is a compilation of the reports prepared by the national experts participating in the survey. The five countries featured are India, Malaysia, the Philippines, Singapore, and Thailand. In each of these selected countries, knowledge workers are increasing rapidly, in numbers as well as in their contribution to corporate excellence and competitiveness.

In the course of the survey, the national experts visited many companies and met their CEOs and senior management teams to obtain the necessary information and data. I would like to extend our deep appreciation to all these companies and their CEOs for opening their doors to the APO experts. Without their far-sightedness and cooperation in sharing willingly their in-company training practices, the APO could not have carried out this project. I hope that the experiences of the companies included in the present study contain practical lessons that may be emulated and widely replicated among other corporations and organizations in APO member countries.

Takashi Tajima
Secretary-General

Tokyo
May 2004

INTEGRATED REPORT

Mr. Enrique V. Abadesco, Jr.
Effectiveness Advisors

I. Background

“It is certain that the emergence of the knowledge worker and of the knowledge worker’s productivity as key questions will, within a very few decades, bring about fundamental changes in the structure and nature of the economic system.”

- Peter Drucker
Management Challenges for the 21st Century

In most countries today, knowledge work has been recognized increasingly as a key sector of the economy, both in terms of economic outputs and political clout. Knowledge work was identified for the first time as a discrete category of work in the U.S. in the 1950s. But in fact, the ongoing shift toward knowledge work in the U.S. began before World War I, and in recent decades, the trend has been accelerated due to the dramatic and rapid advances in science and technology and the fast pace of economic globalization. A key consequence of this trend is the realization of knowledge as a primary source of wealth creation and competitive advantage. Peter Drucker, who is credited with first coining the term “knowledge worker” observes in his book, *Post Capitalist Society* (1993) that we are entering a “knowledge society” where the basic economic resource is no longer capital, natural resources or labor but “is and will be knowledge” in which knowledge workers will play a central role.

Broadly defined, the knowledge worker is anyone who makes a living out of creating, manipulating or disseminating knowledge. James W. Cortada in the landmark MIT research project *Rise of the Knowledge Worker* (1998) observed that increasingly everyone in the workplace might be considered as a knowledge worker because the amount of information and data that people use to perform their jobs is steadily growing. In essence, knowledge work may be broadly classified into three categories:

1. Generation/creation of knowledge – examples include such occupations as research scientists, designers, philosophers, etc;
2. Transfer/sharing of knowledge – teachers, consultants and application engineers; and
3. Utilization of knowledge – computer operators, office workers and technicians.

Drucker also suggests various classes of knowledge workers: high knowledge workers include professionals such as doctors, teachers and consultants who deal mainly in the realm of the mind while the knowledge technologists work with their

hands and brains in the industries of information technology (IT), medicine and other areas. Although both categories of knowledge workers are growing, the bulk of the growth comes from the second group, driven by the widespread growth of IT and the Internet. Also, knowledge workers are fast pervading every facet of the workforce as companies automate and avail of the opportunities of e-commerce through the Internet.

The growing consensus on the emergence of the knowledge economy and the vital role that knowledge workers play provides the context for this Survey on In-Company Training Strategies for Knowledge Workers conducted by the Asian Productivity Organization (APO). Many Asian countries are emerging as new centers of economic and industrial development and are beginning to experience the transition to knowledge-based economies. This study examines one of the important aspects of managing and maximizing this critical and the only source of sustainable competitive advantage, namely, in-company training strategies among indigenous and multinational companies operating in the Asia-Pacific region and the success factors and best practices that can be shared to enhance the effectiveness of the knowledge workers.

II. Study Objectives and Methodology

If a company's or a country's key resource is its educated workers and if the knowledge workers control the key productive assets of modern society, the challenge is how to engage the minds and hearts of these workers. Drucker highlights this key challenge as follows:

“The single greatest challenge facing companies in the developed countries of the world is to raise the productivity of knowledge and service workers. This challenge, which will dominate the management agenda for the next several decades, will ultimately determine the competitive performance of companies.”

In the specific context of this study, the challenge is how organizations can maximize the effectiveness of their in-company training strategies so as to be able to increase the productivity of their knowledge workforce. Through selected case studies in each of the participating countries, this APO survey aims to identify the best practices of in-company training strategies for knowledge workers. Each national expert, in selecting three to five companies for case studies, was guided by a set of agreed criteria (for instance, leaders in the respective industries, a mix of large and medium-sized enterprises as well as a mix of local, state-owned and multinational companies).

Table 1 shows the range of sectors covered in each of the participating countries. The methodology employed for the case studies is the use of a structured questionnaire, which was developed at an APO Coordination Meeting held in Manila in August 2002. The meeting was participated by APO experts from the Republic of China, Fiji, India, Malaysia, Nepal, the Philippines, Singapore, Thailand, and Vietnam. Fieldwork was carried out subsequently and lasted for six months. This integration report summarizes the key findings, mostly drawn from the case studies conducted in India, Malaysia, the Philippines, Singapore, and Thailand.

Table 1: Companies Surveyed in Five Asian Countries

Country	Company	Industry Sector
India	Ernst & Young India (Pvt.) Ltd.	Professional services
	HCL Technologies Ltd.	IT
	Wipro Technologies Ltd.	IT
	Central Electronics Ltd.	Manufacturing
Malaysia	Epson Precision (M) Sdn. Bhd.	Manufacturing
	Telekom Malaysia Berhad	Telecommunications
	Samsung SDI (M) Sdn. Bhd.	Manufacturing
Philippines	Jollibee Foods Corporation	Fast food retailing
	Philippine Batteries, Inc.	Manufacturing
	CS Garments, Inc.	Manufacturing
Singapore	A leading polytechnic	Educational services
	A regional bank	Financial services
	A knowledge management company	Knowledge management services
	An IT company	IT products manufacturing
Thailand	Somboon Group	Manufacturing
	Honda Automotive (Thailand) Co., Ltd.	Manufacturing
	The Airports of Thailand Public Co., Ltd.	Aviation and airport services

III. Format

This publication consists of five country reports, containing the survey results of India, Malaysia, the Philippines, Singapore, Thailand, as well as their analysis. Each country report begins with an overview of the national economy, followed by an analysis of its preparedness in terms of joining the knowledge-based economy and an exposition of the national agenda for the transition. From the macro picture, the report proceeds to discuss the best practices identified for training the knowledge workers. These practices would typically include descriptions of how training strategies are aligned with corporate philosophy, culture, goals, and policies; how training needs are assessed; what methodologies are used to design training programs; and how these are delivered and reinforced subsequently.

The rest of the report consists of detailed case studies, summarizing the findings from the questionnaire survey and interviews. These case studies provide a detailed profile of each company's in-house training strategies, including training philosophy, organizations to support training, physical facilities, budgets, delivery resources (such as intranet, Internet and outsourced faculties), needs assessment methodology, and linkages with the overall human resource development (HRD) systems. Each country report ends with a summary of major findings or recommendations.

IV. In-Company Training and Transition Toward the Knowledge-Based Economy

Training in the context of this study refers to both formal and informal mechanisms to inculcate and reinforce requisite skills, knowledge and attitudes to support business goals and objectives. These mechanisms include classroom-based training programs, structured on-the-job training (OJT) and coaching, mentoring systems, as well as learning-reinforcing systems such as performance counseling, career pathing, and incentives and rewards.

An understanding of the changing nature of work and the key role of human resources is becoming more and more pronounced for countries and business organizations to move toward the development of their knowledge-based economies. This changing mindset is in fact reflected in the nomenclature of the human resource management function, which over the years has shifted from being called personnel administration to HRD, and to human capital management. The rationale behind such a shift is an acknowledgement of the central role that people and their intellectual capital can play in an economy in which these intangible assets are becoming increasingly important for growth and development. Table 2, adapted from Perez (2000) illustrates the key differences between the “age of the engine” and the knowledge society.

Table 2: From the Age of the Engine to Knowledge Society

	Age of the Engine	Knowledge Society
Key Resource	Fossilized energy	Information and knowledge
Products	Tangibles	Intangibles
Market	Mass market	Highly segmented markets
Organization	Centralized	Decentralized
People	Human resource	Human capital
Training	Cost	Investment

Source: Adopted from Perez (2000)

In their journeys toward creating knowledge-based economies, the participating countries in this study all acknowledge the vital role that the private business sector should play. In some of the economies, notably Singapore through its Manpower 21 Plan and Malaysia through its Knowledge-based Economy Master Plan, their governments take a highly visible role in drawing national roadmaps, which delineate the important roles of their business sectors. In other countries such as Thailand, the Philippines and India, the linkage between their national agendas of developing knowledge-based economies and roles of the private business sectors may appear to be less intimate but a common expectation is that the business sector carries an equally important onus of initiating and implementing training initiatives to upgrade the knowledge stock of their workforce.

Globalization and the entry of international players are key factors among the participating countries to drive forward the recognition of the importance of in-company training. Closely tied to this is the emergence of international standards and benchmarking criteria such as ISO 9002, ISO 14000 and TQM practices. Advances in IT have also been identified as another key driver. Furthermore, because customers within and outside their countries are becoming more and more demanding,

necessitating greater emphasis on people's knowledge and skills. Needless to say, all these external pressures bring about changes in the nature of work and job competencies required to do the work. These in turn point to the gaps in the knowledge and skills of the existing workforce to meet the future challenges.

V. Macro (National Economy) and Micro Issues (Firm Level)

While the main focus of this survey is on in-company training strategies at firm level, national reports from the five participating countries highlight how these countries manage their transition from a production-based economy to a knowledge-based economy. Table 3 shows the diversity of a number of Asian and developed economies in terms of the Information Society Index (ISI), which measures the development of information and communication technology (ICT) of different countries. Among the 23 variables covered are computer infrastructure (e.g. PCs installed per capita and software versus hardware spending), information infrastructure (e.g. cable subscribers per capita and TV ownership per capita), Internet infrastructure (e.g. Internet users per household), and social infrastructure (e.g. newspaper readership per capita and tertiary school enrolment).

Table 3: ISI Ranking

Category	Country	Rank 2000	Scores 2000
Skaters	Sweden	1	6,496
	United States	4	5,850
	Singapore	9	5,269
	Japan	11	5,182
Striders	Taiwan	18	4,296
	Republic of Korea	19	4,283
	France	21	4,104
Sprinters	Malaysia	32	2,220
	Russia	40	1,863
	Mexico	42	1,785
Strollers	Thailand	47	1,563
	Philippines	48	1,553
	China	52	1,198
	Indonesia	53	1,172
	India	54	1,108

Source: The Worldpaper, <http://www.worldpaper.com/2001>

Singapore, counted among the leading "Skaters," focuses its national agenda on manpower development and addresses issues such as aging workforce, labor shortage, and shortage of management specialists, led those countries in the Sprinters' pack, which focuses on catching up its info-structure (e.g. through its Multimedia Super Corridor Project in Malaysia), upgrading its human resource base and enhancing its science and technology capabilities. Thailand, the Philippines and India are primarily concerned with enhancing the education standards of their labor force through vocational and technical training, catching up on its ICT capabilities and banking on

the private sector to take a strong leading role. As the focus of this survey is on firm-level training strategies, the rest of this integration report will examine further along this direction based on the findings emanated.

VI. Challenges and Issues

1. Speed in training design and delivery

A key common theme emerged from the five national reports is how to design and deliver training to the workforce expeditiously and effectively to meet the changing market and customer needs and expectations. These case studies illustrate various methodologies of training design and delivery to respond to this challenge.

2. Strategic perspective

Although not explicitly stated in all the national reports, another major common theme emerged is the need for the training function to be strategic and to ensure that training practices are aligned and supportive of business goals and strategies. The desired end-state can perhaps be illustrated by one of the companies surveyed in India, which has renamed its training department as “talent transformation” department and headed by a vice president. In conjunction to this is the challenge of developing a culture of lifelong learning. This calls for a shift in the role of training, namely from a “delivery of knowledge” to a “manager of learning” and the role of classroom teacher to “organizational effectiveness consultant.” In essence, in addition to promoting changes in individuals, training should be considered as a catalyst of bringing organizational changes.

3. Employees’ self-responsibility

Another challenge that is closely related to the need to developing a culture of learning and innovation is how to encourage employees’ self-responsibility for learning. The report from Thailand aptly captures the point: “Training is becoming less about delivering knowledge per se but more about helping people to learn and find out the needs by themselves.” Key mechanisms cited in a number of surveyed companies are individualized training plans, self-nomination to training programs and the use of e-learning tools.

4. Line management’s involvement

Getting the active involvement of line managers and specialists throughout the organization is a major challenge encountered by all the companies surveyed. Experiences from some of the companies highlighted the best practices of using internal trainers who are line managers and specialists within the organization. However, burdened with day-to-day business duties, these line managers and specialists often find it difficult to have extra time to prepare and conduct training for the other employees of the company.

VII. Best Practices

Theses case studies from the five participating countries highlight the following best practices of in-company training:

- (1) Clear, comprehensive strategic plan for human resource development, which includes a policy and expectation statement from top management, enabling organizational structure, sufficient budget and physical infrastructure, responsive programs, and an integrated linkage to other human resource management systems.
- (2) Use of a systematic, disciplined and structured framework to serve as a roadmap toward creating an organizational culture of lifelong learning. Such a framework needs to be adopted by the top management and implemented organization-wide. The National People Developer Award of Singapore illustrates the benefits of this type of approach. The framework provides a systematic process which includes: (1) reviewing human resource management practices; (2) adopting a structured approach for staff development; (3) improving the effectiveness of training; and (4) achieving better business results. Meanwhile, the structured review should also look into the following eight systems and their linkages, which will be further described in the report of Singapore:
 1. Training needs analysis (TNA) system;
 2. Career development system;
 3. Resource allocation system;
 4. Communication system;
 5. Induction system;
 6. Monitoring system;
 7. Evaluation system; and
 8. Feedback system.
- (3) Use of e-learning tools to encourage employees' self-responsibility for learning as well as speed up the delivery of knowledge. Knowledge workers value professional freedom and innovative opportunities to learn. e-Learning solutions enable knowledge workers to self-manage their learning process when effectively harnessed. e-Mentoring, the use of simulators and incentives to encourage employees to use desktop computers for e-learning, are among the practices cited in a number of the national reports.
- (4) Use of internal experts and managers as trainers and mentors. Emphasis has been given to developing skills in coaching and mentoring to ensure that knowledge workers get just-in-time training. The use of technology to provide information and knowledge at the time needed by workers augments the principle of integrating work and learning.
- (5) Linking the training plans to organizational, job and individual needs through a competency-based model was also emphasized. The report from Thailand emphasizes the importance of conceptualizing training as a process of organizational change rather than just individual change. The report also proposes that training should start from need analysis and should cover three

perspectives, namely, organization, job and employee. Alignment with organizational objectives is manifested by such practices as identification of critical competencies and linking these to critical jobs. Another alignment practice is the adoption of balanced scorecards, which include training and learning metrics. At the individual level, a number of companies surveyed cite the practice of individualized training plans.

- (6) All the reports highlight the practice of using both formal and informal training mechanisms such as mentoring, structured OJT, quality circles (QCs), departmental sharing, use of the intranet, study tours, induction schemes, townhall sessions, benchmarking, and project work.

The reports from these five countries describe a number of exemplar training practices in detail. Noteworthy among these are: “upgraded skills on operative and control of CNC-lathe machine” (Somboon Group, Thailand), “in-dealer instructor implementation” (Honda Thailand), “airport management (junior level)” (Airport of Thailand Public Co., Ltd.), “training kitchen” (Jollibee Foods, the Philippines), “dual training system” (CS Garments, the Philippines), “six sigma training and system of internal trainers” (Samsung SDI, Malaysia), “intranet open system” (Epson Precision Malaysia), “online training program” (HCL Technologies, India), and the National People Developer Standard of Singapore.

VIII. Lessons Learned and Success Factors

The major lessons and key success factors drawn from these case studies across the five countries confirm basically what experienced human resource and training managers knew all along:

- (1) Training should be recognized as a key strategy for overall business success and effectiveness;
- (2) Top management should take the lead by clearly articulating policies, providing resources through budget, manpower allocation, and physical facilities. These should be reinforced through other company support systems;
- (3) Training programs need to be aligned and explicitly supportive of business objectives and strategies and need to be integrated with and reinforced by mechanisms such as performance management system, career development, compensation, and rewards;
- (4) Management at all levels should actively involve in training needs assessment (TNA), design, delivery, implementation, and evaluation; and
- (5) Employees should take ownership for knowledge and skill development and the company should support this philosophy through structured development blueprints and tools.

IX. Recommendations

As Asian societies move closer to becoming knowledge-based economies and as organizations rely more on knowledge and knowledge workers to achieve success, the

role and methodologies of training will need to change accordingly. Accelerating pace toward globalization and advances in technology as well as the changing mindset of the new generation of workers will demand changes in organization and work design. These changes will in turn require new attitudes, knowledge, skills and behaviors on the part of the knowledge workers. The following recommendations are intended to respond to these changes:

Philosophy

- From an orientation of individual change to organizational, cultural change. Training should take a more comprehensive perspective from needs assessment to specific training interventions, taking into account the organization, the job and the individual. A number of companies participated in this survey emphasized that training should be considered as a key instrument to accomplish the strategic objective of creating a culture of lifelong learning and innovation.
- From a “specialist training” intervention mindset to a “strategic” mindset. Training as a technical, stand-alone intervention would not suffice to meet the needs brought about by a multitude of external changes as earlier cited. Therefore, there are needs to assume a more strategic perspective on training and to ensure that training interventions are positioned as an essential part of a larger human resource management and corporate strategy.

Role

- From a “deliverer of knowledge” to a “manager of learning” and from classroom teacher to learning consultant. This shift of the role of training implies a dramatic change requiring a new set of attitudes, skills and behaviors on the part of the training staff. While classroom-based training remains an important vehicle of learning, it is clearly inadequate to cope with the challenges of the “new economy.” Theorists opine that learning should be integrated with the work itself; and learning and practice must be seen and designed as one.

Approach

- From discrete, ad-hoc interventions to a systemic, disciplined approach. The People Developer Standard of Singapore is an excellent example of a comprehensive and systematic approach to training. The approach not only looks at the formal training component but also links this to work redesign, communication, induction, feedback, and evaluation.

Tools

- From individual’s gaps to a competency-based model, thereby linking organizational development with the development of individuals and integrating knowledge, skills, attitudes, and talents into a holistic framework.
- Staff trainers, line managers, engineers, and technicians should also act as trainers/mentors. Ownership of training should lie squarely with the line staff and should not be seen merely as a staff-owned project.

- From conventional classroom-based programs to widespread use of e-learning mechanisms. Indeed, the new knowledge workers prizes autonomy and freedom and the very nature of knowledge work (being fluid, hard to standardize and measure) lend themselves to the flexibility of Internet and computer-based tools.

All these changes, put together, would amount to a radical departure from conventional human resource management thinking, which in effect, amounts to a paradigm change. Paradigm change takes place over time, but hopefully, through the exemplars cited in this research study, companies in the region can begin taking the first step and then the second and subsequent steps in their continuing journeys toward excellence and higher productivity.

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1. INDIA

Mr. Jagdish Kumar
National Productivity Council

TRANSITION FROM PRODUCTION-BASED TO KNOWLEDGE-BASED ECONOMY: AN OVERVIEW

In today's fast-changing business environment, companies tend to lose competitiveness if their executives and employees cannot keep pace with advancing knowledge in their disciplines. However the exciting news about the new world of business is that there is more room for creativity than ever before. People, teams and companies are feeling the heat to come up with new products, services and business models. The time-span between the discovery of knowledge and the use of it has shortened considerably in recent years. The new knowledge industries have created a shift toward accelerating the process of discovery. Organization of future is about three things – stretch, innovation and speed.

The traditional management philosophies like “everyone can excel at anything provided they work hard enough” or that developing people means fixing their weakness rather than building on their strengths, etc., have become antique as mentioned by Curt Coffman, the management guru and author of the best seller *First, Break all the Rules*. Today's organizations are realizing how important human nature is in determining business outcomes and hence rely on training to manage increasing levels of ambiguity, risk, technical complexity, and organizational politics.

Overview of the Economy

India is the seventh largest and second most populous country in the world. It is also the largest democracy in the world. Despite the population crossing the 1,000 million mark and the predominance of agriculture, India's share was nearly 5 percent of world's income in the recent past. In the 50 years of Independence, India has sent satellites in space, constructed nuclear power plants and now has one of the largest pools of skilled manpower in the developing world. Within a single generation, the nation that till recently was classified as a developing country started propelling itself into the ranks of a leading industrialized nation of the 21st century. Bold visions of the future are being sketched out and put into effect, and give humankind wings to achieve ever-greater things.

In India, Five-Year Plans have been used as an instrument to bring about planned socio-economic development. A Five-Year Plan is an indicative plan of action over the ensuing five years reflecting largely the intent of the government for that period at the national, regional and the sectoral levels. So far nine Five-Year Plans had been implemented and the tenth plan has just commenced. India's development strategies have evolved in response to objective conditions of the economy. The focuses and the economy's growth rates under the various Five-Year Plans are listed below:

Table 1. Focuses of Five-Year Plans and Economic Growth Rates

Plan	Focus	Estimated growth rate (%)	Actual growth rate (%)
First	Agriculture and revival of economic activities	2.1	3.6
Second	Establishment of heavy industries as a means of rapid industrialization and for raising low savings rate	4.5	4.3
Third	Import substitution as a strategy for industrialization	5.6	2.4
Fourth	Food security	5.7	3.4
Fifth	Minimum needs and anti-poverty programs	4.4	4.8
Sixth	Shift in pattern of industrialization from heavy industries to infrastructure development	5.2	5.7
Seventh	Infrastructure development, reappraisal of import substitution strategy and initiation of liberalization of Indian economy	5.0	5.8
Eighth	Planning for a market-oriented economy	5.6	6.7
Ninth	Recognized demand rather than resources could become constraint for growth	6.5	6.1

Source: Compiled from various reports published by the Planning Commission, India

Over the four decades after Independence, India followed a planned development strategy based on extensive public ownership of commercial assets; a complicated industrial licensing system; substantial protection against imports; restrictions on exports; virtual prohibition of foreign investment; and extensive regulation of financial intermediation. At some point in the 1970s and early 1980s, these policies enabled the government to control most basic business decisions down to the firm level.

While the development strategy helped the country escape from massive illiteracy, recurrent famines and secular stagnation prevailing before Independence, it isolated India from the rest of the world, with the result that India's share of world trade declined from 2 percent in the 1950s to less than 0.5 percent in the late 1980s. Indian consumers had to pay higher prices for goods of lower quality and deprived the country of the benefits of foreign direct investment (FDI) and modern technology. It also discouraged production for exports, created recurrent shortages of foreign exchange and made the balance of payments extremely vulnerable to internal circumstances. Most important of all, it held back the country's growth and thus the

pace at which poverty could have been reduced. But, it also need to mention that training industrial workers and developing strong technical human resources had been given considerable attention as early as in 1956 with the adoption of the Industrial Policy Resolution.

Although advancing ICT was not a key focus area in the initial Five-Year Plans, India was not remained standstill as far as technological developments were concerned. It may be noted that as early as 1956-59 India had designed and built two computers. Furthermore, India had separate departments for Atomic Energy, Space, Science & Technology, and Electronics even 25 years ago.

Since the early 1990s, trade reform has been India's most substantial and successful area of economic reform; trade now represents about 30 percent of India's GDP, up from 15 percent in the early years. India has grown robustly since and the government progressively announced further liberalization toward foreign investment, privatization and administration reforms. These could foster India to achieve its former real GDP growth of as high as 7 to 8 percent per year. India's middle class is expanding rapidly; about 60 million people now live in households with income over US\$6,000 per year, compared to only about 25 million in 1994-95.

Emergence of Knowledge-based Economy

With the opening up of Indian economy and relaxation of economic restrictions, the level of competition had grown higher than ever before. With the entry of new and many players in the market, the industry is now exposed to increased national and international competition. Value addition has become the new mantra to keep pace with enhanced customer expectations and customer orientation has become the foremost requirement to survive in the competitive marketplace. The products and services offered are more and more information packed and with each transaction new knowledge is generated. By one recent estimate, 60 to 70 percent of all industrial output is based on information. Modern manufacturing industries now depend as much for their success on the management of information relating to quality, cost and scheduling as they do on the management of production processes. Industries and services have become mutually interdependent and the focus of competition is now shifting from the product itself to services resulting in the emergence of service sector. The continuous flow of information at all levels has become critically important. In such a scenario, creativity and innovation command better prospects than mechanical techniques of the past.

Obviously, employees have a lot to contribute toward value addition under these circumstances and hence competence is highly in demand. Organizations are fast realizing that the only irreplaceable capitals they possess are the knowledge and ability of their people. Most companies which now have high market capitalization are good in managing knowledge assets though they have not been able to reach the top 100 companies in terms of sales, profits and assets. So there is no denying that knowledge is becoming the most critical asset for firms. This has greatly enhanced the need for higher productivity growth necessitating new HRD policies and laying the emphasis on people and processes of capturing and disseminating information. Those who manage knowledge are emerging as the predominant workers in the developed economies of

the world. The performance of this group, known as knowledge workers has become the key to the development of any economy, and the key to success of any business.

Thus, an economy that revolves around creating, sharing and using knowledge and information to create wealth and improve quality of life has emerged. Such an economy is populated by knowledge workers in the form of people who provide economic value by generating, sharing and applying ideas of all kinds. In this 21st century, a new society is being evolved where knowledge is the primary production resource instead of capital and labor.

Concept of Knowledge Work and Knowledge Worker

The new technologies have profoundly impacted the life and work of individuals, society and the economy, and the way in which businesses and industry are organized and conducted. In essence, this has changed the nature of work for all time to come. Over the years, business processes have gradually shifted from mechanistic-based to practice-based and now information-based. ICT have built a new symbolic relationship between man, machine and information.

Knowledge work is human's mental work performed to generate useful information and knowledge. In doing it, workers access and use data (observation or in repositories), personal knowledge, organizational knowledge, and external knowledge. In other words, knowledge work employs humans as information processors and decision makers and calls for significant concentration and attention as their tasks are more and more job-specific. Broadly speaking, knowledge work activities include acquisition of knowledge, mental modeling, decision-making, and communication. The productivity of knowledge work is influenced by factors such as motivation and cognitive skills, which have become critical to such competitive attributes as customization, quality and expansion of scope.

A knowledge worker is the one who creates new ideas, or is engaged in communicating or disseminating knowledge or uses knowledge as a resource. These individuals create new ideas and are involved in research and development (popularly known as R&D). They are actively associated with innovations and knowledge advancements. Those who disseminate knowledge are teachers, trainers and consultants. The other categories of workers using knowledge as a resource of value creation are IT professionals who create software programs. Thus, the common thread running through all these individuals is that all of them deal with data (information) and ideas. This group of knowledge workers is ever increasing, both in numerical strength and job varieties.

PREPAREDNESS, ISSUES AND CHALLENGES

The knowledge-based economy is generating innovations for both business and society. Business models and cultures are changing and their impacts are manifesting in such areas as wealth creation, nature of work and corporate structure. The experience of work itself is changing as people are becoming more mobile and reluctant to stay long-term with any single firm. To make knowledge work productive is a challenge to both individuals and organizations. Employers are looking forward to

a new mix of skills and improving the capability of their staff by applying innovatively an existing body of theory and skills across the enterprise.

India's labor force is growing at a rate of 2.5 percent annually, but employment is growing at only 2.3 percent. Thus, the country is facing the challenge of not only absorbing new entrants to the job market (estimated at seven million people every year), but also clearing the backlog. According to the Planning Commission, the overall employment figure increased by about 1 percent per annum during the period 1993-2000 compared with 2.43 percent per annum during the period 1987-94. Employment in organized sector (both public and private), on the other hand, grew by 0.53 percent per annum during 1994-2000.

While public sector employment experienced a decline of 0.03 percent during 1994-2000, employment in the private sector grew by 1.87 percent during the period. Employment in the agricultural sector also witnessed a slow growth with the absolute number of persons employed in the agricultural sector showed a decline. However, employment in other sectors such as trade, construction, financial services, transport, storage, and communication indicated growth rates of between 5 to 7 percent per annum during 1994-2000.

Table 2. Population, Labor Force and Employment Growth (per annum)

Period	Rate of growth of population (%)	Rate of growth of labor force (%)	Rate of growth of employment (%)
1972-77	2.27	2.94	2.73
1978-83	2.19	2.04	2.17
1984-87	2.14	1.74	1.54
1988-93	2.10	2.29	2.43
1994-2000	1.93	1.03	0.98

Source: Economic Survey 2001-2002, Government of India

There is a continuous change in the employment pattern in India with people moving from economic sector of agriculture to industry and services. Furthermore, the country has responded positively to meet the necessity to design, develop and deploy high technology tools and methods. With increasing emphasis on training, the surplus manpower from traditional sectors is constantly prepared for transitioning to the emerging sectors.

Higher education has expanded in a massive way in India since Independence. The number of universities has increased from 25 in the 1950s to 296 institutions nowadays, students increased from 100,000 to 9 millions, teachers from 15,000 to 300,000, and colleges from 700 to 12,000. Such achievements are incomparable to any other nation. But the access ratio (namely, number of students divided by the population in the 17-23 age group) is a mere 6.9 percent against 35 to 55 percent in developed economies. The fact reinforces the need for providing more training opportunities to workers, especially at entry level to orient and develop their skills in the workplace.

Like other emerging markets, India has university graduates in surplus but too few skilled professionals. An academic degree is valued more than a vocational degree. This culture is now changing albeit very slowly and vocational education, which

allows for skill building and in turn improves the quality and productivity of the workforce, is gaining acceptance in the industries.

The challenges that organization confronts in managing knowledge work and workers include the identification of ways and means to extract value from the intellectual assets and knowledge the organization possesses, and to encourage its employees to “think outside the box.” The complexity of these issues arises from the fact that knowledge workers doing same or similar tasks may exhibit significant productivity differences. Furthermore, productivity differences also exist among individuals and groups at different time periods.

Traditional human resource management practices, which have been in vogue in many of our manufacturing and service industries, may prove ineffective in managing such knowledge workers. Managers in emerging knowledge-intensive organizations may have to recognize that technical expertise is as valuable as management expertise. In India, some of the leading IT companies have developed outstanding human resource management strategies and practices to deal with the issues above-mentioned. These companies have demonstrated their capabilities to attract, retain and utilize the country’s best knowledge workers.

India’s gradual economic liberalization, growing incomes among its people, generally low labor costs, and the widespread use of English are some of the attractiveness of the country for foreign investors, especially those in the knowledge-intensive industries. In recognition of these favorable factors and to attract more FDI, foreign companies can establish wholly owned subsidiaries in key sectors of manufacturing, mining, infrastructure, and software development, though restrictions in many other sectors in terms of ownership percentage are still prevalent. Besides, the quality of work performed by university graduates in India has been well recognized, and after all, India is one of the largest English speaking countries in the world after U.K. and U.S. Many Indian people are familiar with the work style of western countries and they are outstanding in handling complicated and analytical jobs such as accountancy. Every year, millions of university and Ph.D. students are graduated and India is all set to break many old myths and moves from a “low-wage” country to a “high-intellectual” country. The primary challenge is how to utilize these favorable factors of competitive advantage in the business sector, especially those involved in the knowledge-intensive arenas.

NATIONAL AGENDA OF MOVING INTO A KNOWLEDGE-BASED ECONOMY

India today is standing on the threshold of profound changes in the economy and social life styles due to the knowledge revolution. Indian industry is passing through a critical phase of transition and restructuring. New advances in knowledge will alter all the products we make, the ways we produce and how wealth is created. Such knowledge is not limited to the arenas of hi-tech scientific or technological advances, but exhibits in all walks of life and in all types of activities. To achieve smooth and effective transition to a knowledge-based economy, the government of India has constituted a high-level task force on IT and software development with

representatives from the government, industrial associations, financial institutions, defense services, railways, utilities and other public service organizations, among others. This high-level task force has made extensive recommendations for the development of IT and IT culture in the country and for fostering an enabling environment to facilitate the transition. In addition, the following specific task groups/panels have been set up under the task force:

- Panel on development, manufacture and export of IT hardware – microelectronics;
- Working group on content creation and content industry;
- Working group on citizen-IT interface;
- Working group on IT's HRD; and
- Working group on IT research, design and development.

India's IT sector is flourishing, with its total revenue reached about US\$11.4 billion in 2000/01. This is due to the country's huge pool of skilled, relatively low cost IT engineers and supportive government policy. The software sector is the fastest growing component of India's IT industry; its revenue increased by 46 percent per year for the past 7 years to reach US\$7.4 billion in 2000/01. Employing about 35 million people, the software industry exported about 70 percent of its output last year. Although India trains about 35,000 to 50,000 new software engineers each year, with the sector's rapid growth, demand is outstripping supply and the shortage of skilled staff has pushed up the salaries of IT engineers around 20 percent annually since the late 1990s.

In addition, another 10 million Indian workers are employed in the even faster growing IT-enabled sector (for instance, call centers, back office support, data entry, etc.); its revenue was tripled over the last two years. This sector should face less extent of labor shortage, as it has a much larger pool of potential employees to draw from, so may have even stronger growth prospects than the software industry.

Notwithstanding the current euphoria, it needs to be emphasized that the definition of knowledge economy is not only restrict to the ICT industry. It includes pharmaceuticals, consultancy, design engineering, financial services, media and entertainment, and education. These are sunrise sectors that are offering attractive investment opportunities. It can be found that since the economic reforms in the 1990s, only the service sector has grown considerably stronger than in the 1980s; manufacturing growth has improved marginally, while infrastructure and mining have grown more slowly.

The financial sector is increasingly open to foreign investment and is growing strongly. However, India's banking industry has been constrained by a strong public presence, overstaffing and non-performing assets; and the government is addressing these issues. Investors may find that best business opportunities lie in partnering with recent private Indian financial sector entrants. The telecommunications sector, on the other hand, is also growing strongly; recent reforms opened up opportunities for private companies to compete with public incumbents and provide services and equipment to this sector. As a result, foreign investors' interest in this sector is increasing. Healthcare, education, biotechnology, environmental services, media and

entertainment are other fast growing sectors of the economy and recent liberalization and stronger market growth should allow foreign firms to have more investment opportunities.

It is estimated that by 2015, close to 55 percent of India's population will be less than 20 years old. This age group will decide the future of India in the 21st century. India has a rich cultural heritage though a proactive approach is not being taken to tap the country's huge knowledge resources. An enlightened policy environment should help realize the potential of the underlying competitive strength of India by enabling the young generation to cater to the requirements of the knowledge-based industries. Some of the efforts that are being undertaken by the government in this regard include:

- Launch a "REACH" (Relevance and Excellence in ACHieving new heights in education institutions) mission program to establish centers of excellence, promote areas of industrial relevance and provide required trained manpower to the industries;
- Establish a model of incubation centers for herbal products to garner natural resources and native knowledge towards creating wealth;
- Institute a national infrastructure for HRD in IT and a high-speed national network backbone called "Vidya Vahini";
- Strengthen vocational education to cater to the increased numbers of students from elementary and secondary streams;
- Promote quality improvement of technical education – IITs, RECs, engineering colleges, etc.; and
- Develop village-level networking for having information kiosks to make the public information savvy.

TRANSFERRING NATIONAL AGENDA TO COMPANIES

Many companies have for many years acknowledged in their annual reports the quality of people employed and their intrinsic value to the companies, but such recognition has not been reflected in the way these people are managed. Employment pattern of India's formal sector is also undergoing structural changes and are leading toward the creation of jobs of high-skill intensity. To meet the challenges of changing skill requirements, efforts of HRD directed toward skill development assume significance. This can be better achieved through closer interaction and collaboration between the corporate sector and the education and training institutions.

As the market situation is becoming highly dynamic and changes are evolving at a faster rate than expected, organizations have to look for strategic alliances/mergers in the context of global competition. The success stories in the 1990s of many players in the automobile sector in forming joint ventures have prompted the knowledge organizations to consider the same of fostering alliances with strategic partners. The primary motives for having strategic alliances include diversifying into emerging sectors and bridging the gaps in skill requirements. The mergers of consulting giants of Ernst & Young with Anderson Consulting, PricewaterhouseCoopers with IBM, and Hewlett-Packard with IBM are clear examples. Likewise, many Indian IT giants like

Wipro, Satyam, and Tata Consultancy have joined hands with national and international players to capitalize on the opportunities unfolded in the emerging areas such as business process outsourcing (BPO). Furthermore, foreign companies in the areas of pharmaceuticals and biotechnology have also joined hands with Indian companies to tap into the opportunities created by the R&D efforts in these sectors.

As a result of the growing importance of intangible assets and strategic alliances, the nature of work itself has changed. With the knowledge workers doing justice to their own skills and capabilities by switching jobs frequently, one of the major concerns for the organizations was to tap the knowledge available with each employee before he leaves the organization. Many companies in India have responded to this challenge by building and using various knowledge management packages. Generally speaking, firms in the area of consulting, automobile manufacturing, banking, and software are the ones that are going for knowledge management implementation. The various applications for which these packages are used include virtual communities based on skill/interest, customer relationship management, transaction monitoring, repository management, and information of best industry practices. Many of these organizations have created positions like chief knowledge officer, knowledge manager, and the like, reflecting the extent of importance they had given to knowledge management.

The nature of R&D has also changed considerably. In the past, most of the R&D was undertaken by the academia, but now the industry is funding its own R&D, and many renowned companies are associating and supporting leading educational institutions to carry out R&D projects. An example is the establishment of a research laboratory in the Indian Institute of Technology, Delhi, a highly positive sign that the industry is driven with the desire to push ahead of time and be the market leader in the age of intensified competition. This has helped the spread of knowledge to the users.

SURVEY IMPLEMENTATION AND METHODOLOGY

The primary data for the current study was collected through semi-structured interviews and an extensive questionnaire survey among knowledge workers and their managers in India focusing on training policies and practices in knowledge organizations. The questionnaire was finalized at a meeting held in Manila among team members of this APO project. A sample of the questionnaire is given in the Appendix of this report. Furthermore, secondary data from various sources was obtained to assess the general business environment and the importance of in-house training for the knowledge workers.

Survey Respondents and Responses

The respondents for the survey were selected from the knowledge organizations in such sectors as IT, consulting and business advisory, telecommunications, R&D, and manufacturing. Furthermore, these organizations belonged to various types of ownership, namely, private-owned, public-owned, partnership, and MNCs. The selection also took into consideration their geographical dispersion, albeit at a less

extent, in order to neutralize the effects of cultural and regional differences. The table below indicates the companies selected for the survey.

Table 3: Companies Selected for Survey

	Name	Sector	Base location
1	Ernst & Young India (Pvt.) Ltd.	Professional services	Delhi
2	HCL Technologies Ltd.	Information technology	Noida, Uttar Pradesh
3	Wipro Technologies Ltd.	Information technology	Bangalore
4	Central Electronics Ltd.	Manufacturing	Gazhiabad, Uttar Pradesh

Case Study (1): Ernst & Young India (Pvt.) Ltd.

Ernst & Young India (Pvt.) Ltd. (EYI) is a dynamic professional services firm. It is one of the largest professional service firms in India with over 1,700 people working among its 7 offices across the country with a business turnover of Rs125 Crores. About 90 percent of the staff is knowledge workers and their knowledge input is the main resource employed. Nearly 25 percent of the professionals are doctorates or above by qualification. The motto of the organization is ‘from thought to finish’ and is appropriately translated into actions undertaken in its business services of assurance, corporate finance, risk and business solutions, and tax.

EYI believes that the company’s largest investment is in its people and their potential to enhance services and add value to their clients. EYI provides many opportunities for their knowledge workers to specialize in an industry sector or in particular markets. To provide in-depth training required to support the company’s development, EYI offers comprehensive and high-quality training courses to its staff. The average annual workforce turnover of less than 10 percent demonstrates about how the organization takes care of its knowledge workers. EYI is a part of the Ernst & Young Global, which employs 84,000 professionals working in 670 offices located in more than 130 countries.

The professional service (consulting) business in India is passing through a chaotic period. To secure new and recurrent clients is becoming more and more difficult, and moreover, clients expect consultants to help implement their recommendations in addition to provide advises. Furthermore, competition also comes from software firms and freelance consultants, and cost cutting among consultancy organizations heightens the difficulties in operation. In spite of these adverse market conditions, EYI is one of the professional service firms that perform well while many competitors including foreign consultancy firms are slashing billing rates and desperately diversifying into other business lines.

Commitment of top management is a critical factor for driving the organization in this time of intensified competition to keep pace with international benchmarks. EYI understands the importance of staff competency and requisite corporate culture in maintaining growth. To tackle the challenge, training to impart knowledge is emphasized and training needs are identified and approved by concerned department heads, taking into consideration the current and future requirements of the market and the diverse subject areas to be covered.

Furthermore, knowledge sharing and attitude for learning are taken into consideration in staff’s performance appraisal. The company utilizes the best possible

expertise, including from the global associates abroad, for training its personnel. The objective is to ensure that the employees are exposed to the best available resources. Emphasis is also placed on developing expertise through individual counseling and coaching to encourage an effective teamwork spirit. In addition, there is a growing emphasis on the use of technology to provide direct training and self-learning. Like in most of the people-oriented organizations, availability of the employees physically for training opportunities is pertinent.

Table 4: Major Findings and Learning Points from EYI

Item	Observation/Response
External driving forces	<ul style="list-style-type: none"> • International standards • Industry benchmarks • Competition
Internal driving forces	<ul style="list-style-type: none"> • Corporate vision/mission • Corporate culture • Competence of workforce
Top management commitment	High
Minimum training requirement	5 days per employee per year
Training policy	<ul style="list-style-type: none"> • Need based (as and when needed). • Minimum 5 days per year mandatory for every consultant
Primary objectives of training	<ul style="list-style-type: none"> • Expand intellectual capital • Keep abreast with developments
Training needs identification	<ul style="list-style-type: none"> • Identified by functional heads • Performance appraisal
Approving authority	Functional/divisional head
Training execution	<ul style="list-style-type: none"> • Outsourcing (mostly behavioral) • In-house with external resource persons (parent company) • Internal resource persons
Formal knowledge sharing mechanism	<ul style="list-style-type: none"> • Kweb (intranet) • Bulletin board
Informal knowledge sharing mechanism	Departmental sharing of experiences
Best practices	<ul style="list-style-type: none"> • Expose people to best possible resource • Training needs identified by the functional departments/divisions • Human resource department identifies cutting edge knowledge areas and sources for capacity building • Top management commitment

Case Study (2): Wipro Technologies Ltd.

Established in 1945, Wipro Technologies was diversified into IT business in 1980. Since then there has been no looking back and its revenue in 2002 reached US\$ 736 million, the seventh largest software company in the world according to *Business*

Week. Wipro Technologies serves over 300 leading global companies such as Boeing, Ericsson, Toshiba, Cisco, Seagate, Digital, IBM, Microsoft, and Sony, and was recognized as India's most admirable company in 2001. The company has offices at 30 locations served by about 13,000 IT practitioners and domain consultants. It has one of the most matured six sigma programs in the industry that speaks for its quality leadership.

Furthermore, Wipro Technologies has the unique distinction of being the world's first PCMM, CMMi and CMM level-5 company, offering a full service portfolio to match all the needs of its customers in IT consulting and services, namely, application development and maintenance, package implementation, total outsourcing, system integration, product design services, hardware and software, and BPO. India is considered as an IT superpower worldwide and Wipro Technologies is a leader in the industry.

Despite a general decline in revenue among IT companies in the country triggered by the burst of 'dotcom' bubble across the county in the last few years, Wipro Technologies maintained its leadership position and performed consistently. Undoubtedly the challenge was massive, considering the size of its business and the market in which Wipro Technologies was operating. Since 1997, Wipro's revenues have grown by an average of 26 percent annually while profits have grown by 69 percent. Innovative global delivery processes and excellent execution were key contributing factors for the success. Wipro Technologies adds value to its clients by providing faster, cost saving and enhanced productivity solutions generated by the combined efforts of its knowledge workforce.

Table 5: Major Findings and Learning Points from Wipro

Item	Observation/Response
External driving forces	<ul style="list-style-type: none"> • Changing customer needs • Competition • Advances in technology • Industry benchmarks
Internal driving forces	<ul style="list-style-type: none"> • Corporate vision/mission • Leadership style • Competence of workforce • Mergers & acquisitions
Top management commitment	High
Minimum training requirement	No minimum requirement specified Middle level executives – average of 10 days/year Up to middle level – average of 20 days/year
Training policy	<ul style="list-style-type: none"> • Annual plan (based on the needs identified by the functional/group heads and appraisals) • As and when depending on assignments

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Primary objectives of training	<ul style="list-style-type: none"> • Expand intellectual capital • Keep abreast with developments • Empower workers • Retain key employees
Training needs identification	<ul style="list-style-type: none"> • Interviews with superiors/subordinates • Performance appraisal system • Career progression schemes
Approving authority	Functional/divisional head
Training execution	<ul style="list-style-type: none"> • In-house mostly – because of customized and technical nature of the program • Total 345 programs organized last year • Outsourcing (mostly for middle and senior executives)
Formal knowledge sharing mechanism	<ul style="list-style-type: none"> • Intranet • Presentations • Bulletin board
Informal knowledge sharing mechanism	<ul style="list-style-type: none"> • Sharing of experiences among groups • Mentoring
Others	<ul style="list-style-type: none"> • Training department named as “talent transformation” department and headed by a vice-president
Best practices	<ul style="list-style-type: none"> • Online training program to users at their desktop computers • Effective identification of training needs of the individual during appraisals • Opportunity to employees to nominate themselves for the training programs • Blended training with Indian Institute of Management (IIM) – Bangalore and Birla Institute of Technology (BITS) for enabling employees to get advanced degrees while working in the company • Mandatory training programs specified for all employees during first six months of employment
Implementation issues	<ul style="list-style-type: none"> • Availability of personnel for training • Training need identification • Course design

In Wipro Technologies, the name of training department has been changed to “talent transformation” department to reflect the consideration behind. A vice-president is heading the department, reflecting the commitment of the top management to staff development. Changing customer needs, especially those of foreign customers that constitute the majority of its business, is considered as the primary driving force influencing the strategic focus of its staff training program; other driving forces are market competition and technological advances. The corporate mission complemented

by able leadership and competent workforce has definitely contributed to the sustained remarkable performance and growth of the organization.

Although Wipro Technologies does not have any policy in terms of the minimum number of training days for its staff, it ensures that training received by all employees are adequately well above the industry averages. The massive employee strength and a relatively high percentage of employee turnovers (i.e., 60 percent) justify the purpose of having annual training plans. While the organization trains its employees to enhance its intellectual capital, it strongly believes that training is an essential ingredient in staff empowerment. The training needs are identified through appraisals, interviews and career progression schemes. The organization also encourages employees to self-nominate themselves for training programs.

Most of the training programs are conducted in-house, in light of the fact that the subjects are very job-specific and highly technical in nature. Generally speaking, in the first six months of training programs for new entrants, emphasis is placed on bringing together a common platform of understanding the company's values and vision. As the organization is the industry leader, best resources are mostly available in-house and effectively utilized. Wipro Technologies also encourages its employees to obtain additional academic qualifications like MBA and master of science degrees through special programs in association with premier institutes. The size of the organization, the complexity of diversified technical skills required and the high employee turnover rate pose genuine challenges in training need identification.

Case Study (4): HCL Technologies Ltd.

HCL Technologies Ltd (HCLT) is one of India's leading global IT service and product engineering companies providing value added and software-led IT solutions and services. HCLT was established in 1991 and currently employs 6,500 people in 25 offices across 14 countries. HCLT's market focuses are Asia-Pacific, Europe, Japan and U.S., serving a wide industry segments like automotive, aerospace, banking, insurance, pharmaceuticals, and retail.

Broadly speaking, its services rendered can be categorized into: (1) Technology-led (embedded, CAD-CAM, CAE, PDM, etc.); (2) Practice-led (SCM, CRM, B2B, e-commerce, ERP, etc.); (3) Application-led (mainframe, AS/400 on platforms like NT, Linux, UNIX, etc.); and (4) IT-enabled services (technical helpdesk, BPO customer contact center). HCLT serves more than 350 blue-chip companies such as Deutsche Bank, Standard Chartered Bank, Cisco, KLA Tencor, Siemens, Hitachi, Toshiba, and NEC, with a turnover of US\$332.84 million annually. The company's exponential growth in the past few years is attributed to the unique offshore-led business model that has been featured prominently as a case study in Harvard Business School. Coming from a background where the organization cut its teeth in core technologies, the company wears its new dimensions with ease. HCLT is driven by an overarching vision of "powering imagination" that propels the company forward. Indeed, the company has built a formidable position as a valuable business partner with its team of high-caliber and experienced professionals.

Table 6: Major Findings and Learning Points from HCLT

Item	Observation/Response
External driving forces	<ul style="list-style-type: none"> • Changing customer needs • Advances in technology • Competition
Internal driving forces	<ul style="list-style-type: none"> • Corporate vision/mission • Existing technology • Competence of workforce
Top management commitment	High
Minimum training requirement	Minimum 8 days/year
Training policy	<ul style="list-style-type: none"> • Annual plan (based on the needs identified by Functional/Group Heads, and appraisals) • As and when depending on assignments
Primary objectives of training	<ul style="list-style-type: none"> • Keep abreast with developments • Empower workers
Training need identification	<ul style="list-style-type: none"> • Performance appraisal system • Career progression schemes
Approving authority	Functional/divisional heads
Training execution	<ul style="list-style-type: none"> • In-house mostly – because of customized and technical nature of the program. Also, the internal resource persons are used to a great extent • Outsourcing (very minimal, and mostly for middle and senior executives)
Formal knowledge sharing mechanism	<ul style="list-style-type: none"> • Intranet • Presentations • Bulletin board
Informal knowledge Sharing mechanism	<ul style="list-style-type: none"> • Sharing of experiences among groups • Mentoring
Best practices	<ul style="list-style-type: none"> • Encourage employees to become trainers/internal resource persons • Online training program (e-learning)
Implementation issues	<ul style="list-style-type: none"> • Availability of personnel for training • Technology advancements • Course design

HCLT has strived continuously to reinvent and reorient itself keeping a sharp focus on adapting itself to the fast changing needs of its customers and business landscape. Keeping pace with the technology advancements has also been one of the key driving forces for growth considering the wide spectrum of the technology-based services the company has been offering. HCLT recognizes that in a knowledge-intensive industry, leadership is a subset of knowledge and it is imperative that the organization attracts the best professionals in the field. HCLT gives high priority to training of its employees and specifies a mandatory minimum of 8 days of training

annually.

The training needs are basically identified from the performance appraisals and career progression schemes and are also based on the requirements of the various functional divisions and departments. Being in a technology driven industry, the prime objective of training is to build competence in cutting edge technologies. Like most of the IT companies, the main form of training is in-house training. One of the best practices that HCLT follows is to encourage its professionals to become trainers or internal resource persons. It believes in this process because the practice facilitates knowledge sharing and contributes to the soft skill development of its professionals.

Case Study (5): Central Electronics Ltd.

Central Electronics Ltd. (CEL), established in 1974, is one of India's knowledge-intensive manufacturing organizations. This public sector organization is engaged in the design and manufacture of solar photovoltaic cells, modules and systems, PZT alumina and ceramics, microwave phase shifters, etc. CEL has also participated in railway electronics such as power electronics and CP systems. It has continuously undertaken innovative R&D and the company's biggest strength is its wide range of portfolio across all business groups employing contemporary technologies. CEL has been a pioneer in the design, development and manufacture of critical components of hi-tech radar systems. Because of its involvement in activities related to railway electronics, keeping pace with technology is crucial for the company's success.

Considering its strength, CEL's strategic intent is to tap into the huge potential of renewable energy products spurred by the growing concern on environmental protection and energy saving. CEL exports its products to various countries, from Nepal to Columbia, and employs more than 700 people who stay with the organization for about 30 years on average.

Being a state-owned enterprise, government policies have an influence on CEL's strategic focus. But at the same time operating in the technology-driven business, CEL has to keep pace with the advances in technology and faces stern competition from other players. The corporate vision, mission and corporate culture of CEL is to maintain its leadership position in the industry, which have become the key driving force of the company. CEL's top management places moderately high importance on the training of its knowledge workers and annual budgets has been approved for such training purposes. Generally speaking, the training needs are identified by the division/department heads and also as and when the need arises. CEL trains its knowledge workers, empowers them to keep abreast with technology advancements and to be innovative. These training programs are organized to bring in attitudinal and behavioral changes.

It may be noted that being a state-owned enterprise there is limited incentives for high performers as compared to private organizations; however, employee turnover is negligible because of job security. CEL organizes its training programs mostly in-house because it is considered highly cost effective. As part of the knowledge sharing activities, CEL has established mechanisms such as quality circles and seeks to develop knowledge workers as internal trainers.

Table 7: Major Findings and Learning Points from CEL

Item	Observation/Response
External driving forces	<ul style="list-style-type: none"> • Advances in technology • Competition from other players • Government policies
Internal driving forces	<ul style="list-style-type: none"> • Leadership style and ownership • Corporate vision/mission • Corporate culture
Top management commitment	Moderately high
Minimum training requirement	Not specified, but at least 2% of employees from all departments are covered annually
Training policy	<ul style="list-style-type: none"> • Annual plan (based on the needs identified by the functional/group heads) • As and when need arises
Primary objectives of training	<ul style="list-style-type: none"> • Empower workers • Keep abreast with technology developments • Bring in behavioral/attitudinal change
Training need identification	<ul style="list-style-type: none"> • As and when needs indicated by departments
Approving authority	CEO
Training execution	<ul style="list-style-type: none"> • In-house mostly – because of the customized and technical nature of the program and cost effectiveness • Outsourcing (very minimal; mostly for middle and senior executives)
Formal knowledge sharing mechanism	<ul style="list-style-type: none"> • Quality circles
Informal knowledge sharing mechanism	<ul style="list-style-type: none"> • Sharing of experiences among groups
Best practices	<ul style="list-style-type: none"> • Needs identified by user departments • Encourage employees to become trainers/internal resource persons
Implementation issues	<ul style="list-style-type: none"> • Availability of personnel for training • Training need identification

SUMMARY OF SURVEY FINDINGS

Organizations interviewed generally agreed that training brings the organization to a meaningful and common platform through value and performance reorientation. The return on investment in training perceived by Indian organizations is very high compared to other business enhancement methods like advertising, technology upgrading and price discount offering. Below are detailed discussions of significant findings from this survey.

Firstly, traditional, structured mode of training adopted by most organizations may not be appropriate and adequate to meet the training needs and requirements of today. The turn of the 20th century has witnessed a number of changes calling for a reassessment of the manner in which trainings are designed and delivered in most organizations. The need for change can be attributed to the change in the nature of work; procedural work characteristic of the early 20th century is being transformed, as the nature of work itself requiring more and more knowledge contents in the 21st century. Furthermore, with the information boom brought by the Internet, expert knowledge in certain areas or subject matters are easily available from elsewhere and trainers within the organization may not be the mere sources of such expertise knowledge.

In addition, as the pace of change is accelerating, traditional training programs to impart fixed and rigid concepts and skills are unsuitable for today's business environment. The findings from the survey clearly pointed to the importance of training need identification to better prepare the company for the future. Traditional training programs in India are mostly instructor-led and dependent on the time availability of the faculties or experts. In many occasions, some of the experts spend most of their time in conducting training, leaving little time for knowledge development. This is perhaps the reason why some of the Indian companies interviewed encourage their employees become resource persons and trainers and implement e-learning programs for their staff.

Secondly, structured, traditional training is usually based on an idealized working environment and is not grounded in real-life situation. This provides little scope for developing decision-making abilities, and focus mainly on evaluating the positives and negatives of a decision rigidly. But knowledge work not only involves a lot of decision-making, such decisions that are made on-the-job involve trade-off. Hence, organizations realize that training for knowledge workers must be derived from real-life workplace problems and challenges and focus on how these are solved, coupled with the trade-off made when a decision is taken.

Thirdly, training in organization exists usually to accomplish piece-meal reforms such as to help new recruits to perform their jobs, as a means to improve staff performance, or as a method to share something that a team had learned after a particular problem was encountered and solved. However, present day situation demands that learning and practice must co-exist concurrently. Knowledge workers need to learn continually; they need to learn to work and learn from work. Therefore, training has to be seen as a mechanism to ensure that learning occurs as a continuous and ongoing process.

Fourthly, there is also a general feeling among organizations that planned, formal training is inherent with the risk of becoming outdated very soon. Hence, knowledge organizations in India place high importance to ensure that the employees always get the latest and best information at any given point in time. It is also clearly established that there has been a paradigm shift toward in-house training among knowledge organizations rather than outsourcing for various reasons.

Fifthly, one common issue observed regarding training implementation is the difficulties to release personnel for training. All the organizations surveyed have pointed out this issue. This is a clear indication of how important or irreplaceable a

knowledge worker is and strengthens the fact that knowledge work is highly job-specific.

CONCLUSIONS

In this knowledge era, there exist a consensus that the success of any organization is increasingly linked to its ability to manage its intangible and often invisible assets such as knowledge and competence of employees. Organizations also realize that knowledge is embodied in people and to perform in this knowledge society, they need to be people centric. As the focus of management has indeed shifted, training strategies also need changes. This survey has identified that customer needs, technology advancements and leadership are key driving forces for training policy of organizations and hence the strategy for training knowledge workers is influenced by these factors. The primary objectives of imparting training to employees include empowering knowledge workers and expanding organizations' intellectual capital.

One of the best practices observed in this survey and which is highly recommendable for knowledge organizations is to encourage their employees to become internal resource persons and trainers. This contributes to a great extent in sharing relevant knowledge especially when intricate technicalities are involved in the subject and when highly job-specific skills are needed. Furthermore, organizations can use this process to recognize high performing employees as experts and contribute to enhance the morale and motivation of their employees. With the increasing complexity of the business processes a practice is slowly emerging wherein individual departments and divisions identify the training needs of its employees. This strategy is in tune with the need of the hour in terms of empowering knowledge workers. A higher level of empowerment that may be adopted is to encourage employees to self nominate themselves for training programs according to their own interests and needs.

The essence of training programs is knowledge sharing, which helps to solve practical business problems. The mechanism for knowledge sharing must match with the organizational style and reflect the core values of the organization. Existing networks must be integrated into the knowledge sharing mechanism. It is advisable for knowledge organizations to include experiential learning and mentoring in their training strategy. Knowledge workers themselves should participate in evolving efficient and effective work practices through application of various modern management techniques.

While seeking to utilize the services of best available resource persons many organizations invariably find a gap between the expectations of the participants and delivery of knowledge. This is a typical phenomenon observed even with in-company training programs. It is the right time for organizations to evolve strategies to bridge this gap. An ideal situation is when a training program is preceded by a pre-training workshop, during which the head of HRD tries to assess the exact training needs of each participant. This also helps the expert to tailor the training materials and methodology to better meet the participants' needs.

Advancements in ICT offer numerous opportunities to implement innovative e-learning applications. All knowledge workers value professional freedom, integrity,

innovativeness and opportunities to learn. e-Learning enables knowledge workers to self-manage the learning process. In the new economy when lifetime employment cannot be guaranteed by organizations, e-learning provides opportunities for lifetime employability. Hence implementation of a suitable e-learning solution has to become an integral part of the training strategy of any knowledge organization. In a nutshell it can be concluded that training in the knowledge society needs to refocus itself from “delivers of knowledge” to “managers of learning.”

Appendix: Sample Questionnaire of the Survey

<p style="text-align: center;">Survey Questionnaire</p> <p style="text-align: center;">In-house Training Strategies for Knowledge Workers</p> <p>Section A: Basic Details about the Organization/Company</p> <p>1. Name and address of the company:</p> <p>_____</p> <p>_____</p> <p>2. Year of establishment _____</p> <p>3. Brief history/functions of the company (Annual Reports for 2-3 years)</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>4. Does your company sell the products or services outside the country?</p> <p style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p style="padding-left: 40px;">If yes, what is the proportion of sales/services exported? ____%</p> <p>5. Number of employees:</p> <p style="padding-left: 20px;">A. Regular: _____</p> <p style="padding-left: 20px;">B. Contract: _____</p> <p style="padding-left: 20px;">Annual employee turnover rate = __ % (Average period of stay with the company) _____</p>

6. Profile of employees

Sex: Male = %
 Female = %

Education: Ph.D./postgraduate/professional = %
 University graduate = %
 Undergraduate or others = %

Knowledge workers:
 % of total employees: = %
 Types of jobs: _____

(Definition of knowledge workers if possible: _____)

7. A. Total compensation budget per year (in Rs.): _____

B. How do you rate the compensation package to your employees as compared to similar organizations in the region/country?

	Much more than average	Higher than average	Average	Less than average
Knowledge Workers				
Other employees				

Section B: Ownership

8. How would you classify your company?

- State-owned enterprise
- Government controlled corporation, listed
- Corporation, listed on a stock exchange
- Corporation, privately-held
- Others (*please specify*) _____

9. Which industrial/service sector does your company belong?

- Manufacturing
- Telecommunications
- Information technology
- Research/Education
- Consulting
- Banking
- Others (*please specify*) _____

10. Is any foreign company a financial stakeholder in your company?

- Yes
- No

If yes, what is the nationality of this foreign company? _____

11. Does your company have similar holdings or operations in other country?

- Yes
- No

12. Which of the following represents the largest stakeholder group in your company?

- Government
- Family
- Domestic company
- Foreign company
- Investment company
- Bank
- Individuals
- Others (*please specify*) _____

13. Do the employees own shares in the company?

- Yes
- No

If yes, what is the percentage of shares owned by the employees?

14. How was your company established?

- Originally private
- State-owned company
- Privatization of a state-owned company
- Joint venture
- Private subsidiary of a formerly state-owned firm
- Others (*please specify*) _____

15. Is the company listed on the stock exchange?

- Yes
- No

Section C: Training Policy/Strategy/Plan

16. Rank the following external driving forces which influences most the strategic focus of your company:
- a) Advances in technology
 - b) Industry benchmarks
 - c) International standards/guidelines
 - d) Competition from other players
 - e) Government policies
 - f) Performance of economy/economic indicators
 - g) Changing customer needs
 - h) Agreements like WTO
 - i) Others (*please specify*) _____
17. Rank the following internal driving forces, which influences most the strategic focus of your company:
- a) Mergers and acquisitions
 - b) Corporate vision/mission
 - c) Leadership style and ownership
 - d) Board of directors/stakeholders
 - e) Management structure
 - f) Corporate culture
 - g) Contribution to society/perception of society
 - h) Existing technology
 - i) Competence of workforce
 - j) Others (*please specify*) _____
18. Does your company have a formal training policy/strategy?
- a) Yes
 - b) No
 - c) Ad-hoc (as and when needed)
19. How do you rate the commitment/involvement of top management in providing training to its employees?
- a) High
 - b) Moderately high
 - c) Average
 - d) Low

20. Does your company have a full-fledged training department?

- a) Yes
- b) No, but an integral activity of HRD/ED/personnel department
- c) No, not considered as a major function/activity
- d) No, but it is fully outsourced

If yes, kindly provide structure of the training department

21. Does your company have a budget specifically for training?

- a) Yes
- b) No
- c) Expenditure met from some specific projects/plans
- d) Funds from other sources

Amount spent on training and budget during last 3 years

	Amount spent	Budget
2001-2002		
2000-2001		
1999-2000		

22. Average number of days spent by an employee in training during last three years:

	Executives	Non-executives
2001-2002		
2000-2001		
1999-2000		

23. Does training component is considered in performance appraisal?

- a) Yes, it carries weightage
- b) No
- c) Yes, but does not carry weightage
- d) Yes, used for career progression plan

24. What is the prime objective of training in your company? (If you want to choose more than one, please rank them)
- a) Expand intellectual capital of the company
 - b) Retain key employees
 - c) Empower workers
 - d) Keep abreast with latest developments/technology/concepts (skill up gradation)
 - e) To meet/fulfill training plans/budgets
 - f) A kind of holiday/break from routine
 - g) Bring in behavioral/attitudinal change

25. Any minimum requirement each employee has to fulfill in terms of training annually or once in every ___ years? _____

26. Mechanism used for training need identification:

- a) TNA survey by internal training department
- b) TNA survey by external agency
- c) Needs indicated by user departments (annual plan, etc.)
- d) Ad-hoc. Needs indicated as and when need arises
- e) Others (*please specify*) _____

27. Which of the following tools are used for training need identification of employees?

- a) Performance appraisal system
- b) Interviews (with subordinates/supervisors)
- c) 360 degree survey from employees
- d) Career progression schemes
- e) Others (*please specify*) _____

28. A. Mechanism for evaluating the effectiveness of training:

- a) Impact on performance
- b) Behavioral
- c) Examination/presentation to select group
- d) Feedback from participants/trainers
- e) Others (*please specify*) _____

B. Any model/tool used for measuring the overall effectiveness of training strategy of the company?

29. Authority who approves the training needs:

- a) CEO
- b) Head of human resources/personnel
- c) Head of user department
- d) Training department
- e) Others (*please specify*) _____

30. Most commonly used (tick mark) formal training methods:

	Executives	Non-executives	Remarks
Outsourcing			
In-house training (outside resource persons)			
OJT			
Job rotation			
Internal resource persons			
Others (<i>please specify</i>)			

31. Most commonly used (tick mark) informal training methods:

	Executives	Non-executives	Remarks
Mentoring			
Knowledge sharing			
Quality circles/SGIA			
Social interactions			
Others (<i>please specify</i>)			

32. Kindly provide the following figures about the training of employees of your company (value in % may be given, if numbers are not available):

	In-house	External
Customized		
General		
Executives		
Non-executives		
Technical programs		
Managerial skill development		
Behavioral		

What are the deciding factors for organizing in-house verses outsourcing training?

33. Kindly list down the key courses designed and delivered for knowledge work enhancement during last two years:

Title	Duration	Participant profile	In-house/ external

Number of in-house training courses organized during current year:

34. Identify the most problematic area/major challenge in training of employees:

- a) Training need identification
- b) Course design
- c) Identification of training agency/resource person
- d) Availability of identified participants for training
- e) Convincing top management/decision making authority
- f) Physical delivery of the program

35. Describe what would you consider as best practices in your training strategies.

36. Kindly list down five most important factors influencing the implementation of training strategies for knowledge workers in your company.

- End -

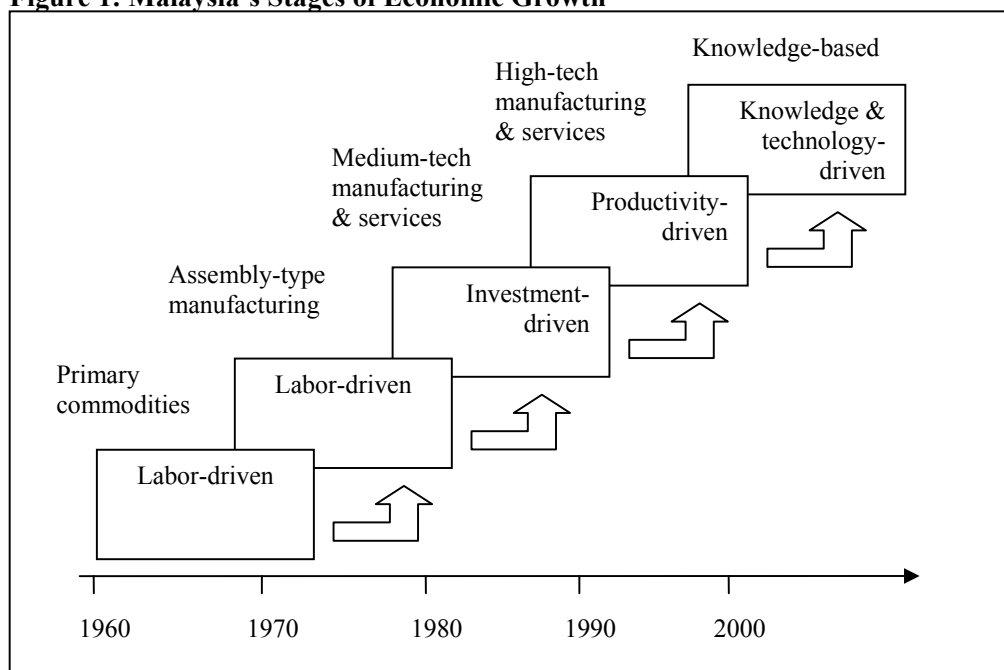
2. MALAYSIA

Ms. Sau Khong Yow
National Productivity Corporation

MALAYSIAN ECONOMY IN TRANSITION – AN OVERVIEW

Over the last three decades, Malaysia has successfully transformed from an agricultural to an industrial economy. Now, Malaysia is developing its capabilities and capacities to move into a knowledge economy. In the *Budget 2000*, the government explicitly stressed that it was necessary to ensure a paradigm shift: a fundamental move from a production-driven economy to a knowledge-driven economy. The country has therefore adopted the strategy to transform its economy from an input-driven growth strategy to one that is knowledge-driven. This is because growth in the future is no longer dependent on increased utilization of capital, labor and natural resources, but rather the capacity to acquire and utilize knowledge. Malaysia's economic transformation in the last four decades can be divided into several stages (Figure 1).

Figure 1: Malaysia's Stages of Economic Growth¹



¹ Dr. Victor Wee, "Moving Toward the K-Economy," paper presented at Bengkel Perkhidmatan Awam Baru Dalam Persekitaran K-Ekonomi, 12-13 Okt, 2000, INTAN, KL.

From independence until 1969, the Malaysian economy relied basically on primary commodities. For a long while, Malaysia was the world's largest producer and exporter of rubber, tin, palm oil, and tropical hardwoods. Rubber accounted for two-thirds and tin accounted for one-fifth of the total exports in the 1960s. Between 1966-70, the country embraced import-substitution as its industrialization policy to create more jobs, encourage the growth of domestic industry and to divert the economy to minimize its dependence on primary products.

The next stage of growth in the 1970s and 1980s was manufacturing-based (Figure 2). While agriculture remained a significant sector in the economy, increasing emphasis was placed on the manufacturing sector as the engine of growth. Malaysia then shifted from an import-substitution strategy (1958-68) to a selective export-led strategy (1969-80) and broad-based export-led strategy (1981 onwards). The purpose of the strategy is to expand its market and further enhance the value of products. The strategy involved giving incentives such as tax exemption to export-based industries to encourage industries to compete in the international market. Manufactured goods began to outstrip commodities as Malaysia's main exports. It was also during this time that Malaysia invested in high-tech industries and the first automobile was rolled off the production line to catalyze the growth of the engineering industry.

In the mid-1980s, the liberalization and deregulation measures adopted brought in substantial inflows of FDIs, resulting in manufactured products accounting for more than half of Malaysia's total exports. At the same time, the manufacturing sector's contribution to GDP increased from 8.3 percent in 1963 to 21.1 percent in 1988², surpassing agriculture for the first time. Since then, the manufacturing sector has been the backbone for Malaysia's continuous economic growth. It is also the main sector that advanced Malaysia's active role in the world market. The most important manufacturing exporters are electronic producers, food companies and textiles and apparel producers.

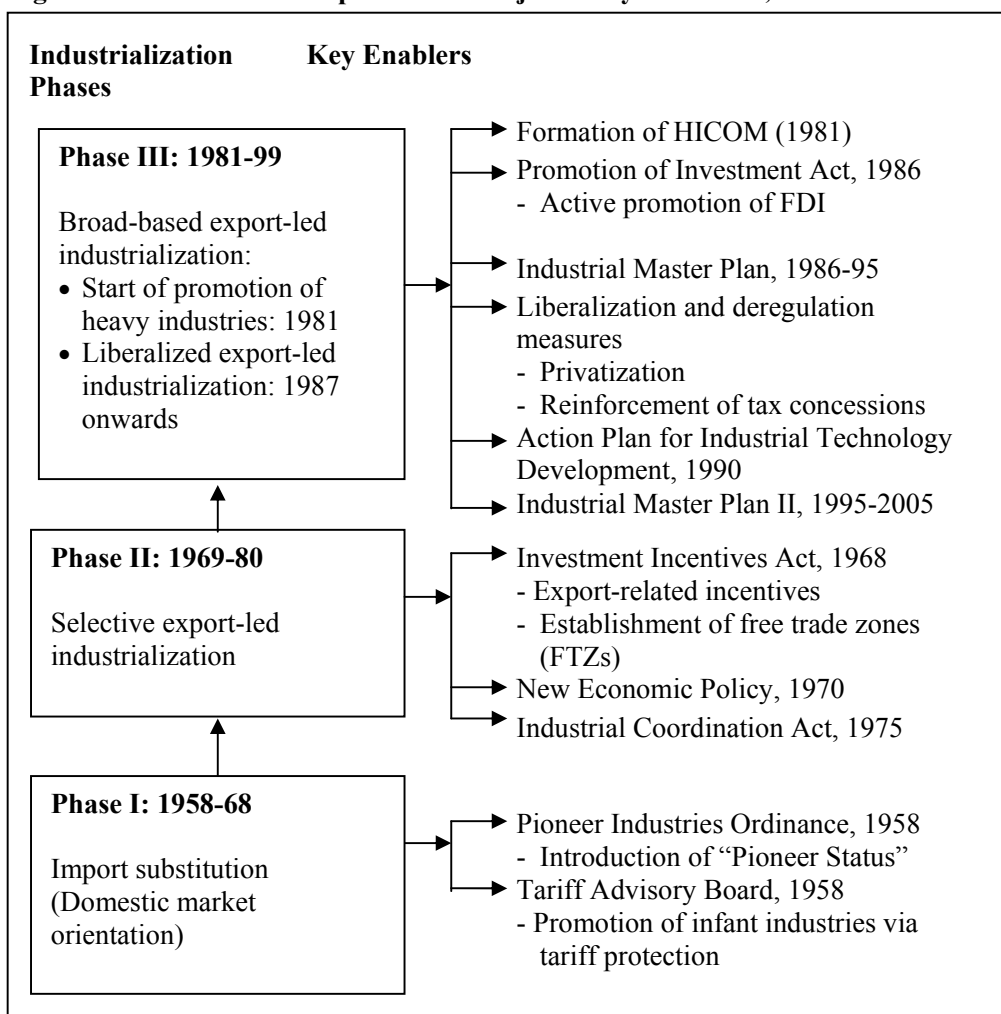
Malaysia then entered the next stage of growth in the 1990s when the nation adopted the Vision 2020 in 1991, a vision to transform the nation into a fully developed country by the year 2020. This new stage is very much shaped by the development of the new economy, brought about partly by the advancement in ICT and increased competition and globalization. It embraces, among others, "the challenge of establishing a scientific and progressive society, a society that is innovative and forward-looking, one that is not only a consumer of technology but also a contributor to the scientific and technological civilization of the future."³ Although manufacturing will remain an important part of the Malaysian economy, knowledge and ICT are emerging as the new engines of growth that will drive the economy.

Accordingly, all development plans are aligned to Vision 2020 for consistency and focus toward achieving the common objective of 2020. The first 10 years under the Second Outline Perspective Plan, 1991-2000 (OPP2), an integrated long-term development blueprint, provided a platform for strengthening Malaysia as a modern industrial-based economy.

² *Economic Report*, various issues.

³ Mahathir Mohamad (2001), excerpts from his speech presented at the "National Conference on the National Vision Policy - the Eighth Malaysia Plan & Privatization."

Figure 2: Industrial Development and Major Policy Initiatives, 1958-99



Source: Bank Negara Malaysia

Overall, the 1990's were marked by rapid economic growth except in 1998 when the economy was adversely affected by the economic crisis. The economy grew at an average of 7 percent per annum during the period. Structurally, the manufacturing base in terms of its contribution to growth as well as composition in industries has strengthened. There was continued expansion of export-oriented industries and promotion of capital-intensive and high-tech industries. On the other hand, the services sector recorded an average of 8.3 percent growth and increased its share to GDP to 51.7 percent. In preparation for an increasingly liberalized business environment, there was greater promotion of export-oriented services in tourism, education, healthcare as well as transportation.

Intertwined with OPP3 was the Second Industrial Master Plan, 1996–2005 (IMP2), that targeted a productivity-driven growth strategy. The focus of IMP2 is on

the total manufacturing value chain. While production activities will remain inherently important, the emphasis is on service activities from upstream R&D and design to the downstream distribution and marketing. This new emphasis is a move toward more knowledge-based economic activities. The move is aimed at providing a platform to sustain a rapid rate of economic growth and enhance international competitiveness.

The Third Outline Perspective Plan, 2001-10 (OPP3) marked the second phase of Vision 2020. OPP3 focuses on some key thrusts to achieve sustainable growth. One priority is on developing a knowledge-based economy. The knowledge-based economy is where the acquisition, utilization and dissemination of knowledge provide the basis for growth.⁴ It involves enhancing the value-added of all productive activities through knowledge utilization. It is expected to open up new opportunities in the high-tech manufacturing, particularly in the ICT and electronics sectors. It addresses the critical areas of human resources, science and technology (S&T), R&D, info-structure, and financing. In addition, it covers efforts to change mindset, especially in the adoption of ICT and to develop a learning society.

ANALYSIS OF PREPAREDNESS

There are several measures to evaluate the overall preparedness of a country in the context of a knowledge economy. This report will outline some Indexes that measure how countries progress towards the new economy. These are as follows:

- ISI; and
- Knowledge-based Economy Development Index (KDI)

This report will also look into details certain factors that are critical to the positioning of a country in that regard. Where data is available, it will also compare Malaysia's standing with other countries. These factors include:

- Quality of human resources;
- S&T and R&D; and
- Info-structure.

ISI

The ISI is constructed to measure the development of ICT in 55 countries by taking into consideration 23 variables. These cover computer infrastructure (e.g. PCs installed per capita, educational PCs shipped per student and software versus hardware spending), information infrastructure (e.g. cable subscribers per capita, facsimile machine ownership per capita and TV ownership per capita), Internet infrastructure (e.g. home Internet users per household and e-commerce spending per total Internet users), and social infrastructure (e.g. newspaper readership per capita and tertiary school enrolment). The ranking of ISI has divided the countries into four categories based on their total ISI scores.

⁴ Economic Planning Unit (2001), the *Third Outline Perspective Plan, 2001-10*, Malaysia.

Based on the ISI ranking, Malaysia is ranked in the third group called Sprinters with the position of 35 out of 55 countries in the year 2000 (Table 1). The Sprinters consist of countries progressing toward an information society. It indicates that Malaysia needs to catch up in the development of an information society especially in absorbing new technologies for personal and professional use and the development of the ICT industries.

Table 1: ISI Ranking

Category	Country	Rank 2000	Scores 2000
Skaters (Score: above 3,500)	Sweden	1	5,062
	United States	2	5,041
	Finland	3	4,577
	Singapore	11	4,014
	Japan	10	4,093
Striders (Scores: above 2,000)	Taiwan	18	3,177
	France	21	3,140
	Republic of Korea	22	2,931
Sprinters (Scores: above 1,000)	Malaysia	35	1,583
	Philippines	47	1,012
	Thailand	48	1,010
Strollers (Scores: below 1,000)	China	51	915
	Indonesia	52	888
	Pakistan	55	719

Source: The Worldpaper, <http://www.worldpaper.com>

KDI

Basically, the KDI compares Malaysia's position relative to 21 other countries that are mainly developed countries. The KDI is derived from selected key factors required to drive a knowledge-based economy, namely, computer infrastructure, info-structure, education, and training as well as R&D and technology. According to the KDI, Malaysia is ranked 17th position (Table 2). Malaysia achieved a relatively better position for R&D and technology compared to computer infrastructure, info-structure as well as education and training, mainly attributed to its large exports of electronics and electrical products. As for its readiness for a knowledge-based economy, Malaysia is better prepared with respect to its telecommunications infrastructure and literacy level. Nevertheless it has to intensify efforts to improve its R&D capability, computer usage, Internet connectivity, and higher education enrolment.

Quality of Human Resources

The human capital is considered the most critical asset for the knowledge-based economy. A strong human resource base to support the development of a knowledge-based economy and enhance productivity and competitiveness will be one of the key strategies in ensuring that the nation is able to face the challenges of globalization and sustain economic growth. In this regard, Malaysia faces some deficiencies in that the country has only 10.7 percent of its workforce comprising knowledge-based and

skilled workers, lagging behind the Republic of Korea (15.1 percent), Taiwan (15.5 percent) and Japan (22.9 percent).⁵ The number needs to be increased substantially to meet future demand of knowledge-based and skilled workers which is forecasted to be between the current 40 percent and the OECD's 80 percent.⁶

Table 2: Country Position by Components of KDI, 2000

Country	Knowledge index	Computer infrastructure	Info-structure	Education and training	R&D and technology
United States	1	1	10	8	3
Japan	2	8	3	10	1
Sweden	3	5	2	3	2
Finland	4	2	4	4	4
Norway	5	4	1	1	10
Denmark	6	7	5	2	9
Australia	7	6	6	6	11
Switzerland	8	13	7	9	5
Canada	9	3	12	5	15
Netherlands	10	10	9	13	8
United Kingdom	11	9	8	11	14
Germany	12	12	13	12	7
New Zealand	13	11	14	7	17
Ireland	14	15	15	15	12
Republic of Korea	15	16	11	16	13
Singapore	16	14	16	19	6
Malaysia	17	17	17	17	16
Thailand	18	19	21	14	19
China	19	18	19	18	20
Philippines	20	22	18	20	18
Indonesia	21	21	20	21	21
India	22	20	22	22	22

In terms of education, while the overall level of educational attainment has improved, the percentage of those in the labor force with tertiary education, which is critical to drive a knowledge-based economy, is still small at 13.9 percent (Table 3). The enrolment at the tertiary level of the age cohort 17-23 years increased to 25 percent following the substantial allocation provided for tertiary education (Table 4). This, however, is still lower than many of the newly industrializing economies (NIEs) such as the Republic of Korea, 48 percent; Singapore, 38 percent; and Japan, 30 percent.⁷

Furthermore, enrolment in public institutions at the first-degree level continues to be biased toward the arts courses and lesser for the sciences. In a knowledge-based economy, the availability of a critical mass of scientific and technical manpower necessitates higher enrolment in these fields. Malaysia does poorly in term of

⁵ Source: Bank Negara Annual Report, 1999.

⁶ Dr. Fong Chan Onn, "Manpowering the K-based Economy," paper presented at ASLI Conference, 8 September 2000, Kuala Lumpur.

⁷ Source: *The World Competitiveness Yearbook*, 1998, 2000.

enrolment in natural science, mathematics, and engineering (Table 5). In 1999, only 31 percent of total enrolment was in science and technical fields. This was largely due to the lower number of science stream students at the secondary school level, comprising 25.7 percent of the total number of students in 1998, which was below the targeted 60:40 science to arts ratio.

Table 3: Educational Attainment of the Labor Force (Thousand persons)

Level of education	1990	%	2000	%
Primary	2,380.2	33.8	2,607.9	27.4
Lower & Middle Secondary	4,042.1	57.4	5,571.8	58.7
Tertiary	619.7	8.8	1,319.3	13.9

Table 4: Public Expenditure in Education and Tertiary Enrolment

Country	Public expenditure on education (of GNP), 1996 (%)	Tertiary enrolment (of population aged 20-24), 1993 (%)
Australia	5.5	4.2
China	2.3	4
India	3.2	6
Japan	3.6	30
Republic of Korea	3.7	48
Malaysia ¹	5.2	25
New Zealand	7.3	58
Singapore	3.0	38
United Kingdom	5.3	37
United States	5.4	81

Source: *The World Competitiveness Yearbook, 1999 and 2000*

Note: ¹Refers to year 2000 and age cohort 17-23 years

S&T and R&D

S&T and R&D are important determinants of innovation and knowledge generation. The current position of Malaysia's S&T base is low, R&D capacity low and innovative skills weak.⁸ Malaysia's R&D expenditure in 1998 was 0.4 percent of GDP, which was the same as that in 1995 and a significant proportion of this expenditure was in the agricultural sector. The proportion of R&D expenditure to GDP in Malaysia was low compared with some countries (Japan, 2.9 percent; the Republic of Korea, 2.7 percent; Singapore, 1.8 percent) that have successfully built their indigenous capability to innovate, develop new technology as well as design new products.

⁸ *Knowledge-Based Economy Master Plan, 2002.*

**Table 5: Tertiary Enrolment by Field of Study
(Percentage of 20-24 age group 1990-95*)⁹**

Country	Natural science	Mathematics & computer science	Engineering
Australia	5.2	1.8	7.5
Hong Kong	3.0	1.5	3.7
Japan	0.7	0.2	9.0
Republic of Korea	3.8	2.8	13.5
Malaysia	0.5	0.3	0.8
New Zealand	4.8	0.4	3.0
Philippines	0.5	2.1	3.9
United Kingdom	2.6	2.2	4.7
United States	2.6	2.7	4.2

Indigenous innovative capacity as indicated by the number of patent applications stood at 179 in 1997 which is a small fraction compared to that of Japan's (331,487) and the Republic of Korea's (92,798). S&T and R&D efforts were partly constrained by the lack of critical mass of scientists and engineers. In 1998, the number of scientists and engineers per million populations was 500, compared with the Second Outline Perspective Plan (OPP2) target of 1,000 scientists and researchers per one million populations by 2000. Similarly, knowledge-based skills in R&D per million populations were low (Table 6). As such, a major challenge for Malaysia is to increase significantly its R&D capabilities. "We cannot advance to a knowledge-based economy status otherwise, for R&D plays a fundamental role in creating new knowledge, new industries and businesses, and a larger pool of knowledge-based workers."¹⁰

Info-structure

With respect to info-structure, Malaysia is an emerging global hub and universal provider in terms of its ICT penetration, quality of services, content and infrastructure, and access (Table 7). Overall, Malaysia's performance in info-structure is graded as "emerging." While considerable progress was achieved in telecommunications and multimedia, Malaysia lags behind the NIEs in terms of the availability and diffusion of telecommunications infrastructure, ICT penetration, development of local content, and security of info-structure networks.

NATIONAL AGENDA FOR MOVING INTO A KNOWLEDGE-BASED ECONOMY

According to Don Tapscott in *The Digital Economy*, governments are central players in the new economy. In Malaysia, the government continues to assume a

⁹ *Knowledge-Based Economy Master Plan*, 2002.

¹⁰ Bernama, ISIS-Masterplan ISIS launched the *Knowledge-based Economy Masterplan*, 9 September 2002.

pivotal role in spearheading the country onto the road to a knowledge-based economy. Aply, Vision 2020 urged, “No effort be spared in the creation of an information-rich Malaysian society.”¹¹ The public sector has been facilitating the development by providing the appropriate environment and acts as a catalyst for the private sector to drive the transformation to a knowledge-based economy.

Table 6: Public Sector R&D Expenditure and Number of Scientists/Engineers

Country	R&D expenditure (% of GDP), 1998	Scientists and engineers (per million populations), 1985-95	Knowledge-based skills in R&D (per million populations), 1997*
Australia	1.7	3,166	
China	0.7	350	
India	0.7	149	
Japan	2.9	6,309	5,677
Republic of Korea	2.7	2,636	2,636
Malaysia ¹	0.4	500 ¹	87
New Zealand	1.0	1,778	
Singapore	1.8	2,728	2,512
United Kingdom	1.9	2,417	
United States	2.5	3,732	3,732

Source: *The World Competitiveness Yearbook, 2000, and World Development Report, 1999/2000*

* *Bank Negara Report, 1999*

Note: ¹ Refers to preliminary figures for year 1998

The government has started to lay the foundation for the knowledge-based economy in the mid-1990s with the launching of the National IT Agenda (NITA) and the Multimedia Super Corridor (MSC), among others. The objective of NITA is to formulate strategies and promote the utilization and development of IT. The MSC strives to create an ideal IT and multimedia environment as well as a global test-bed to enable Malaysia to be in the mainstream of activities necessary to attract knowledge workers, technopreneurs and high-technology industries.

Another significant initiative of the government to further accelerate the development of the nation into a knowledge-based economy is the development of the “Knowledge-Based Economy Master Plan.” The Master Plan articulates a vision and mission besides prescribing a coherent and comprehensive set of strategies that need to be addressed in moving forward to the knowledge-based economy.

¹¹ Mahathir Mohamad, speech delivered at the Second Global Knowledge Conference (GKII) Mandarin Oriental, KLCC, Kuala Lumpur, 8 March 2000.

Table 7: Key Penetration Performance Indicators, 1998

Indicator	Status ¹	
Teledensity (main lines per 100 populations)	21.6	Level 3
Cellular mobile penetration (cellular subscribers per 100 population)	10	Level 3
Internet penetration per household	11.9	Level 3
Internet penetration per 100 populations	6	Level 3
ISDN penetration per 100 populations	0.04	Level 3
Internet host per 100 populations	1.9	Level 3
Computers per 100 populations	8	Level 3
Computer power per 100 populations (MIPS)	1,211	Level 3
Pay TV penetration per household (%)	2.1	Level 3

Source: *The Third Outline Perspective Plan, 2001-10*, Economic Planning Unit, Malaysia

Note: ¹

Level 1 (World-class) - comprises U.S., U.K., Finland, and Japan

Level 2 (Advanced) - comprises Germany, the Republic of Korea, Taiwan, and Singapore

Level 3 (Emerging) - comprises Argentina, Chile, Thailand, and China

Level 4 (Rudimentary) - comprises India, Indonesia, Honduras, and Nigeria

NITA

The National IT Council (NITC) launched the NITA in December 1996. "It provides the foundation and framework for the utilization of ICT to transform Malaysia into a developed nation in our own mould consistent with Vision 2020."¹² The NITA places importance on the development of people, info-structure and applications for creating value, equity and access and qualitative transformation. In essence the NITA:

- Aims to transform the nation into a value-based knowledge society according to Vision 2020;
- Focuses on comprehensive human development;
- Leverages on tri-sectoral partnership among the public, private and community sectors; and
- Uses top-down and bottom-up approaches for planning and implementation.

In furtherance to the agenda, NITC created working groups to study five areas critical to Malaysia's migration to the electronic world. The five areas identified were e-economy, e-community, e-sovereignty, e-learning, and e-public services. The desired end-states envisioned by these five thrust areas in the strategic agenda can be summarized in Table 8.¹³

¹² <http://www.nitc.org.my/nita/index.shtml>.

¹³ INFOSOC MALAYSIA 2000, discussion paper on "Access And Equity: Benchmarking For Progress."

Table 8: Desired End-States of Five Strategic Thrusts Areas

Thrusts	Vision	Key focus
e-Economy	All sectors of the Malaysian economy creating value and wealth through successful participation in the emerging knowledge-driven global economy.	Knowledge-driven economy.
e-Public Services	The public, private and community sectors providing people-oriented, customer-focused services electronically.	Delivery mode of public goods and services.
e-Community	Networks of communities dynamically participating in the process of governance to enhance the quality of life of Malaysians.	Participating governance for quality of life.
e-Learning	Formal and informal networks providing the opportunity and cultivating an ethos of lifelong learning for individual, organizational, institutional, and societal advancement.	A lifelong learning culture.
e-Sovereignty	Citizens and institutions focused on enhancing national identity, integrity and societal stability in the face of borderless challenges to our sovereignty.	Resilient national identity.

MSC

The MSC initiative was launched at the first Multimedia Asia Conference in 1996 and represents the first concrete step taken to prepare Malaysia for the knowledge-based economy. The MSC is not just a physical location, or merely about physical infrastructure, miles of fiber in the ground, flagships, and tax incentives. It is about a vision of creating a culture that can produce world-class knowledge products, about leading edge R&D and about providing a test-bed for new ideas and innovations. "For us, this will be primarily the vehicle for our country's entry into the new knowledge-based economy, moving us from labor intensive to high-technology industry and so on to the information age."¹⁴

The MSC is a 15 kilometers wide and 50 kilometers long "corridor" that starts from the Kuala Lumpur City Center (KLCC), which houses the world's tallest buildings – down south to the site of the region's largest international airport, the Kuala Lumpur International Airport (KLIA). In the corridor are two smart cities; Putrajaya, the new seat of government and administrative capital of Malaysia where the concept of electronic government will be introduced; and Cyberjaya, an intelligent city with multimedia industries, R&D centers, a multimedia university and operational

¹⁴ Speech by Dr. Mahathir Mohamad at the Canadian Investors Conference in Ottawa, Canada, on 21 November, 1997.

headquarters for multinationals wishing to direct their worldwide manufacturing and trading activities using multimedia technology. The MSC will be:¹⁵

- A vehicle for attracting world-class, technology-led companies to Malaysia, and developing local industries;
- A multimedia utopia offering a productive, intelligent environment within which a multimedia value chain of goods and services will be produced and delivered across the globe;
- An island of excellence with multimedia-specific capabilities, technologies, infrastructure, legislation, policies, and systems for competitive advantage;
- A test-bed for invention, research, and other ground-breaking multimedia developments spearheaded by seven multimedia applications;
- A global community living on the leading edge of the information society; and
- A world of smart homes, smart cities, smart schools, smart cards, and smart partnerships.

The Multimedia Development Corporation (MDC), the one-stop agency to promote overall development of the MSC envisions a 20-year timeframe for the full implementation and execution of the MSC. There will be three phases of activity. Under Phase I, the MDC will create the MSC, attract a core group of world-class companies and launch seven flagship applications. These applications serve two main purposes. First, to provide the necessary “development” mechanism to transform core elements of the country’s technology infrastructure and social systems using multimedia technologies as a critical enabler in the process. Second, to assure of a favorable “environment” to foster the growth of Malaysia’s multimedia and information technologies.

The “development” applications are public service initiated and comprise electronic government, multipurpose card, smart schools, and telehealth. The “environment” applications are private sector based including R&D clusters, e-business, and technopreneur development. Phase I will also put in place a world-leading framework of cyberlaws, and establish Cyberjaya and Putrajaya as the world’s first intelligent cities.

The MDC envisages that during Phase II, it will link the MSC to other cybercities in Malaysia and the world. It will create a web of corridors and establish a second cluster of world-class companies. It will also set global standards in flagship applications, champion cyberlaws within the global society and establish a number of intelligent, globally linked cities.

During Phase III, it is expected that Malaysia will be transformed into a knowledge-based society – being a true global test-bed for new multimedia and IT applications and a cradle for a record number of multimedia companies. It will have a cluster of intelligent cities linked to the global information super highway and become the platform for the international cybercourt of justice.

The recent *Budget 2003* has highlighted that “the implementation of the MSC has succeeded in developing infrastructure and info-structure as well as creating a

¹⁵ MSC’s Internet address: <http://www.mdc.com.my>.

world-class multimedia center to attract international corporations to MSC.”¹⁶ As at July 2002, 745 companies (2001, 621 companies) had been awarded MSC status, of which 53 are world-class companies. Investment in the corridor has reached RM9.7 billion, an increase of 42 percent compared to 2001, and has provided employment to 18,550 workers, out of which 84 percent or 15,594 are knowledge workers.

Knowledge-Based Economy Master Plan

The Knowledge-Based Economy Master Plan was launched in September 2002. It is a framework for a paradigm shift from a production-based economy to a knowledge-based economy, driven by a dramatic increase in the application of knowledge to production and the development of new knowledge-intensive industries. The plan outlines seven strategic thrusts to achieve the vision of a knowledge-intensive economy growing at an average annual growth rate of 7 percent in line with the aspiration of Vision 2020. The thrusts relate to seven critical areas as follows (Table 9):¹⁷

Table 9: Strategic Thrusts and Critical Areas

Thrusts	Critical areas
Thrust One	Cultivate and secure the necessary human resources.
Thrust Two	Establish the institutions necessary to champion, mobilize and drive the transition to a knowledge-based economy.
Thrust Three	Establish the incentives and infrastructure and info-structure necessary to prosper the optimal and ever-increasing application of knowledge in all sectors of the economy and to the flourishing of knowledge-enabling, knowledge-empowering and knowledge-intensive industries.
Thrust Four	Dramatically increase the capacity for the acquisition and application of science and technology in all areas.
Thrust Five	Ensure that the private sector is the vanguard of the development of knowledge-based economy.
Thrust Six	Develop the public sector into a knowledge-based civil service.
Thrust Seven	Bridge the knowledge and digital divides.

Cultivate and Secure Human Resources

The many building blocks that Malaysia has identified in transforming the economy into one that is knowledge-based include building the necessary manpower base. In fact, the quality of human resources is considered the single most important factor that will determine the pace and success of the transition. Skilled and knowledge workers are the prerequisites. Of the 136 recommendations in the Knowledge-Based Economy Master Plan, 64 were human resources related. Among others, the emphasis is on undertaking a comprehensive review of the education and training systems, the

¹⁶ Ministry of Finance, Malaysia, *Budget 2003*.

¹⁷ *Knowledge-based Economy Master Plan*.

introduction of a system for lifelong learning, in particular computer literacy and a brain-gain program. To elaborate, these include the following:

- Promoting lifelong learning among Malaysian,
 - The concept of lifelong learning is recognized as a determinant of long-run growth in the knowledge-based economy where the knowledge worker is a lifelong learner,
 - It is critical to continuously acquire knowledge to upgrade the skill base. Retraining and re-skilling will be undertaken to meet the new skill requirements and to sustain employability,
 - Affordable accessibility to training courses and education programs through the Internet or other related ICT media, including distance learning and virtual learning, and
 - Firms and industries will be encouraged to provide incentives to employees to relearn and upgrade their skills;
- Re-orientate education and training systems towards acquiring knowledge,
 - Priority will be given to the teaching of science, mathematics and language as well as critical thinking and innovative skills to produce a critical mass of S&T and knowledge workers,
 - Colleges and universities in collaboration with industries and vice-versa to provide quality education and training. In an environment where technology is changing, it is necessary to stay connected to the industry in order to produce graduates relevant to the industry, and
 - The use of IT as a tool for teaching and learning will be made more pervasive; and
- Brain gain program aims at attracting global talent. In addition, incentives are being offered to encourage Malaysian experts working abroad to return.

NATIONAL AGENDA TRANSLATED TO CORPORATE LEVEL – BEST PRACTICES IN IN-COMPANY TRAINING STRATEGIES

Fast changing technologies and globalization that results in competitive market necessitate effective restructuring at the corporate level to meet new challenges. Today, a company's competitive advantage depends on the usage of better know-how, superior management techniques, R&D, branding and marketing to increase productivity and demand for its goods and services. Continual investment in R&D, software, education, training, marketing, distribution, organization, and networks remains vital to keep up with the new challenges. Central to these is the intangible knowledge capital. Company must therefore focus on maintaining and enhancing this biggest asset – the knowledge and attitude of its knowledge workers. There is an urgent need to formulate a human resource strategy to transform the human resource contribution and management toward greater competitiveness. Training and development is the basis from which employees, both as individuals and as group, can equip themselves with the necessary knowledge, skill, attitudes to cope with the challenges which organizations face in the global economy.

However, there are views that organization is “likely to move away from heavy reliance on formal training” and the “dependence on a centralized training function which facilitates and sustains learning, autonomy and self-development at all levels in the organization”¹⁸ will become lesser. In addition, both organizations and individuals are placing more emphasis on learning and education than on training.¹⁹ This is necessary because the growth of new information and new knowledge is accelerating rapidly. Training is becoming less about delivering knowledge per se but more about helping people to learn how to find out knowledge by themselves.

Individuals seek learning opportunities to enhance their reputation and skills and, more importantly ensure their future employment. Still, the relative importance of training to enhance job performance is increasing. Training initiatives remains relevant when the objective of training is directed at developing creative skills that would lead to product or process innovation. Companies must nurture employees’ cognitive knowledge, advanced skills and understanding of technology in order to compete and training programs should be instituted to ensure that employees can be re-skilled with new skill sets to meet changing demands.

Best Practices in Training Knowledge Workers

The three companies selected for this study were pronounced for their knowledge-based work and acknowledged training as a key strategic issue. Their training and human resource managers were interviewed separately for information gathering. Information obtained from company reports, documents and the Internet were utilized to supplement the information gathered in the interviews. The case studies on these three companies found that training remains relevant in supporting and facilitating the development of human resources in line with the company’s business plan and direction. On training, the strategies include formulating a clear training policy, fostering an enabling infrastructure, allocating a higher budget for training purposes, managing a responsive and flexible training program, providing consistent and continuous training, and linking training into the career path. This section will present an integrated summary of the major best training practices and strategies from a comparison across the three companies.

The first case is Epson Precision (M) Sdn. Bhd., an export-oriented manufacturer of crystal oscillators components. The company implements a comprehensive training policy focusing on continuous learning and training and career development. Training plays a strategic role in developing and maintaining a highly competent and skilled workforce in a high precision manufacturing environment. Priority is given to OJT to acquire and increase essential skill and technology based competencies. Epson Precision Malaysia utilizes 75 percent internal resources to deliver training since it has a formalized system of internal trainers who are full-time engineers, production supervisors and technicians.

The second company Telekom Malaysia Berhad is the country’s pioneer telecommunications provider with staff strength of 26,000. For Telekom Malaysia, training is an important element to keep pace with an increasingly competitive market place. Training is a key strategy in developing new work culture and practices, and to

¹⁸ Pearn, Michael (1995), *Learning Organization in Practice*.

¹⁹ The Conference Board of Canada, *Training and Development 1991*.

support its business goals. Telekom Malaysia provides continuous training and education programs to enhance the knowledge of employees. The company offers in-house educational programs at certificate, diploma and postgraduate levels in partnership with both foreign and local universities.

The third case is Samsung SDI (M) Berhad, which is the first and largest overseas plant of Samsung SDI Korea. The company produces color picture tubes for televisions, color display for computer monitors and electron guns for export worldwide. Samsung SDI (M) has a total of 2,700 employees, including 400 contract workers. Ongoing training and development of human resources is aimed at contributing effectively to the overall development and expansion of the company. A key strategic emphasis is on innovating products through leading edge technology and quality and process improvement. Another is to reinforce a work ethics and culture that encourages employees to embrace ownership of their workplace. Some key characteristics on developing knowledge workers are illustrated below:

(1) Training Philosophy and Policy

A clear and precise human resource and/or training policy that recognize knowledge as an asset, thereby focusing on enhancing employee development, is essential. Employees throughout the company are communicated on the policy. It defines the company's strategic direction for training to support business goals.

(2) Resources for Training

To a certain extent, commitment to training is reflected in the allocation of resources. The training and education budget for Telekom Malaysia is significant. On the other hand, Epson Precision Malaysia and Samsung SDI (M) have a relatively lower budget, yet maintaining high commitment and standards in training mainly because of the use of internal resources.

(3) Training and Development System and Implementation

The similarities across the cases are:

- Training appears to be highly integrated, using competence-based training linking to training evaluation to rewards and promotion. Epson Precision Malaysia has training matrix, skill map and performance measurement system (PMS), which are systematically linking to training effectiveness and career development. Telekom Malaysia places increased attention to management development and monitors employees' skill and competency through its assessment center to identify fast track executives and experts. Samsung SDI (M) has a career roadmap for every staff, and a training program mapped out accordingly, where staff will be rewarded or promoted for competency.
- Training supports strategic objectives in general and current organizational change. For example, Epson Precision Malaysia, with its specialist technical and firm-specific knowledge, supports the high precision manufacturing environment. Telekom Malaysia with its leadership management development programs to meet demanding customer-centric requirements. Samsung SDI

(M) with its six sigma training programs to focus on improving products and processes to meet the global challenge.

- Other human resource and training strategies include: benchmarking, strategic alliance/collaboration and multiple training deliveries including e-learning, and increased employee responsibility towards own learning.

Table 10: Training Strategies and Practices of Epson Precision Malaysia

Key elements	Characteristics
Philosophy & policy	<ul style="list-style-type: none"> • Continuous training for all levels of employees toward building the collective strength of the company for maintaining strong manufacturing capability and for achieving business goals. • Retention of technical expertise within the company as an asset. • Monitor minimum industrial standard of 35 hours of training a year.
Resources	<ul style="list-style-type: none"> • Control of training with clear goals for transfer of learning. • Develop internal resources to meet 75% of total training. • Engineers and technicians clock in 20 hours per year as a certified pool trainer. • Four percent of payroll on training, and is expected to be reduced by 30% while volume of training activities may increase in scope. • Training infrastructure: technical laboratory and computer training room.
Training implementation	<ul style="list-style-type: none"> • Fostering a training culture especially in commitment to competence-based training, and link training evaluation to career development. Formalized training management according to QS9000. • Create comprehensive competency map for individual skills profiles where employees can make improvement plans for both technical and personal development. • Align training strategy with business strategy and supports the development of specialized technical and firm-specific knowledge. • Actively involving respective section managers in training and HRD activities. • Level 3 OJT that emphasizes project work conducted under supervision. • All employees throughout the company are communicated on the training and development initiatives through e-mails, in-house magazines, audits, and the bulletin board.
Environment	<ul style="list-style-type: none"> • Encourages continuous learning through abstracting lessons from on-the-job and sharing knowledge through both formal and informal group meetings and via the electronic media.

Table 11: Training Strategies and Practices of Telekom Malaysia

Key elements	Characteristics
Philosophy & policy	<ul style="list-style-type: none"> • Commit in materializing the Malaysian Vision 2020, and actively promoting a knowledge management and development of knowledge worker through a range of education avenues including the sponsoring the activities of the multimedia university, telekom technology college and the telekom smart school. • HRD philosophy focuses on competence building and nurturing the ability of human resources to adapt to changes of the business environment.
Resources	<ul style="list-style-type: none"> • Telekom training college for employee development and training. State-of-the-art training in ICT, telecommunications and management. • Invest heavily on manpower resources and training and education where the budget as a percentage of the total payroll amounted to an average of 8 percent. • Managers are also trainers on their area of expertise, acting as mentors in project-based training to foster transfer of knowledge, skill and thinking.
Training implementation	<ul style="list-style-type: none"> • Development of people that has the most significant impact to achieving business goals – leadership skills and technical skills. • Increased attention on building strategic leadership and technical experts through management leadership development programs. Assessment center to identify fast track executives. • Collaboration with both foreign and local universities to develop a wide range of tailored educational programs, both technical and managerial. • Continuous education through in-house certificate, diploma, graduate, and postgraduate programs. • e-Learning technologies including media such as web-based training via the Internet, multimedia and structured computer training. • Personal responsibility for development planning to prepare for future challenges.
Environment	<ul style="list-style-type: none"> • Provide an environment that encourages informal learning and accelerate the development of new executives and to obtain competencies and adjust to the work culture.

Table 12: Training Strategies and Practices of Samsung SDI (M)

Key elements	Characteristics
Philosophy & policy	<ul style="list-style-type: none">• The company motto, “Quality People Build Quality Products,” emphasizes human resources and technology to create superior products and to build up “specialist” in various fields and provide a strong base of capable workforce.• Training program is part of the holistic approach to maximizing the competitiveness of quality and cost.• Training target of 30 hours of job related training for each employee each year.
Resources	<ul style="list-style-type: none">• Allocated budget of 3 percent of payroll for training and expected to be increased. Internal trainers are given a trainer’s allowance.• Accredited training center for industrial technical training and six sigma operating room.• Partners with key managers who are also trainers on their area of expertise and are certified or licensed trainers.
Training implementation	<ul style="list-style-type: none">• Career roadmap for every staff, and a training program mapped out accordingly, where each staff will be rewarded or promoted for competency.• Current emphasis on six sigma to respond quickly for improving and innovating products and processes.• Emphasis on life project-based training in a team environment.• Continuous training for systems and work processes improvement and coaching and maintenance programs to ensure strict compliance to quality standards. Programs are constantly evaluated in response to internal and external feedback.• Licensed programs or tailor-made programs and in-house programs validated and accredited.
Environment	<ul style="list-style-type: none">• Reinforce a work ethics and a client-oriented culture that encourages employees to embrace ownership of their workplace.• Encourage continuous learning through knowledge sharing as well as formal and informal learning through management forum, audits and meetings and via the Internet.

CASE STUDIES

Case Study (1): Epson Precision (M) Sdn. Bhd.

Company Background

Epson Precision (Malaysia) Sdn. Bhd. is a subsidiary of Seiko Epson Corporation, Japan. It commenced operations in 1974 with the manufacture of jewel bearings for watches. Over the years, the company has diversified into the manufacture of quartz crystals, crystal oscillators, surface mount crystals and other high technology products. All products manufactured are for exports to Europe, U.S., Asia, South East Asia, China, and Japan.

The company's current workforce totaled about 1,600 operators and 400 staff, with about 200 staff who are considered as knowledge workers. These are the management and engineering staff including quality and maintenance personnel comprising managers, engineers, specialists, and technicians. There are 800 skilled operators. One of the reasons why operators need to be highly skilled is because they have to perform very precision work such as calculation and mounting, jigs setting, and parts checking and replacement. Generally speaking, the entry-level educational requirement for operators is relatively high. They have completed secondary school education and passed the mathematics entry test. Technical employees possess technical certificates while specialists and officers are mostly diploma holders. Engineers/executives, assistant managers and above have degree qualifications.

The company is known for its productivity initiatives and has become the second company in Malaysia to achieve the Total Productive Maintenance Excellence Award – First Category as well as the special award and among others, the QS9000 and ISO 14001. Employees also participate in 5S, work safety, and small group activities to improve productivity and enhance work process efficiency through innovation of work and systems.

A Changing Environment

The current slowdown in global business, and increasing competition from countries like China, which enjoy cheaper labor costs has made it necessary for the company to adjust into areas where it can have better comparative advantage and competitiveness. Some of its production lines have been shifted to factories in China and the Philippines where the cost of doing business is lower. In Malaysia, the overall manufacturing activities have been reduced but it still retains the higher value-added and high-tech product range of manufacturing. In addition, the company is moving into assuming a more strategic role in the area of technical support to sister companies after Japan. This also involves moving into activities such as participating in machine development, systems development and product development, which happen to be more knowledge-intensive.

Training Philosophy and Policy

Essentially, there are three key elements in its training philosophy. Firstly, the company provides continuous training and development to its staff at all levels. It is the company's basic responsibility to provide suitable jobs and give employees an opportunity to develop themselves in their jobs and subsequently form a sound

foundation toward building the collective strength of the company. Secondly, each and everyone will be trained and not just selected people only. Training is classified according to the competencies and skills required. Classes are divided into production workers, clerks and technicians, specialists/officers/executives, and managers/advisors. Lastly, training is for employability. While in the past, lifelong employment is the norm in Japanese company; today the situation is different. Employees who move out of the company usually do not have problem getting a job because of the company's reputation of building skilled employees. Nevertheless, attention is also paid on "competency and retention" to keep key personnel.

Top management pays a lot of attention to human resource capabilities in Epson Precision Malaysia because high-level technical competency is needed in the high-tech nature of the industry. Furthermore, to survive in the increasingly competitive environment, the company aims to strengthen its competitiveness by achieving high quality and low cost manufacturing through its people. Following this, management emphasizes on employee training and development for achieving this business goal. The training and development process of the company is designed to continuously develop and maintain strong manufacturing capability.

The work standard, which is documented under QS9000, is to provide a comprehensive work procedure for the training of its staff "to identify, prevent and solve problems and improve job performance that lead to a reduction of operation cost and wastage." Notably, the company's training unit is strategically oriented to focus on maximizing its organizational performance through problem solving, as well as promoting cooperation and interface among departments. The training policy provides the foundational guidelines to facilitate the training system in the company. It is "to continuously maintain, improve and develop positive attitude, skills and knowledge among its staff. Meanwhile, training needs of all personnel are to be properly identified and analyzed and all essential trainings are to be appropriately conducted and effectively evaluated."

Epson Precision Malaysia's Training and Development System

This section gives an overview of the training and development system of Epson Precision Malaysia in terms of: (1) training planning and implementation, (2) training evaluation, and (3) system of internal trainers. It ends with a summary of the company's best practices in training and HRD.

(1) Training Planning and Implementation

Epson Precision Malaysia's overall training and development system is highly integrated, linking training to competency and performance measurement. The key components consist of training matrix, skill map and performance measurement system (PMS). The training matrix details out the type of training needed by each category of staff from senior managers to operators, classified under ten different sections. These are: education & development, management & control, engineering & technical, maintenance, safety & environment, process innovation & control, quality management, planning & procurement, generic core competencies, and functional & specialized training.

On the other hand, the skill map defines the detailed competencies and skills required for each particular job. Competency refers to the soft side of human skills whereas skills refer to the hard and technical skills. Both are dynamic depending on new demands such as customer requirements, new product changes, and technological changes. In other words, the requirements must always be current. The rating model of PMS is employed for managing the key result areas (KRAs). The aim is to have an objective job rating process and to rate four to five highest priority goals.

Based on the training matrix, the skill map and the PMS, the respective section will conduct training needs analysis yearly. This involves reviewing each employee's job and deciding the need for training taking into consideration the employee's current weakness or requirement of new jobs. Accordingly, the respective section will draw up its training plan and budget and submit to the training and development unit. Thereupon, the training manager coordinates and comes up with a company-wide training plan and schedule as well as the annual budget allocated. Every three months, the staff responsible for HRD of the management, maintenance, and engineering presents the progress to the top management. Management will respond and review the training development strategies according to the changes in technology and business environment.

(2) Training Evaluation

The company has a notification and report system whereby after each training program, the trainers will notify the training and development unit. Subsequently, the training evaluation will be conducted and the necessary records such as the individual training record and the individual training map will be updated. In terms of training evaluation, the company uses several methods. Under the QS9000 on training effectiveness, the trainer and manager at various levels shall monitor the effect of training periodically. For level one type training effectiveness evaluation, the immediate effect on trainee will be captured in the post-course evaluation. This is subsequently re-evaluated, usually based on the impression of senior employee about the effectiveness of training after the subordinates have received training.

In the case of level two type training effectiveness evaluation, the knowledge and understanding will be measured based on theory and practical examination and technical competition. For level three, the application and usefulness of training will be evaluated based on project. Participants will have to do a project that have been approved by their managers so they can verify whether the employees have been effectively trained and able to apply the acquired skill or knowledge on the job.

Other methods include formal cost benefit analysis, where the company actually compares the cost incurred before and after training. For example, after training on machine design in Japan, they undertake machine modification design in Malaysia. Then the costs of undertaking the same design in Japan and locally are compared. While the company has to pay more for importing materials, local expertise is free which means a lot of cost saving.

(3) System of Internal Trainers

In-house and off-the-job constitute as much as 90 percent of the training programs. The training and development unit maintains a pool of internal trainers who

are full-time engineers, production supervisors and technicians. In fact, internal resources constituted about 75 percent of the company's training programs, whether these programs are technical based or generic knowledge based.

The system of internal trainers is formalized. They are selected in accordance with such criteria as their interests to share their skills and knowledge and to serve as "role models." At least one qualified main trainer and one sub-trainer conduct each internal training program. Their qualifications are based on the internal trainers qualification system. For OJT trainers, their qualifications are based on their training records and/or experience verified by respective managers. Each internal trainer has to serve as a pool trainer for a minimum of 20 hours per year and achieve a score of 80 percent and above from trainees' evaluations. This performance measurement standard is a yardstick that serves as a key result area in the performance appraisal

Description of Best Practice Training Strategies

Among the best practice training strategies of the company are:

1. It ensures that all employees obtain continuous training. The company monitors the number of training hours per employee per month in accordance with the minimum industrial standard of 35 hours a year. All the training activities are recorded in individual employee's training record.
2. The decentralization of training activities to the respective section managers ensures that the section's operational requirements and targets drive the training need identification. Since the company is a manufacturing concern, skills of engineering, maintenance and management become increasingly important. Training needs of personnel under their control are properly analyzed and the training programs are conducted accordingly to meet the changing business requirements. Nevertheless, the training and development unit maintains close working rapport with managers to facilitate training schedule and sustain training activities. Generally speaking, the training and development unit controls about 70 percent of all training activities while the rest 30 percent is decentralized at the section level.
3. The formalized system of internal trainers who are full-time engineers, production supervisors and technicians facilitates the transfer of knowledge within the organization. All trainers are expected to clock-in at least 20 training hours and that also helps to minimize the cost of training. Overall, the company spent about 4 percent of payroll on training in the last fiscal year and the figure is expected to reduce by 30 percent while the volume of training activities remain unchanged or even increase in scope.
4. The strategic planning that facilitates both planning and implementation of training serves both immediate and future objectives. The training function of the company complies with the standards of QS9000 certification. Training programs are systematically planned across organizational levels and well structured into different types and levels. The meticulous training matrices and skill map assist different sections to develop their own training maps. These enable the sections and individuals to track and make improvement plans for both technical and personal development.

5. The philosophy of training for employability speaks of the company's reputation of building skilled employees. Nevertheless, the company also balances both "competency and retention" to keep key personnel.
6. The company is linking PMS to training effectiveness and career development. This is to ensure that training delivers consistent results.

Challenges in Enhancing Work Competencies

One of the critical challenges in enhancing work competencies is to develop a culture of lifelong learning. While the training and development unit and the top management are very sure that lifelong learning is very important, it remains a challenge to ensure every individual staff in the various departments and levels thinks alike. Management views lifelong learning as firstly skilled and technology based and secondly, career-based where there will be job rotation as they move up the career path and continue to be employable.

The company encourages each individual to work towards self-improvement and acquiring more skills. To promote this, there is the skill map that also charts the career path of each staff at different levels including the necessary qualifications, training and responsibilities, skills, and knowledge, which are made accessible to all. This makes it easier for employees to make improvement plans for career development.

In the pipeline is the open training system through the intranet where every employee clock-in for PC-based self-learning. This should promote better access to knowledge and allowing employees to be more responsible for their own learning. The system also aims to tap into the knowledge of employees to share with others. For example, work standards and improvement reports or repair reports on machine adjustment will be captured and put in the PC so that when there is any machine problem, anyone can check the reports from other people in the database. Another challenge is to enhance line management's involvement in training. The priority of line managers is to meet urgent production schedules. As such it is important for line managers to strike a balance between meeting production demand and involvement in training.

Case Study (2): Telekom Malaysia Berhad

Company Background

Telekom Malaysia Berhad (Telekom Malaysia) is Malaysia's first and pre-eminent telecommunications provider. It was privatized in 1987 and listed on the Kuala Lumpur Stock Exchange in 1990. Today, Telekom Malaysia is operationally divided into 5 independent and focused units. These units are fixed line, cellular, multimedia, international ventures, and facility management and support services where each strategic business unit functions independently. The fixed line business remained the mainstay of Telekom Malaysia's revenue and profitability while cellular continues to improve.

The company's vision is to become a world-class telecommunications company providing total customer care. Being a customer-centric company, according to its CEO "it dictates that customers' needs will drive the technology and services we deploy and not the other way round." Its mission is to provide total customer

satisfaction through developing people, product, and services of the highest quality while meeting the needs of the nation, employees and shareholders.

The telecommunications industry is fast paced with high-speed technology advances. Technology has become increasingly sophisticated and expensive, but customers expect to pay less for these technology-enabled high value-added services. To achieve operational excellence, its people strategy focused on human resource within a highly competitive environment to support its business goal. Among others, these include a compensation structure where the executive salary level is comparatively closer to industry, reformulation of the executive development program to emphasize knowledge management and increasing intellectual capital, and institute an intensive program to manage top talents. Telekom Malaysia employs 26,000 employees, encompassing both local and overseas operations. Managerial and technical employees are considered knowledge workers and they are divided into two categories – about 5,000 executives and 21,000 non-executives who are further divided into technical and non-technical groups.

Training Philosophy and Policy

Deregulation and liberalization of the telecommunications industry have necessitated adjustment in human resource management. “It mandates a new orientation and thinking within the organization, new specialties and higher levels of skills and training capabilities. The change goes beyond competence building, but mindset change in nurturing the ability our human resources to adapt to the transformation of the business environment.” In response to the dynamic changes in the business environment, Telekom Malaysia aims to optimize its human resources through proactive HRD strategies, policies and practices.

One of the key HRD strategies adopted by Telekom Malaysia is to enhance and improve employee productivity through right sizing, right skill and re-skilling to contribute to the company’s knowledge capital. To achieve this, the company is committed to provide continuous training and education programs to all employees. Basically, training is focused on meeting business needs. As such training is centered not only on technical skills and re-skilling to meet the relentless demands of technology but also on leadership skills to meet the challenges ahead. Telekom Malaysia spends about one eighth of payroll on HRD program, encompassing leadership development, training, in-house educational programs, and scholarship awards.

Training and education issues in Telekom Malaysia are discussed at senior management level and structurally under the purview of the training executive council. The council is headed by its deputy CEO and comprises CEOs of each operational division indicating the strategic role that training and education plays in Telekom Malaysia.

Telekom Malaysia established and run a training arm, which is the Telekom Training College (TTC). TTC functions as the strategic umbrella for the company's total learning requirements – for all the employees, customers and suppliers. Its mission is “to provide appropriate and innovative learning interventions for the entire value of Telekom Malaysia” through “developing best-in-class people and delivering learning products and services that will exceed customers' expectations.” The main

training endeavors cover planning, designing and implementation of comprehensive programs in telecommunications, multimedia and information technology, and management and executive leadership.

Telekom Malaysia is also committed in realizing the Malaysian Vision 2020, which amongst others will contribute to the development of the ICT knowledge workers. The aim is to produce technology-literate and high skilled workforce who are able to participate effectively in the knowledge economy. Telekom Malaysia has established in 1996 the Multimedia University, which is the first private university to help increase the number of skilled knowledge workers. As an industry related institution, it offers hi-tech education through more than 70 programs in various IT and multimedia related courses.

Description of Training Strategies

Telekom Malaysia seeks to be a company that is “faster, more creative and innovative than the competition” in reaching the customers. The reorganization of Telekom Malaysia’s business from its core fixed line telephone to multimedia services, to cellular services and even into the content side demands a new set of manpower requirements. Human assets have become a crucial and decisive factor for corporate success. They have to be “agile, cost effective, develop content, package it and market it – someone who understand the business.” However, “you cannot have one person that have all, so you need to develop the team, to do crisscrossing.” Accordingly, Telekom Malaysia seeks to develop effective human resources in line with the company’s business plans and directions.

Management Leadership Development Program

One major emphasis is the building of strategic leadership to enhance the skills of management, which is considered an important objective of Telekom Malaysia. In developing a strong management team, the company has designed customized management leadership development programs that concentrate on leadership training and business skills development. This planned leadership development is targeted at specific groups that include the top and key managers, and managers with high potential and fast tract executives.

There are two main leadership development programs, namely, the Management Leadership Development Program (MLDP), and Senior Management Development Program (SMDP). These programs deal with managerial skills like strategic thinking, analysis of business environment, strategic planning, people management, and leadership modules. They are designed to prepare executives, senior managers and managers for promotion to the upper echelons of management. These programs are usually based on action-oriented learning where participants handle a real-life, hands-on project. The emphasis on project-based action learning is to ensure that learning and working become more closely integrated and relevant to each other continually. At the end of the MLDP, participants who passed the requirements will be awarded an MBA and for the SMDP, a master degree in telecommunications management. Furthermore, the SMDP is also an expert scheme aimed at developing certain critical expertise including marketing expertise, broadband expertise, network expertise and other technical expertise, which is difficult to obtain in the market.

Strategic Partnership in Program Development and Implementation

The Group Human Resource Management (GHRM) in Telekom Malaysia is responsible for formulating and establishing human resource management strategies, policies and practices across the company, which include the development of policies and strategies in human resources. In terms of training programs, while GHRM does the design and development, TTC on the other hand implements the training modules.

Many of the programs in Telekom Malaysia are developed and tailored-made to Telekom Malaysia's requirements in partnership with established business schools. For example, the MLDP was customized for high potential managers and SMDP was customized for senior managers; both are conducted in partnership with Strachlyte Business School. Another structured training program designed for executives going onto the management career path was conducted together with the Open Polytechnic New Zealand. In this case, the Open Polytechnic New Zealand also provided online community support. There are other management programs that are linked with Insead, Harvard and local universities. Additionally, education programs such as in-house certificate and diploma programs are conducted in collaboration with local universities, either part-time or full-time, to assist employees in their career advancement. Programs are also provided between Telekom Malaysia and its sister university, Multimedia University, between Telekom Malaysia and Universiti Teknologi and other local universities. The National Accreditation Board accredits these diploma programs.

Assessment Center

An Assessment Center has been set up at TTC to help the GHRM to monitor the employee's skill and competency. This is to ensure that the employees' skill and competency levels of Telekom Malaysia are in line with the company, industry and nation building needs. Through the competence-based screening process, the company identifies fast track executive and expert development schemes.

e-Learning

In line with the multimedia era that is currently gaining ground in Malaysia, TTC has introduced a total of about 700 e-learning modules. These programs are conducted and administered through the use of several modes of technology. Programs that are currently offered through e-learning mode are information technology courses, as well as desktop computing, management, technical, and telecommunication courses. Besides these programs, many other work instructions have been in e-learning mode, which are made accessible to every employee for references in performing their jobs. This system of sharing knowledge is aimed at supporting employees to become knowledge workers.

Benchmarking in Training Practices

To ensure the quality and standard of its training and education, Telekom Malaysia benchmarks its HRD metric with American Society for Training and Development (ASTD). Aspects that are benchmarked include both training activity as well as evaluation on training impact. For training activity, among the elements compared are "percent of payroll spent on training," "training dollars spent per employee," "average training hours per employees," and "percent of employee trained

per year.” As for the assessment of training results, the elements employed include “average percent of positive participant ratings per year,” “average percent gain in learning per course,” and “cost saving as a ratio of training expenses.”

Challenges in Enhancing Work Competencies

Top management believes that continuous and self-learning will enhance skills and improve productivity both professionally and personally. The challenge is to ensure that all employees think alike and embrace the culture of continuous learning. Being a learning organization, Telekom Malaysia has been providing state-of-the-art training infrastructure and opportunities in terms of programs, financial assistance and mode of training. While the response so far has been encouraging, nevertheless, there is still a need for individual employees to invest more time in continuous education especially through e-learning. This will assist them to keep abreast of the latest development in their field because technology changes are accelerating at fast speed. In addition, Telekom Malaysia is linking competencies with promotion, and continuous learning should help employees climb up the career path.

Turning specialists to managers in telecommunications industry is another challenge for Telekom Malaysia. Blending technical, managerial and entrepreneurial skills will equip employees to be ahead of customers’ demand and ensure that they could contribute effectively to the overall business goal. Management recognized the strategic importance of leadership and is preparing future leaders for key management positions through its customized leadership training and development programs.

Case Study (3): Samsung SDI (Malaysia) Sdn. Bhd.

Company Background

Samsung SDI (Malaysia) Sdn. Bhd. is the first overseas manufacturing base for Samsung SDI Korea. It was incorporated in 1990 and the manufacturing facilities are located within the Samsung Electronics Seremban Complex, which houses two other Samsung manufacturing companies. The company manufactures a broad range of display devices including color picture tubes for television, color display for computer monitors and electron guns for export worldwide. In terms of volume, in 2001, Samsung SDI (M) produced about 23.6 percent of the total cathode ray tubes of the Samsung SDI Group or about 4.9 percent of the world’s cathode ray tube’s market.

Samsung SDI (M) has a total of 2,700 employees, including 400 contract workers. The workforce profile is basically divided into four groups. These are the management, executive, non-executive, and operator groups. The company goes to extraordinary length to harness employee’s capabilities and creativity. “Samsung Boleh” keeps inspiring employees to sharpen their competitiveness in every field and challenging them to go beyond their normal limits. The Opportunity For Improvement Scheme (OFIS), on the other hand, encourages employees to suggest, implement and reward the best improvements. These initiatives, besides other grass-root activities are aimed at moving employees into “We are one” to continually recognize and confront the global challenge.

The Global Challenge

Presently, the top challenge for the company is product quality. Samsung SDI (M) is one of the big volume producers among the few suppliers in a narrow market and supplying to renowned customers like Acer, Compaq and Dell. As such, manufacturing quality products remains a key factor in meeting the sophisticated demand of its customers. At the same time, the company has been witnessing falling prices in the international market. For continuous survival, the company faces another challenge, namely, to keep unit product cost down to as much as 15 percent. The implementation of the six sigma system has to a large extent been contributing directly to process improvement and cost savings in Samsung SDI (M).

Training Philosophy and Policy

Samsung's philosophy on human resources states, "We will devote human resources and technology to create superior products and services thereby contributing to a better global society." Underlying this is the recognition that superior products begin with competent employees as "quality people build quality products." In addition the application of leading-edge technology is equally important in creating quality products. It is supported by intensive training and development programs, and reinforced with a work ethics and culture that encourages employees to embrace ownership of their workplace.

Training and development is viewed as a critical function and part of the holistic approach to maximizing the competitiveness of quality and cost. The company clearly is focused on quality improvement and this is reflected in their emphasis on skills and technical training. The company's training policy "encourages appropriate training and development programs to select employees locally and/or overseas to contribute more effectively to the overall development and expansion of the company." Employees who are required to attend training and development programs, seminar or symposium overseas are required to enter into a bond or an agreement with the company upon the company's request. This is to ensure that training investment will consistently build up "specialists" in various fields and provide a strong base of capable workforce.

The company believes in mapping the career paths for all levels of staff and identifying the necessary skills and training requirements at the various levels. The main reasons for charting the career plan for employees are to reduce turnover, retain high performers and build commitment. With that, employees are required to register for the training through the monthly training calendar, which is broadcasted through the in-house TV program or through the in-house bulletin. Samsung SDI (M) sets a training target of 30 hours of job related training for each employee each year.

The training program is planned for all categories including managerial, middle managerial and operative. Being a manufacturing concerned, the main areas covered are management, supervisory, quality, and technical. Many of the programs are licensed or adopted and modified for local use. For example, a few of their managers are licensed trainers for "7 habits of highly effective people," and the "Sanno manufacturing management course," which is a Japanese model for management in manufacturing for supervisors. The company's technical training programs and operator certification programs are adapted from its headquarters, and tailor-made to local requirements. All operators have to be certified and re-certified yearly to acquire

and update on skill and knowledge. The need for certification and re-certification is a requirement of ISO to maintain the standards. Multi-skilling is also practiced for operators together with an incentive scheme.

Description of Best Practice Training Strategies

Among the best practice training strategies in Samsung SDI (M) include:

(1) Training for Six Sigma

In line with management's direction to be a six sigma model plant, a company-wide structured training program has been designed to train all levels of employees. Six sigma is the indication of highest quality level in the eyes of customers. It is aimed at the 3P elements of product, process and people and activated to improve strategic core intents of quality, productivity and speed.

The objectives of the six sigma academy programs are to upgrade the skills of the staff, specifically to equip employees with adequate methodology to address chronic defects problem. The methodology of "Define, measure, analyze, improve and control" (DMAIC) and statistical knowledge creates a culture to address quality issues in an objective manner. The trainings are divided into three categories, namely, white-belt for front-line staff, green-belt for executives and black-belt for managers. Six sigma training is based on "action-learning" or project-based, where participants tackle real-life problems in training activities. Both the black and green beltters are leading process improvement teams. To date the majority of non-executives and operators have been certified white beltters, with more than 300 green and black beltters who are senior technicians, engineers and managers. Nevertheless, certification and retraining is an on-going process to update and align everyone to the "same language."

Through the six sigma projects, the company achieved cost savings of as much as RM120 millions. In addition, improvements were made in work processes, process control and machine efficiency thereby improving cost of quality. At the shopfloor, there are over 700 processes to achieve the cumulative result that contribute to the cost of quality and price of product. Operators are now more knowledgeable with the six sigma training and are now able to handle trouble-shooting where process problem is concerned. In the past, they relied on the services of technicians or engineers.

Basically, the six sigma program is well sponsored. Top management shows true support to launch and drive for the six sigma program and participates in the audits. The company has set up the six sigma operating room that stress on "open book management" approach for complete understanding of the company's vision and direction. Last year a total of half a million was spent on upgrading the operating room and providing one notebook to each of the black beltters.

(2) Accredited Training Center (ATC)

Samsung SDI (M) was awarded the Accredited Training Center (ATC) status from the National Vocational Training Council to provide mechatronics course to the workers. This course is mainly offered to industrial manufacturing assistant (mechatronics) for operator development. On completion of the course, a certificate of competency will be awarded to the workers, which is recognized at national level. According to the career path, with the certificate, the operator will be upgraded to

junior technician position. Over the last 3 years, the company has invested about half a million in the program.

(3) System of Internal Trainers

The company subscribes to both internal and external trainings. With the current emphasis on six sigma, which is focused mainly on technical issues, most training courses are conducted internally. With internal trainers, facilities and infrastructure, majority of the employees can be trained at minimal cost. In addition, the company has internal trainers certified to conduct US-based licensed leadership programs. The purpose, besides cost cutting is to ensure the multiplier effect and promote the sharing of knowledge. In addition, they are key managers and can influence the rest of the organization. All internal trainers are given the trainer's allowances. The company fully utilized the allocated budget of 3 percent of payroll for training in past years.

(4) "To know Samsung" Training

It is interesting to note that the company is involving all level of employees in sessions of business awareness and change awareness to broaden their horizons on the company's global challenge. This is a positive move in the direction of developing and involving all employees in the company's business. Furthermore, there are trainings on values of good workmanship, consistent with both the Korean and Malaysian culture. The overall objective is to acclimatize employees to the workplace, culture and the challenges. The use of training to influence behavior and inculcate the cultural norms of the company is the essence of "To know Samsung" (TKS). The human resources manager believes that the TKS training has created a workforce with Samsung's core values that has weathered the company through the economic crisis. The Samsung values are vision, customer, quality, innovation, communication, competency, and integrity.

Challenges in Enhancing Work Competencies

One of the critical challenges of the company is to encourage the development of e-learning so that on-going training can be more effective. Given the direct link to headquarters in the Republic of Korea, accessibility to technology development and up-to-date know-how is made easy. While it is in the early stage of implementation, developing all-round employees well versed in ICT skills is important to ensure more flexible, accessible and varied training. Employees must be able to access training in their own time, and have access to training that is self-paced and self-directed. This development strategy is necessary to meet long-term goals.

KEY SUCCESS FACTORS

From the three case studies, it can be seen that the approach to training and development concerns implementing the company's goals and policies. It deals with developing human resource practices, specifically through training to achieve strategies such as quality enhancement, cost reduction, skill and knowledge upgrading and innovation for greater competitiveness. Nevertheless, the effectiveness of training

and development requires support and sponsor from various quarters. The following section will look into some key success factors that drive training and development.

The comparison across the three case studies indicated several common factors that contribute to the critical success in training and development. The first factor identified is top management's commitment. Strong support through clear objective, funding and resources for infrastructure is crucial. Second, the implementer who must have the drive to execute the company's vision, third, the support from the line, and lastly the environment and culture of the organization. These factors are to a certain extent inter-related.

In Epson Precision Malaysia, top management pays a lot of attention to human resource capabilities because high-level technical competency is needed in the high-tech nature of the industry. Subsequently, management emphasizes on employee training and development for achieving high quality and low cost manufacturing through its people. The managing director heads the HRD committee and the respective general managers or senior managers heads the three areas of management development, engineering development and maintenance development. Top management always highlights HRD issues as one of the key items in each new year's business policy to show the importance of HRD system for achieving the business plan.

As one of the key drivers of the Vision 2020 agenda, Telekom Malaysia is committed in creating knowledge workers. Within Telekom Malaysia, training and education issues are discussed at senior management level and structurally under the purview of the training executive council. The council is headed by the deputy CEO and comprises CEOs of operational divisions indicating the strategic role training and education plays in Telekom Malaysia. Accordingly, the company allocates a big budget of about one eighth of payroll on HRD program, encompassing leadership development, training, in-house education and resources including state-of-the-art facilities such as e-learning.

Similarly for Samsung SDI (M), top management shows genuine support and drive for training and education programs. Top management works together with employees to create an environment of total involvement. They set the example as champions; for example, in the implementation of the six sigma programs, the managing director personally trained the engineers, supervisors and operators. The production director also conducted classes to all division heads on "standard quality management" and "total productive maintenance." In addition, top management takes pro-active informal approach in educating employees during line tours and audits.

The training and development unit is one of the main drivers of top management's policies. Training is dependent on the people who practiced it; as such it is important that the implementers continue the impetus to achieve the company's goal. As can be observed in Epson Precision Malaysia and Samsung SDI (M), key staff members in training and development are technically conversant and play a strategic role in developing effective human resources in line with the changing business requirement. For Epson Precision Malaysia, the training and development unit believes that "productivity and efficiency shall be derived as a natural consequence of training and development" and ensures that training produces results. The management of the training system and its system of internal trainers contributed significantly to training effectiveness even though at a lower budget.

Samsung SDI (M) also manages its training with specialized and professional resources and has systematic and comprehensive training maps for all levels of employees. The company believes, “Our investment in training has enable them outperformed others.” The HRD and d training division has directly inculcated values of good workmanship among employees. Telekom Malaysia, which has the largest workforce, has a professional development division to identify and design the content of courses while the implementers are basically from the telekom training college. Both companies recognized that the relentless demand of technology and the need to align and realign knowledge, technical skills and leadership skills to meet the challenges ahead. They have introduced and implemented multi-level training and education programs and benchmarked their training practices against world standards to ensure competitiveness.

The success of training and development is also dependent on the cooperation from all levels of employees and that includes those from the line. Their support represents the recognition that training contributes to developing the skills, knowledge and attitude of employees. In all cases, this involves identifying needs, assessing competencies and its gaps, drawing up the training calendar, making time for employees to participate in training, evaluating training effectiveness, and providing reinforcement for transferring knowledge and skills to the workplace. Often, line managers will have to balance between their production demand and time out for training, for both the trainers and trainees.

Intertwined with these are the requisite environment and culture of the workplace. The practices that stand out in all three case studies include communication on the training and development initiatives to all employees. The media includes in-house magazines, bulletin board, and e-mails, highlighting training goals, current training programs and information allowing employees to keep in view the companies’ thrusts and keep up with developments in training and development.

All the three companies have excellent technical and physical training infrastructure in place. Technical infrastructure in the form of web-based intranet training delivery and materials. For Telekom Malaysia, it has more advanced multiple channels such as web-based delivery, including video conferencing. Physical infrastructure is mainly in the form of training rooms, computer and technical laboratories and other facilities. In addition, all have in-house manuals, skills and management training materials that are tailor-made for its employees. All three case studies provide multiple mechanisms for employees to acquire knowledge and skills. Another key mechanism is the awards and recognitions given to training and education in the form of certificates, licenses, diplomas, accredited training programs, and in Telekom Malaysia, degrees and post-graduate degrees are awarded. All three companies provide education sponsorship for diplomas and degree programs.

RECOMMENDATIONS

Develop Continuous Learning Cultures

According to Senge, one of the main characteristics of a learning organization is where individuals become committed to their own lifelong learning. It is observed that learning is an everyday action for all in the organization and continuous learning can lead directly to improved individual and organizational performance. All the companies in the three case studies have already implemented e-learning albeit at different stages. Telekom Malaysia has in place a full range of Internet-based training as a means of encouraging self-directed development. Samsung SDI (M) is at the early stage of implementation, firstly, online training materials, and, secondly, accessing technological know-how of headquarters online, self-paced and self-directed. On the other hand, Epson Precision Malaysia has also begun utilizing online training materials, and in the process of capturing “tacit” knowledge or lessons learnt during the OTJ process and disseminate online. While policies and infrastructure are in place, the level of participation in these development activities still need further enhancement.

While it is the responsibility for management to provide the necessary support for continuous learning, employees must assume personal responsibility to make improvement continuously. They have to keep in touch with the progress in their respective field of expertise and be self-motivated in keeping up with changes. This will not only assist individual career development within the organization but for future employability. In addition, all employees should equip themselves with the necessary ICT skills. On the other hand, management must continue to lead the way by creating an organizational culture and environment to facilitate learning. These include, amongst others, capturing and sharing knowledge, creating team learning and involving all levels of employees in the change initiative.

Enhance the New Role of Training

In all the three case studies, the training function is well integrated into the mainstream of company activities. Trainers, besides being disseminators of knowledge, have to accept the role as coaches, mentors and facilitators, thereby guiding and helping employees to improve systems, processes and problem solving capabilities on a continuous basis. It is important to transfer job related knowledge to ensure that training is directly linked to the improvement of competencies (Garavaglia, 1993). This includes creating more OTJ and using real-life problems in training activities (Tjepkema and Wagem, 1995).

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3. PHILIPPINES

Mr. Jorge V. Sibal
University of the Philippines

TRANSITION FROM PRODUCTION-BASED TO KNOWLEDGE-BASED ECONOMY

In most countries today, knowledge work is a key sector of the economy. Knowledge is a key competitive edge of business enterprises and nations facing the competitive world of globalization. In this context, knowledge workers are gaining prominence, and there are great expectations regarding their roles and contributions in the modern knowledge-based economy. A knowledge worker is anyone who makes a living out of creating, manipulating or disseminating knowledge. According to Peter Drucker¹, the types of knowledge workers are:

1. High level knowledge worker – mostly mental workers like professionals (doctors, teachers, consultants, etc.), entrepreneurs, managers, and administrators; and
2. Knowledge technologist – those who work with their hands and brains in the information technology (IT) industry.

Knowledge workers are key assets of enterprises and national economies. The challenge to companies and business managers is how to develop and harness their knowledge workers through training and education strategies. This study will highlight best practices in in-company HRD strategies for knowledge workers among selected companies in the Philippines. Three Philippine companies are covered in this study, namely:

1. Jollibee Foods Corporation, the country's top corporation for the last 5 years (1998-2002) by the survey of the Far Eastern Economic Review and the leader in the country's fast food industry;
2. Philippine Batteries, Inc., the country's leading manufacturer of automotive and industrial batteries; and
3. CS Garment Inc., a German-Filipino garment manufacturer that is among the best enterprises in the garment industry in the country and in Asia.

The Philippine Economy in Transition

The Philippine economy has undergone the following stages of economic development:

¹ Drucker, Peter, *Management Challenges for the 21st Century*

- 1946-59 *Post War Rehabilitation and Import Substitution Period* – the setting of tertiary assembly-line production industries with state protection and material-inputs are import-dependent.
- 1960-71 *Decontrol and Limited Trade Liberalization Period* – the country availed of the IMF standby loan facilities to shore up the foreign exchange crisis brought about by the shortcomings of the import substitution period.
- 1972-85 *Martial Law and Post-Martial Law Period* – the period featured high debt-driven industries, trade liberalization and economic slowdown.
- 1986-present *Globalization and Full Implementation of Financial and Trade Liberalization and Privatization of State Enterprises* – the transition from assembly line operations to knowledge-based adjustments for survival, growth and competitiveness of local enterprises.

Transition to a Knowledge-based Economy

Most big and medium Philippine industries, including their subsidiaries and joint ventures with foreign companies were nurtured under very protectionist import-substitution economic policies from 1950-60. This helped build the foundation of manufacturing and services industries in the country. Technological innovations through global competition however were curtailed and most of these industries became complacent and have developed an attitude of closely linking up with traditional politicians and bureaucrats in assuring their business survival. With a chronic foreign exchange and debt crisis, which was emanated from this politico-crony capitalist tie-up, globalization and the inevitable trade and finance liberalization policies have exposed Philippine industries to intense competition from imported products and foreign competitions. In order to survive, grow and compete, Philippine industries have to reinvent themselves from the second-wave technologies (assembly-line production) to the third wave of knowledge-based operations.

Lloyd and Salter (1999), in assessing the effects of globalization to the country's labor force, observed that many companies "have divided their workforce into a small group of professional and technical staff and a large group of casual workers." The former receives a wide range of benefits and training making them highly skilled knowledge workers, and the latter minimum wages and benefits mandated by the Labor Code, which resulted in relatively high wages despite their low level of skills.

This has resulted in a dual level of skills among the labor force. On the one hand, the country is fast gaining competitive advantage in the category of knowledge workers. As cited by Ofreneo (2002), the *World Competitiveness Report* and the Hong Kong-based PERC risk analysis firm said that since 1998, "the Philippine skilled labor is number one in terms of quality, affordability and availability." In fact, Ofreneo continued, "this is validated by the reality that most of our skilled workers are the ones filling up the middle-level positions in high-tech industries of Malaysia, Singapore and other countries."

On the other hand, the greater bulk of the labor force is of low skills, low productivity and relatively high wages and mostly absorbed by the informal sector in the service and agriculture industries. The country's unemployment and underemployment rates are quite high at 10 percent and 20 percent, respectively. This has become big burden for the economy since the Philippines is losing its competitive advantage in labor-intensive processing to lower wage Asian neighbors like China, Vietnam, Cambodia, Nepal, Indonesia, and Thailand.

PREPAREDNESS IN ENTERING A KNOWLEDGE-BASED ECONOMY

Many Philippine manufacturing and agricultural industries, especially those producing for the domestic market, were generally unprepared for the forthcoming knowledge-based economy. These include the electrical appliances, paper, poultry, shoes, chemicals, textiles, and even traditional agricultural export industries such as sugar and coconut. The notable exception is the export industry led by the electronics sector that accounts for 75 percent of the total exports at present. These industries have become globally competitive as a result of the transformation through technological leapfrogging through selective knowledge-based adaptation and operations.

The net outcome of the performance of Philippine industries is an overall decline of the performance of the industries as a proportion of GDP, from 40 percent in 1980 to slightly less than 35 percent in 2000, with manufacturing declining from 27 percent of output to 25 percent. However, non-traditional electronics export firms picked-up from a very low base in the 1990s (Lim and Montes) prompting the increase of professional and technical workers (or knowledge workers) by almost two times from 1956 to 2000 as a percentage of the total number of occupations. Lim, Montes and Ofreneo observed that an eventual manufacturing recovery hinges on these non-traditional sectors such as electronics (which are still very import dependent) if these firms can increase their domestic value added content. Table 1 shows the shares of manufacturing, agriculture and services industries in the GDP from 1967 to 2000.

Table 1. Share of Manufacturing, Agriculture and Services in GDP (Unit:%)

Sector	1967	1970	1980	1990	2000
Agriculture	33.3	27.8	23.5	22.4	20.0
Industry					
Manufacturing	18.3	22.5	27.6	25.9	24.8
Other industries*	5.2	7.1	12.9	10.0	9.6
Services	43.2	42.6	36.0	42.0	45.6

Source: National Statistics Coordination Board, *Philippine Statistical Yearbook*

Note (*): Other industries include mining and quarrying, construction, electricity, gas, and water

Agriculture is very much threatened by trade liberalization. Agriculture's contribution to GDP as shown in Table 1 declined from 33.3 percent in 1967 to 20.0 percent in 2000. Although declining, this sector however is a very stable sector since its average annual growth was 2 to 4 percent while manufacturing fluctuated from high

growth rates during boom periods to negative growth rates during crises. In reality, it is traditional first-wave technology farming that is threatened since modern plantations and agro-industries such as the exports of fruits, seaweeds, carageenan, and processed food are flourishing.

Agriculture's absorption of labor also exhibits continued decline as in manufacturing (Table 2). With consistent positive growth rates over the years, it shows that a segment of agriculture, notably the modern ones in agribusiness linked to exports are adapting to globalization and able to employ knowledge workers. The same is true for the manufacturing sector. The manufacturing industries have been adapting modern processes, employing more knowledge workers, and employing less of the low skilled labor force. This phenomenon is also known as "jobless growth." While semiconductors and other non-traditional sub-sectors have increased from 1967 to 2000, food, beverages and tobacco as well as garments, textiles and other traditional industries have declined. Paper, chemicals and importable manufacturing have shown steady growth.² In the export sector, Lim and Montes further revealed the following findings:

1. Dependence on commodity exports has declined and Philippine's exports are less diversified in 2000 than in 1980.
2. The dominant knowledge-based electronics industry has increased its share from less than 50 percent in 1980 to almost 77 percent in 1997. Labor-intensive export industry, next in prominence after the electronics industry has shown continuous decline from less than 40 percent in 1980 to only around 17 percent in 1997.
3. The other minor export industries, namely processed foods, resource-based products and others have shown declining trends like the labor-intensive industry from 1980 to 1997.

With both manufacturing and agriculture on a decline, the services sector is now the most dominant sector of the Philippine economy. During crisis periods, which are becoming more frequent lately, the services sector has been the absorber of excess labor as shown in Table 2. This has prevented a run-away unemployment rate now at 10 percent. A large segment of this sector is the informal sector, which harbors more than 36 percent underemployment rate and over 5 million overseas Filipino workers. In the services sector, Lim and Montes revealed that "the proportion from service trade has remained constant" from 1980 to 2000. What has grown is the number of knowledge workers from the "private services" (low-skilled work and professional services) from 5 percent in 1980 to 9 percent in 2000.

Professional and technical workers have increased by almost twofold from 1956 to 2000 as a percentage of the total number of employed people. This was mainly a result of the growth of electronics industries. Proprietors, managers and administrators declined in numbers and as a percentage to total people employed from 1956 to 1971, illustrating the efforts made to streamline the bureaucracies within the industries in order to make their structures lean and competitive during the liberalization period.

² Raw data from Lim and Montes, *Structural Adjustment Program after Structural Adjustment Program, But Why Still No Development in the Philippines?*

From 1981 to the present, the trend is increasing in both numbers and percentage of occupation, showing the importance of high-level knowledge workers in globally competitive enterprises.

Table 2. Labor Absorption of Agriculture, Manufacturing and Services (Unit:%)

Sector	1956	1961	1971	1981	1991	2000
Agriculture	59.0	60.6	50.4	51.5	45.3	37.4
Industry						
Manufacturing	12.5	11.3	11.5	10.0	10.4	10.1
Other industries	3.3	3.1	4.2	4.2	5.6	5.9
Services	28.1	27.8	37.6	38.1	43.8	52.7

Source: National Statistics Coordination Board, *Philippine Statistical Yearbook*

Analysis of Preparedness of the Philippines

The basic strategy of the country in transitioning to a knowledge-based economy is a combination of a traditional mode of transforming the first-wave agriculture sector to modern agriculture that will eventually use third-wave technologies and technological leapfrogging (Posadas and Roque, 1987) in transforming the mostly second-wave manufacturing and services industries to the knowledge-based operations. Technological leapfrogging through reverse engineering³ (Posadas, 2000) is the strategy of mastering selective third-wave technologies and at times bypassing certain technologies of the second-wave that are already obsolete. “It involves the buying or renting of high technologies from abroad in order to analyze and learn, and eventually improve on them, thereby gaining innovative capabilities.” Posadas listed the following considerations in choosing the right kind of third-wave technologies:

1. Third-wave technologies can narrow technological gap, and provide industries with a cutting edge for global competitiveness.
2. It can be used to improve the productivity and efficiency of agricultural, manufacturing, and services sectors.
3. It can be environmental-friendly and compatible with sustainable development.
4. Being science-based, it will strengthen the linkages between academe and industry, and between the local industries and industrialists.

Technological leapfrogging is applicable to the Philippines because of its low technological standing compared with industrialized and NIEs. The country is 10 to 15 years behind Thailand and Malaysia, 20 to 30 years behind the Republic of Korea, Taiwan, Singapore and Hong Kong, and 50 to 75 years behind the leading industrialized countries like U.S., Japan, and Germany.

³ Reverse engineering, according to Posadas, is adopting and replicating modern technologies. It is the fastest and least risky way of acquiring and mastering a technology, as shown in the experiences of Japan, the Republic of Korea and Taiwan. This is in contrast to trying to “reinvent the wheel.” Reverse engineering can compensate the country’s poor track record in invention, R&D commercialization and product development.

Technological leapfrogging in the Philippines is applied differently compared to the experiences of Japan, the Republic of Korea, Taiwan, and lately Malaysia, China, and India, which required strong state intervention. In the Philippines, the strategy is also spearheaded by the state but the main actors are the companies in the private industry, their associations and linked with the academe. The private sector selects the technologies as well as finances the R&D efforts that are normally coursed through the academe. A measure of the technological standing of the Philippines in Asia is the ISI.⁴ The country is included in the third group as shown in Table 3 below:

Table 3. ISI Ranking in Asia (2000)

Category	Country	Rank	Scores
Skaters Score: above 3,500	Japan	10	4,093
	Singapore	11	4,014
Striders Score: above 2,000	Taiwan	18	3,177
	Republic of Korea	22	2,931
Sprinters Score: above 1,000	Malaysia	35	1,583
	Philippines	47	1,012
	Thailand	48	1,010
Strollers Score: below 1,000	China	51	915
	Indonesia	52	888
	Pakistan	55	719

Source: The Worldpaper, www.worldpaper.com

Another index that could benchmark the performance of the Philippines with other countries in the Asia-Pacific region is the KDI.⁵ The country's rankings based on the various factors shown in Table 4 below range from 18 to 22. The Philippines is behind Malaysia, Thailand, and China but is ahead of Indonesia and India.

⁴ The ISI measures the ICT capabilities of 55 countries using 23 variables. These include computer infrastructure (PCs installed per capita, educational PCs shipped per student and software versus hardware spending), information infrastructure (per capita cable subscribers, fax ownership and TV ownership), Internet infrastructure (home Internet users per household and e-commerce spending per total Internet user) and social infrastructure (newspaper readership per capita and tertiary school enrolment).

⁵ The KDI is derived from selected key factors required to drive a knowledge-based economy, namely, computer infrastructure, info-structure, education and training, and R&D and technology.

Table 4. Country Position by Components of KDI in Asia Pacific (2000)
(Top 22 countries included)

Country	Knowledge Index	Computer Infrastructure	Info-structure	Education & Training	R&D & Technology
Japan	2	8	3	10	1
Australia	7	6	6	6	11
New Zealand	13	11	14	7	17
Republic of Korea	15	16	11	16	13
Singapore	16	14	16	19	6
Malaysia	17	17	17	17	16
Thailand	18	19	21	14	19
China	19	18	19	18	20
Philippines	20	22	18	20	18
Indonesia	21	21	20	21	21
India	22	20	22	22	22

National HRD Program of the Philippines

HRD program in the Philippines comprises the following:

1. Basic education for 10 years, namely, 6 years elementary and 4 years high school.
2. Equivalency tests for basic education acquired through non-formal education.
3. Tertiary level 4-year courses in universities, community and specialized colleges, and technical-vocational institutions.

The Philippines enjoys a comparative advantage in human resource development. It has always given top priority to education. Over a 5-year period (1992-97), the budget for education increased from 2.7 percent to 3.6 percent of the GNP with the bulk going to basic education (2.3 percent in 1992 to 2.6 percent in 1997). Of the total government budget, education accounted for 14 percent in 1992 and almost 20 percent in 1997 (Caponos, 1998). Basic literacy rate, or the ability of the people to read, write and comprehend simple messages is 92.1 percent in 1995. Functional literacy (which includes reading, writing, comprehension skills and simple numeracy) has likewise improved from 70.6 percent in 1989 to 81.3 percent in 1994.

Participation rates in primary and secondary education are quite high in the country at 85.4 percent and 57.6 percent, respectively, since basic education is free. Only 0.3 percent of the population had no schooling. The achievement levels however in 1996 are quite low at 46.2 percent in the primary level and 45.6 percent in the secondary level. Likewise wanting improvements are the graduation rates of 40.6

percent for elementary schools, 33.6 percent for high schools and 11.41 percent for colleges (Caponés, 1998). Compared with other countries in the Asia-Pacific region, the Philippines fares well in providing budgets for education as well as in enrolment in tertiary education. This is shown in Tables 5 and 6 below:

Table 5: Public Expenditure in Education and Tertiary Education Enrolment
(Selected countries in Asia-Pacific region) (Unit: %)

Country	Public Expenditure on Education (of GNP), 1996	Tertiary Enrolment (of Population 20-24 years), 1993
New Zealand	7.3	58
Australia	5.5	4.2
Malaysia	5.2	25
Republic of Korea	3.7	48
Japan	3.6	30
Philippines	3.6 (1997)	22.4 (1997)
India	3.2	6
Singapore	3.0	38
China	2.3	4

Source: *The World Competitiveness Yearbook, 199 and 2000*

Note: Refers to year 2000 and age cohort 17-23 years

Philippine data: DECS, DBM, 1997 and Caponés, 1998

Table 6: Tertiary Enrolment by Field of Study
(Percentage of 20-24 age group, 1990-95)

Country	Natural Science	Mathematics and Computer Science	Engineering
Australia	5.2	1.8	7.5
Hong Kong	3.0	1.5	3.7
Japan	0.7	0.2	9.0
Republic of Korea	3.8	2.8	13.5
Malaysia	0.5	0.3	0.8
New Zealand	4.8	0.4	3.0
Philippines	0.5	2.1	3.9

Knowledge-Based Economy Master Plan

A 2001 APEC survey of 81 MNCs cited in a Philippine country paper of Technical Education and Skills Development Authority (TESDA) concluded that “large pool of educated, English-speaking and highly trainable manpower continued to be the driving force in attracting foreign capital to the country.” The restraining forces, on the other hand, are “deficiencies in infrastructure, political unrest and peace and order.” Despite the favorable efforts of the government in developing human resources, the country suffers skills shortages especially in the managerial, professional and technical knowledge workers. According to TESDA, this is caused by the faulty educational system, the policy of encouraging labor export and the continuing technical changes happening in the country.

S&T and R&D

The Philippines needs a lot of improvement in S&T and R&D. An assessment made by Dr. Roger Posadas (2000) concluded that the overall condition of S&T as well as R&D in the country has remained “weak and substandard.” Among the indicators cited by Posadas are:

1. The number of R&D scientists and engineers in the Philippines is only 155 per million which is less than half of the 1980 UN target of 380 for less developed nations. The figure shows the Philippines is among the lowest in the ASEAN, and the figures in NIEs like the Republic of Korea and Taiwan range from 1,000 to 2,000, and in highly developed countries, 2,000 to 4,000.
2. The budget allocated for R&D is one of the lowest in the Asia-Pacific region at a per capita of 68 cents in 1984. As a percentage of GDP, the country’s R&D expenditure is only 0.22 percent in 1992, which is below the 1980 UN target of 1 percent for less developed countries. NIEs usually spend 1 to 1.8 percent of GDP in R&D, and developed countries, 2 to 3 percent. R&D conducted by private sector is likewise low at 23.6 percent contribution to R&D expenses compared 50 to 80 percent in developed countries and NIEs.
3. In terms of inventions, the country fared better. The total number of patents awarded in 1983-84 from either the U.S. or Europe was 52. This was higher than that of Indonesia (37) and Thailand (33), but less than that of Malaysia (66), Singapore (213), New Zealand (566), the Republic of Korea (3,036), Australia (4,701), and Japan (204,597).

ICT Infrastructure

The Philippines still needs to improve its infrastructure for ICT. With perhaps the exception of cellular phone subscribers at more than 6.3 million for a penetration rate of almost 15 percent and a very high per capita text messages, almost all other indicators pale in comparison with other countries. The number of PCs installed in the Philippines as of 2002 reached 1.37 million or barely 2 percent of the total population. (International Data Corporation as cited by TESDA, 2003). Sixty nine percent of these PCs were located in private businesses and only 13 percent were in households. Government offices and educational institutions accounted for only 10 and 6 percent, respectively.

With a low PC usage in the country, Internet penetration is also low at 2.0 percent of population which is surpassed by neighboring countries like Singapore at 24.9 percent, Malaysia at 15.8 percent, Thailand at 3.8 percent, as well as those of Taiwan and Hong Kong. The country, however, fared better than Indonesia at 0.9 percent, Vietnam at 0.3 percent and Laos and Cambodia at 0.1 percent penetration rates. Internet access are mostly in the urban areas and the records of the National Telecommunications Commission (NTC) showed that only around 50 percent of all municipalities in the country have Internet access. The reasons cited for low Internet penetration are high cost of PCs, high Internet access rates, lack of telephone lines (9 lines per 100 persons), and unstable or lack of electricity.

Despite the lack of ICT facilities and infrastructure, Filipino ICT workers are among the best in the world. According to the *Far Eastern Economic Review* in 1999, the Philippines ranked second to India in terms of quality, cost and availability of skilled IT workers in Asia. The country is reputed to have the “largest pool of English-speaking IT professionals in the world.” (Cabacungan, 2001) Unofficially also, the Philippines has the best and the highest number of skilled text senders in the world. In terms of ICT professionals, however, the country in 2002 produced 1,588 certified Microsoft professionals and was surpassed by Singapore at 5,942, Malaysia at 4,532, Thailand at 1,711, and Indonesia at 1,697 (Oliva, 2003).

Institutions Spearheading the Transition to Knowledge-Based Economy

The government institutions spearheading the country’s transition to a knowledge-based economy include:

1. Department of Education (DepEd);
2. Commission on Higher Education (CHED);
3. State universities and colleges;
4. TESDA;
5. Development Academy of the Philippines (DAP);
6. Military and police educational institutions (such as the PMA, NDC, PNPA, PMMI, etc.);
7. Other specialized training institutes of line government agencies like the Department of Science and Technology (DOST), Department of Trade and Industry (DTI), Department of Agriculture (DA), Department of Agrarian Reform (DAR), Department of Labor and Employment (DOLE), Bangko Sentral ng Pilipinas (BSP), etc.;
8. Technology and Livelihood Resource Centre (TLRC); and
9. National Computer Centre (NCC).

Government Responses to HRD Problems

The Philippine Constitution recognizes the importance of HRD. Among the recent laws passed to strengthen the development of human resources in the country are: RA 7796, the TESDA Act; RA 7786, the Dual Training System Act of 1994; RA 7722, the Law Creating the Commission on Higher Education in 1994; RA 8439, the Magna Carta for Government S&T Workers; RA 8972, the Higher Education Modernization Act of 1997; and RA 8792, the e-Commerce Law. Aside from the

present HRD programs and activities of DepEd and TESDA, it is worth mentioning the following accomplishments in the country:

1. Free education was extended to high school under the administration of President Corazon Aquino. Later, the Commission on Higher Education CHED was spun off from the Department of Education, Culture and Sports (now DepEd) to concentrate on higher education. Under President Fidel Ramos, higher education was deregulated and privatized. DepEd concentrated on basic education.
2. Education budget has been sustained as the highest priority. In 1998, the DepEd's budget of 86.9 billion pesos was 18.9 percent of the national budget. According to Mayuga (1999), this is a staggering 238 million pesos a day. This amount does not yet include foreign loans and grants (see Capones report on DepEd) and funds from legislators and LGUs.
3. The TESDA Act of 1994 (RA No. 7796) consolidated the technical education and skills development in the country by absorbing the functions of DOLE Bureau of Labor Employment's apprenticeship programs, DECS Bureau of Vocational Technical Education, and the National Manpower and Youth Council (NMYC). The Dual Training System Act of 1994 (RA No. 7686) sought to strengthen manpower education and training in the country and to ensure adequate supply of an educated and skilled manpower equipped with appropriate skills and desirable work habits and attitudes.

Responses of DepEd

Capones (1998) identified the major Official Development Assistance (ODA) projects undertaken by DepEd as follows:

1. First, 2nd and 3rd Elementary Education Program;
2. Science and Math Package Component;
3. Typhoon Resistant School Building Project;
4. Elementary Facilities Improvement Project
5. Vocational Training Project (Phases 1 and 2);
6. Technical Education and Skills Development Project;
7. Agricultural Technology Project (funded by Australian government);
8. Agriculture Education Project (funded by European Union);
9. Dual Training System as per RA No. 768;
10. Project for Enhancing Vocational Training of the Institutes;
11. National Vocational Training and Development Center for Women;
12. Establishment of centers of excellence in the following discipline clusters for higher education, namely, engineering and architecture, maritime education, teacher education, agriculture, information technology, business, health and related disciplines, humanities, science and communications, and criminology; and
13. Under EO No. 330 of 1996, the Expanded Tertiary Education Accreditation and Equivalency Program was integrated into the educational system. (The recognition of learning and competencies beyond the classroom).

Responses of TESDA

The technical and vocational education⁶ in the Philippines was consolidated under one government entity, the Technical Education and Skills Development Authority by virtue of RA No. 7796. TESDA now has strong employer and labor sector representation in its multi-sectoral board, a corps of training experts, revamped regional boards, and a provision of tax incentives to companies engaged in dual training as per the Dual System Training Act of 1994 (RA No. 7686). The 5-year accomplishments of TESDA are as follows (Amante, Ofreneo and Ortiz, 1999):

1. With an approved structure in 1997 and in spite of budgetary constraints, TESDA has transformed its workforce through in-house capability building and was able to stabilize its work organization through career development, performance appraisal and other results-oriented standards. TESDA has 47 provincial offices (out of 63 provinces) and 6 NCR district offices. It has established a training network of 14 regional Skills Training Centers (STCs), 45 provincial STCs and 14 Satellite Training Centers.
2. It has initiated the campaign to enhance the image and values of vocational-tech education.
3. TESDA has started to establish community baseline information on training needs with the assistance of employers, community development experts and NGOs.
4. TESDA has revised and updated maritime curriculum (1998) in accordance with international standards and has provided advance training for maritime instructors.
5. TESDA has established a women's training center with the assistance of the Japan International Cooperation Agency (JICA).
6. It has initiated private sector-led partnership in skills training as exemplified by the Quezon City Polytechnic project.
7. TESDA has initiated the National Skills Standards, Testing and Certification Program (NSSTCP), which undertakes skills testing (trade tests) and certifications.

TESDA's Program Thrusts for 2000-04 are:

1. Upgrade the quality and raise the productivity of Philippine manpower to be globally competitive;
2. Rationalize the roles and function of TESDA in the management of middle-level skills development;

⁶ Maayo (1998) defined *technical education* as the educational preparation for occupations between the skilled trades and the professions. It is designed for upper-secondary and post-secondary levels to prepare engineers and technologists for higher management positions. *Vocational education*, on the other hand, is designed to prepare personnel at lower qualifications for one or a group of occupations, trades or jobs, and is usually provided at the upper secondary level. It includes general education and practical training for the development of skills required by the chosen occupation, which vary considerably, but the emphasis is usually on practical training.

3. Maximize the roles and contribution of industry and other private partners in the planning, management and delivery of education and training;
4. Utilize the comparative advantage of middle-level skills in the promotion of social integration and rural development within the context of the Agriculture and Fishery Modernization Act;
5. Elevate the prestige of middle level skills as viable occupational career;
6. Adopt a comprehensive plan for devolving major responsibilities of training to local government units and other stakeholders; and
7. Emphasize the development of entrepreneurial culture in education, training and employment of middle level manpower.

Responses of DOST

In response to the problems of R&D and S&T, the DOST, which was elevated to a cabinet level agency in 1987, has established six priority flagship programs (1994-2004) as follows:

1. Establishment of a packaging R&D center;
2. Expansion of regional metrology centers in order to upgrade the capabilities of public and private calibration laboratories in the regions;
3. Comprehensive program to enhance technology enterprises;
4. Integrated program on cleaner production technologies;
5. S&T intervention program for poor, vulnerable and disabled; and
6. Comprehensive S&T program for Mindanao.

DOST likewise introduced three proposed laws that aim at improving the country's R&D and S&T capabilities. The first seeks to increase the government's budget allocation for S&T and R&D. The second is to expand the country's metrology system and the third seeks to institute financial management reforms in promoting efficiency and productivity in S&T activities.

Private Sector and Civil Society's Responses to HRD

The private institutions that spearhead the development of knowledge workers in the Philippines include:

1. Private educational institutions under the DepEd;
2. Private universities and colleges under the CHED;
3. Technical educational institutions under the TESDA;
4. Associations of educational institutions, for example, Association of Christian School and Colleges (ACSC), Catholic Educators Association of the Philippines (CEAP), Philippine Association of Colleges and Universities (PACU), Philippine Association of Private Schools, Colleges and Universities (PAPSCU), Philippine Association of State Universities and Colleges (PASUC), and the Association of Private Technical Institutions (PAPTI);
5. Private training institutions of companies like Meralco Foundation, etc.;
6. Training institutes of NGOs, cooperatives, trade union federations, religious congregations, etc.;

7. Information Technology and E-commerce Council (ITECC);
8. Philippine Internet Commerce Society (PICS); and
9. Information Technology Association of the Philippines.

Philippine employers, whether private, government or non-government entities are encountering difficulties in recruiting and retaining skilled workers especially managerial, professional and technical labor. There are however abundant stocks of capable production workers. Despite the high literacy of Filipino workers, there is a shortage of skilled labor in the country. This is caused by the faulty educational system and the policy of facilitating labor export. The 2001 study of APEC among MNCs (TESDA, 2003) revealed that manufacturing firms in the country spent more on training compared to those in Malaysia but lower compared to Indonesia, Singapore, Taiwan and Thailand. For firms in the services sector, training expenses in the Philippines were lesser compared to Singapore, Taiwan and Thailand, but more expensive compared to Malaysia and Indonesia. The MNCs indicated that the skills of their workers that need to be improved are in management and supervision, interpersonal and communication skills, planning and problem solving, use of technology, self-management, multi-skilling, and teamwork.

In view of the skills shortage and with the deregulation of the tertiary educational system including the vocational and technical education under the supervision of the CHED and TESDA, there is now more direct link up between the industry and the academe. In-house training programs of companies tied-up with TESDA are given tax exemption privileges. Big business conglomerates have been partnering or buying into private colleges and universities like the acquisition of the University of the East, formerly the largest private university of the Lucio Tan group, the Mapua Institute of Technology, one of the premier private engineering institutions of the Yuchengco group, the Ateneo Business School in Makati city in collaboration with the Lopez group, and the University of the Philippines' technopark in partnership with the Ayala group.

HRD in Private, State and Non-Government Enterprises

The professional practices of HRD in private, state and even non-government enterprises are the most effective form of capability building for knowledge workers. Today, most HRD departments of big and medium enterprises have gone beyond the small office level operations of handling timekeeping, payroll and employee discipline, to cover the planning of HRD to meet the present and future manpower needs of an organization in terms of knowledge, attitudes, values, and skills. In other words, the main focuses are on the managerial and technical skills requirements of the firm. Its main tool is the management development program (MDP) for the high-level knowledge workers and skills and capability training and development for the lower end knowledge workers. There are several organizations of HRD practitioners and professionals in the Philippines. Among the biggest are:

1. Personnel Management Association of the Philippines (PMAP);
2. Employers Confederation of the Philippines (ECOP);
3. Management Association of the Philippines;
4. Philippine Industrial Relations Society (PIRS);

5. Philippine Society for Quality (PSQ);
6. Philippine Society for Training and Development (PSTD);
7. Philippine Association of Labor-Management Councils (PALMCO);
8. Philippine Association of Labor-Management Cooperation (Philamcop); and
9. National Association for Voluntary Arbitration (NAVA).

These professional organizations help the practitioners to improve their HRD skills and capabilities in developing knowledge workers in their respective offices. In addition to these professional organizations are tertiary level business and computer schools and several private consultancy companies specializing in HRD, management development and computer education and training. The training practices for knowledge workers in the Philippines are:

1. OJT and dual-tech, which include learnership, apprenticeship, training on probation, etc.;
2. Work laboratory or vestibule training;
3. Job Rotation;
4. In-house training programs using local or outside trainers and resource persons;
5. Participation in outside training programs, local or abroad; and
6. MDP using any of the following techniques: task force organization set-up, understudies for key positions, performance management system, problem solving conferences with staff specialists, management conferences within organization, management conferences involving various organizations, university-based management development programs and company-sponsored scholarship programs, and participation in professional or trade organizations.

BEST PRACTICES IN TRAINING AND DEVELOPMENT OF KNOWLEDGE WORKERS

“Technology, especially the Internet will enable major businesses to enter the global market,” declares Reynaldo M. Gener (1999), vice-president for corporate human resources of San Miguel Corporation. In fact, Gener added, the “company Internet system will become a major tool for communications, specifically on training and benefits administration. Human resource management will play a leading role in developing this important tool.” To be globally competitive, companies are adapting technologies of global standards. Under the overall philosophy of total quality management (TQM), among these standards are the ISO/CTC (1993) of Europe, and the National Quality Award, which patterned after the Malcolm Baldrige National Quality Award (MBNQA) of the U.S.

Case Studies of ECOP and Ayala Foundation

The ECOP and the Ayala Foundation, Inc. released recently a publication of best practices of local companies on how they were able to keep up with globalization, IT

development and increased competition. The companies featured in the publication were:

1. IBM Philippines, a leading IT services supplier in the market;
2. St. Luke's Medical Center (SLMC), an NGO (non-profit, non-stock corporation) operating a state-of-the-art hospital comparable to American medical technology;
3. Philippine Daily Inquirer, the country's leading news daily whose production and editorial departments are fully computerized;
4. Nestle Philippines, Inc., a multi-plant company and recipient of the PMAP employer of the year award;
5. Asian Transmission Corp. (ATC), the lone survivor of the Progressive Car Manufacturing Program of the Marcos government in the 1970s; and
6. Mabuhay Vinyl Corporation (MVC), which is among the first group of Philippine companies certified for ISO 9002, ISO 14000 and SA8000.

IBM Philippines, Inc.

In order to meet IBM's demand for professionals and graduates with a business orientation and strong IT skills, IBM Philippines, Inc. established a joint venture with the Asian Pacific College (Ortiz and Barredo, 2002). Tying up with a private or state educational institution is one practice being encouraged by the government in exchange for tax deduction privileges.

SLMC

The SLMC conducts in-house training programs instead of sourcing them from outside entities. SLMC allocates 3-4 million pesos annually for the training programs of the hospital's associates and employees (Ortiz and Barredo, 2002). The SLMC Training and Development Committee administers these programs, which include certificate and diploma courses for the following:

1. Housekeepers and carpenters in coordination with TESDA; and
2. Foodservers, busboys, nursing aids, etc. in coordination with the Technology and Livelihood Resource Center (TLRC) and Commission on Higher Education (CHED).

Added to the above, the SLMC also extends educational loans to associates and employees as provided for the collective bargaining agreement with the employees' union.

Philippine Daily Inquirer

The case of the Philippine Daily Inquirer is a story of a small alternative daily newspaper that has now become the country's leading newspaper. "In 1985, the daily had only 40 employees, which is only a fraction of its current 387 employees. Along with the growing size of its workforce, improvements were made in the daily's newsroom not only in accommodating more people, but also in using the newest

technology. Today, the editorial and production operations of the daily are almost completely computerized." (Marasigan, 2002)

The daily's Employee Services and Development Center handles the HRD program. It provides, among other services, a continuous learning program for the employees' professional and personal development. Its training and seminars cover topics such as personality development, family and work relations, business and management, information technology, etc.

Nestle Philippines, Inc.

Nestle Philippines, Inc. believes that training and people's development are critical to enhancing the overall competitiveness of the firm. Nestle offers various seminars that meet a range of functional and personal development objectives which cover topics such as management and leadership, work values, lifestyle planning, family management, and skills training. Nestle also offers scholarship program for the academically outstanding children of employees. One successful HRD intervention installed by Nestle is the HR intranet. This facility engendered a cultural change within the organization by providing transparent and easy access to employees on information within the organization. These include salary determination, job specifications, company benefits, career and job opportunities, etc. "Technology has played a key role in facilitating faster, more transparent communications." (Occiano, S., 2002)

ATC

The ATC is a manufacturer of transmission, engine and axle assemblies for Mitsubishi carmakers in the Philippines, Japan, Thailand, Taiwan, Malaysia, and Indonesia. To train its knowledge workers, ATC employs regular local and offshore training programs. ATC's motto is "quality products are produced only by quality people," hence the ATC "prioritizes employee training and development." All ATC employees from managers to rank-and-file "undergo regular training and seminars handled by the ATC's trainers group or external resource persons. Advanced technical skills training programs in Japan and Singapore are made available to deserving employees. In 2000, 14 employees were sent for training abroad, which lasted for 3 months. Added to these are supplementary training like Japanese language classes, livelihood and government approved in-plant technical education programs. (Barredo & Ortiz, 2002)

MVC

Among the notable HRD interventions of MVC, which a chemicals company based in southern Philippines, are:

1. Recruitment of employees from graduates of best universities from Luzon, Visayas and Mindanao;
2. Appraisal test for promotion and relocation; and
3. MBA for managers and supervisors.

In Mindanao, for example, MVC recruits employees from graduates of Mindanao State University and the Jesuit-run Xavier University. These young

employees are further trained through generalized and specialized training programs both locally and abroad. In fact, MVC is known in Mindanao as a training ground for future chemists. Promotions and transfers in MVC are determined by bidding (volunteerism), regular performance appraisal tests every 6 months, written examinations, and interviews. This system of promotion in MVC appears to be very effective since there has been no record of negative response. For vice president, managers and supervisors in Iligan, MVC has 30 enrollees in its in-plant MBA program run by the Cagayan de Oro-based Xavier University. The company provides the professional fees, transportation expenses and facilities for the professors. Classes are held after office hours at the company's training room. (Ortiz, 2002)

Case Studies by the International Labour Organization

Another study on best practices of Filipino companies to cope with globalization through investments in HRD and corporate social responsibility (CSR) was undertaken by ILO in 1999. Three companies, namely, Philippine Appliances Corporation (Philacor), United Laboratories (Unilab) and Central Azucarera Don Pedro (CADP) were featured in the study prepared by Lloyd and Salter (1999) of the southeast Asia and the Pacific multi-disciplinary advisory team of the International Labour Organization (ILO).

Philacor

Philacor of Sucat, Paranaque City, is a highly unionized firm with union membership rates of 75 percent for the rank-and-file, 100 percent for supervisors and 85 percent for the other staff. The company does not employ significant number of contractual workers. It has suffered a costly strike in 1994, which resulted in a 30 million pesos lost in production, a lost of market share from 65 percent to 29 percent and two-months lost in wages for the workers. Today, after learning its lessons well, Philacor employs participative management through labor management consultation (LMC) in administering some of the best wages and benefits in Philippine manufacturing enterprises. Included in these benefits are educational loans of 8,000 pesos that can become a grant if the student grantee is able to maintain a certain grade standard.

United Laboratories

Unilab of Mandaluyong City in Metropolitan Manila started in 1945 as a single drug store of Jose Y. Campos. It is now the largest pharmaceutical company in southeast Asia with operations in the Philippines, Hong Kong, Jakarta, Bangkok, Singapore, Kuala Lumpur, and Ho Chi Ming City. Ranked as the 28th largest corporation in the Philippines in terms of gross revenues, Unilab is expanding to Pakistan, the Republic of Korea and China. Unilab's employees are "exceptionally" well educated by Philippine standards as they are all at least college graduates including contractual workers. Unilab runs a comprehensive 3-month training course for their professional service representatives, which incorporates a thorough physical and psychological testing and skills training.

Educational grants are also extended to the dependents of the employees. These grants are tilted in favor of the less fortunate members of the family. Employees

earning less are entitled to higher annual grant. If the student beneficiary is able to maintain a certain average, the grant is supplemented to cover actual tuition fees and textbooks per semester.

CADP

The CADP suffered its first loss in 1989 as Aquino government lowered the tariffs of imported sugar in order to meet the condition set by IMF. In order to survive, CADP availed of government’s safety net incentives and embarked in early 1990s a comprehensive 1.5 billion pesos expansion and modernization program. A major component of this program is heavy investment in training, namely, to have 51 percent of its employees to receive various technical training in areas such as welding, carpentry and mechanical repairs. In 1996, CADP even toured all its 23 union officials to Mindanao for one week to visit other union members and to benchmark with each other on their company wages and working conditions.

The union-management relation in CADP is considered mutually gainful. Furthermore, similar to Philacor and Unilab, CADP extends a wide range of benefits to the family members of its employees. These include interest-free educational loan of up to 2 months salary, which is convertible to a scholarship grant upon obtaining certain level of grades.

In-house Training Practices in Three Leading Companies

The three companies in this study were chosen for their market leadership in their respective industries, namely, Jollibee Foods Corporation in the fastfood industry, Philippine Batteries, Incorporated in the automotive and industrial battery industry sector, and CS Garment Inc. in the garment manufacturing sector. Data gathered were from interviews and supplemented by secondary data gathered from reports, publications, documents and the Internet. Summarized below are the comparative in-house training practices of the three companies:

1. Training Philosophy

Jollibee	Jollibee Foods Corporation is a training dependent organization.
Philippine Batteries	The company aims to be the preferred company to attract and develop the best people, training them to be skilled and highly motivated individuals.
CS Garment	Investment in training to develop skills and work values is the key to a competitive and high performing workforce.

2. Training Structure

Jollibee	Training is administered by a 25-personnel training department with nationwide operations and assisted by in-house direct-line trainers and outside speakers.
Philippine Batteries	The training department is a component of Ramcar Academy, which services all members of the Ramcar

	Group of Companies, including the Philippine Batteries.
CS Garment	The training section is composed of three people to support all the section heads and other technical trainers for in-house training.

3. Training Practices for Rank-and-File Employees

Jollibee	<p>Formal and ladderized training that caters to both employees of the company and the franchise operators.</p> <p>Recruits for store operations are college graduates who have passed an internship program in their senior years in a university accredited with TESDA and CHED, the regular OJT and probation training.</p> <p>Training laboratories like a training kitchen and training stores are utilized to develop skills and values such as honesty and integrity, attentive and “working as a family.”</p> <p>Three-day computer skills seminars for all employees.</p> <p>Training is administered by a 25-personnel training department with nationwide operations and assisted by in-house direct-line trainers and outside speakers.</p>
Philippine Batteries	<p>Curriculum is also ladderized and administered by in-house and outside trainers. Training programs are yet to be tied-up with the academe or government agency.</p> <p>Techniques in training utilized include classroom-type seminars, OJT, task forces, quality circles, team for coaching, and mentoring.</p>
CS Garment	<p>Utilizes the 18-month or 12-month TESDA-accredited DTS for out-of-school recruits.</p> <p>Utilizes a 320-hour training program to upgrade knowledge and skills of daily wage employees.</p> <p>OJT, apprenticeship program and seminars for all employees. The training section is composed of three people to support all the section heads and other technical trainers for in-house training.</p>

4. Training Practices for Management and Supervisory Personnel

Jollibee	5-week In-house MDP for managers and 25-day Entrepreneurial Management Program (EMP) for managing directors of franchise stores conducted by the Asian Institute for Management (AIM).
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	Attendance to specialized in-house training, public seminars with subsidized membership in professional and socio-civic organizations.
Philippine Batteries	Specialized technical and supervisory/managerial courses in MDP curriculum, attendance to outside seminars and sending of select employees to formal graduate studies.
CS Garment	Attendance to outside training seminars both local and abroad.

5. Training Budgets and Standards

Jollibee	30 to 35 million pesos (US\$566,000 to US\$660,000) per annum. Each rank-and-file employee is provided with 6 to 7 training days per year. Each managerial employee is allocated 10 training days per year.
Philippine Batteries	442,345 pesos (US\$8,346) per year mostly in-house programs. Each employee is allocated 4 training days per year.
CS Garment	Three million pesos (US\$56,600) per year. Training days per employee is not indicated.

6. TNA

Jollibee	Performance management system, job competency assessment, human resource information system (HRIS), and succession planning (for executives only).
Philippine Batteries	Annual TNA is conducted and focus group discussions (FGDs) among department heads and managers.
CS Garment	Performance appraisal system, career pathing, interviews and testing, HRIS, feedback system and the use of ISO standards for all employees. Training needs for managers are determined individually by top management since there are only 19 managerial employees.

7. Training Evaluation

Jollibee	Use of qualitative FGDs.
Philippine Batteries	Use of evaluation form after each training program (or feedback evaluation only).

CS Garment	Use of trade tests, written tests, individual efficiency evaluation, annual efficiency evaluation, actual performance tests, and observation of trainees work attitudes and values.
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Appendix I: Case Study (1) Jollibee Foods Corporation¹

“Only in the Philippines,” as the saying goes. Nowhere else is McDonald’s number two. Jollibee Foods Corporation beats not only the world’s number one but also local pioneers in the hamburger fast food restaurants like Tropical Hut Hamburger. In this era of globalization where all local companies are in a constant search for the magic formula to survive, grow and lead in the industry where they belong, Jollibee has shown one of the best prototype technologies to replicate. It is simple. Get the best technology in the world and adapt (innovate) it with local culture. Jollibee calls this formula “langhap sarap” (Filipino aroma and taste). *Far Eastern Economic Review* cited this as Jollibee’s “branding and marketing prowess.”

While similar in terms of technology and service with the best in the world, Jollibee is a “very special fastfood dining experience.” From burgers to rice-based meals, from side orders to desserts, Jollibee makes sure its customers are satisfied with what they paid for.² Now an international brand, it has revolutionized the local fastfood quick service restaurant industry and has become an icon of the Filipinos worldwide. This is the formula that has made Jollibee a wonderful phenomenon. Having to maintain more than 50 percent share of the entire fastfood business, it has become proactive in expanding its technologies in the niche markets and competing with itself. By acquiring and transforming competitors like Greenwich, Delifrance and Chowking, Jollibee has become number one not only in the hamburger segment but also in the pasta-pizza and oriental food quick service restaurant segments. The following local and international awards and citations are recognitions of Jollibee’s success:

- Outstanding Fast Food Chain, 2000 & 1999 by the Consumer’s Union of the Philippines;
- Employer of the Year, 1998;
- Advertising awards for its various advertisements such as “Buhay Linggo” (Life on Sundays) TV campaign, “Patawad Po” (Please forgive us) Print Ad, “Banana” KMK TVC Ad of the Month;
- Ranked among the top companies in Asia and the top corporation in the Philippines for the last 5 years (1998-2002) by the *Far Eastern Economic Review*;
- Citations for various public service/affairs programs such as: “Sabi ng Jollibee... Kaya Mo, Kid!” (Says Jollibee... you can do it kid!); citation by the Inter-Agency Committee on Accessibility of the National Council for the

¹ The interview with Mr. Robert Poblete, vice president of Jollibee Foods Corporation was conducted on November 8, 2002 by Prof. Jorge V. Sibal and researcher Gilbert Vasquez of UP SOLAIR at Mr. Poblete’s office at the 5th Floor of Jollibee Plaza, Emerald Avenue, Ortigas Center, Pasig City, Metro Manila, Philippines.

² <http://www.jollibee.com.ph>

- Welfare of Disabled Persons (NCWDP) for providing requirements for accessibility of persons with disability (PWDs);
- Cited as Best Employer in the Philippines and ranked # 16 – Best Employer in Asia, 2001; and
 - Cited by the Employer’s Confederation of the Philippines (ECOP) as one of six Child – Friendly Firms, 2001.

Company Profile

Jollibee started in 1975 as a two-branch ice cream parlor. It then expanded its menu to include hot sandwiches and other meals. In 1978, Jollibee was incorporated with seven outlets, which until now continue to revolutionize and dominate the fastfood industry in the country. The country’s leading food service chain is scattered all over the Philippines with over 400 stores. In 1994, the company acquired Greenwich Pizza and the franchise of Delifrance in the following year. In the year 2000, it again acquired another food store, Chowking. These acquisitions, together with Jollibee established the Jollibee Food Group’s dominance in the quick service restaurant industry in three market segments – hamburger, pizza-pasta, and oriental food. Hamburgers and other flagship products like Chicken Joy and spaghetti account for 80 percent of the total sales of Jollibee (Arceo-Dumlao, 2003). Its services include Jollibee delivery services for Metro Manila area, and Jolly Kiddie Parties such as Zoo Party with Mascot, Circus Party Package and Treasure Adventure with Mascot.

Jollibee reached the 500 million sales mark in 1984, making it one of the Top 500 Philippine Corporations. It then joined the list of the Philippines’ Top 100 Corporations in 1987. In 1989, Jollibee became the first fastfood chain to break the PHP 1 billion sales mark. The Jollibee Food Group continues to grow owing to the sustained performance of their flagship brand – Jollibee-Philippines. Jollibee accelerated to 14 percent during the second quarter of 2002. As of the second quarter of 2002, Jollibee Foods Corporation had a total of 828 restaurants in the Philippines (422 Jollibee, 196 Chowking, 184 Greenwich, and 26 Delifrance). Beefing up this figure is the 28 restaurants operating overseas. Among these stores overseas are 8 in California, 4 each in Hong Kong and Brunei, 3 in Indonesia, 2 each in Guam and Saipan, and 1 in Vietnam.

Table 1. Financial Highlights of Jollibee Foods Corporation and its Subsidiaries
(In thousand pesos)

	2001	2000	1999	1998	1997
Systemwide Sales	24,108,320	20,295,047	18,062,113	14,525,256	11,218,378
Gross Revenues	18,789,983	15,690,744	14,127,926	11,638,612	8,854,859
Income from Operations	1,203,178	1,114,199	--	--	--
Net Income	--	909,668	646,039	--	--
Total Assets	10,088,425	8,897,766	8,396,304	6,770,656	5,586,286
Stockholder’s Equity	5,953,608	5,878,601	5,442,300	4,728,807	2,635,531

Strategic Linkages

Bannered by locally developed popular brands Jollibee, Delifrance, Greenwich, and Chowking, the Jollibee Foods Corporation is up against the multinationals in the quick service industry such as McDonald's and Burger King. But a management official of the company said that they are at par, if not superior, in terms of technology and system. At the domestic level, Jollibee has no problems on local technology. The designs of their stores, for example, are dependent on the local construction technology and constructors. Jollibee's commissaries are already ISO 9002 certified from Geneva although they do not depend on the export markets. The Pasig commissary services Luzon island and produces 300,000 hamburger patties a day while the Cebu commissary services the Visayas and Mindanao areas (central and southern Philippines) with a daily production of 200,000 patties. According to Belen O. Rillo, vice president for manufacturing, "we went through the ISO certification process because we wanted to make sure of our quality and the process. Now, we are much more confident that one patty in Manila will be the same in Cebu." (Arceo-Dumlaog, 2003)

The company has installed adequate waste water treatment facilities to ensure that its waste water are within the standards imposed by the Department of Environment and Natural Resources (DENR). Jollibee's Pasig commissary was among the first ten companies awarded of discharge permits by the DENR. The effluent discharges by the company's Pasig commissary are well within the limit specified by the Laguna Lake Development Authority (LLDA). In terms of supplies, Jollibee taps first and foremost local food suppliers like chicken and other inputs. The company is also involved in various socio-civic undertakings such as feeding programs and a housing project "Pabahay Pambuhay" (housing for life) for the poor. They work closely with government organizations such as the Department of Social Welfare and Community Development (DSWCD), DepEd and NGOs such as the Habitat for Humanity.

Some of industry and professional affiliations of the company are: Financial Executives of the Philippines (FINEX), Philippine Chamber of Commerce and Industry (PCCI), ECOP, PMAP, Management Association of the Philippines (MAP), Philippine Association of Meat Processors, Inc. (PAMPI), Production Management Association, and Philippine Franchise Association (PFA). Local stores are encouraged to join local industry associations and support local civic group projects and activities. Jollibee however maintains no involvement in political and electoral activities.

Driving Forces of Change

Despite being the market leader in quick service restaurant and fastfood industry, Jollibee has to work harder since its major competitors are big players in the U.S. and in the world. Almost all players in the industry have superior systems and technologies and each one is capable of overcoming the other. As a homegrown company, Jollibee's competitive advantages are its familiarity with the local markets and cultures, and in developing products and services that blend with the local tastes and desires. Jollibee's competitors, however, are replicating these techniques. It has reached the point that all players seem to offer similar products and services. Product differentiation can only be

effectively shown through the employees who render these products and services to the customers.

Jollibee has to reinvent itself through product development side-by-side with vigorous HRD programs of its knowledge workers in order to maintain and upgrade their competencies, skills, attitudes, and values. For product and service quality assurance, Jollibee follows strictly all local government standards as well as international standards like the ISO 9002.

Corporate Philosophy

The company operates in a familial environment that aims to delight its customers by providing affordable, superior tasting food, in a pleasant environment. Jollibee's logo is characterization of the company's corporate identity. This new look of Jollibee's logo has been freed from the restrictive elements of their previous logo. The new logo epitomizes high quality service and superior, value-for-money products that are distinctly Jollibee.

Values

- Always customer first;
- Excellence through teamwork;
- Spirit of family and fun;
- Frugality, honesty, and integrity; and
- Humility to listen and learn.

Mission

- We bring great taste and happiness to everyone.

Vision

- Become the most dominant and best-tasting quick service restaurant (QSR)...The most endearing brand...that has ever been
- We will be within reach of every Filipino...
- We will lead in product taste at all times...
- We will provide food, service and cleanliness (FSC) excellence in every encounter...Happiness in every moment

Corporate Strategy

The success of Jollibee is anchored on its basic strategy to establish and maintain its dominant market leadership in the food service industry through the following:

1. Expansion of market coverage by penetrating and developing other food service industry segments like the pizza-pasta, oriental quick service, and the French café and bakery segments;
2. Developing and maintaining teams of capable and well-trained knowledge workers embracing a family-oriented culture of integrity and humility;
3. Continuously developing superior menu line-up through product development and indulging in more creative marketing programs;

4. Continuously installing state-of-the-art commissary and store facilities and equipment for more efficient production and delivery of goods and services; and
5. Sustaining its socio-civic activities as a good corporate citizen by serving host communities of company stores.

Leadership Style

Guided by well-defined corporate values, vision, missions, and goals, Jollibee's style of leadership is empowering and participative. Management at all levels, from top corporate to manufacturing units and stores are given leeway in operating the business. Motivation of people is performance-based and tied-up with the production unit's productivity or the store's performance in terms of sales and profitability. Jollibee's leadership style deviates from the traditional management practices of many Filipino-Chinese management practices. This is exemplified in Jollibee's acquisition of Chowking in 2000.

Chowking's technologies replicated Ling Nam, a traditional Chinatown restaurant that was transformed into a pioneering oriental quick service fastfood restaurant. Ling Nam has almost all the ingredients and technologies to grow and expand rapidly except for its quite traditional Filipino-Chinese management practices. Its expansion, for example, is hampered by the availability of family members and extended kin in order to staff key positions of new stores. Hence, Chowking fitted well into Jollibee's corporate philosophy.

“The strategic acquisition of Chowking solidified the company's position as the dominant leader and allowed it to have leadership in a major fastfood market – the oriental quick service restaurant segment.”(www.jollibee.com.ph)

Another case in point is the Greenwich Pizza's franchised stores purchased by Jollibee in 1994. From a minor player in the pizza-pasta market segment, Jollibee nurtured Greenwich Pizza to become the top pizza seller in the country today.

Knowledge Workers

Jollibee views knowledge worker as one who is multi-skilled and knowledgeable in not just one part or one area of the work. The workers must be selected and trained to develop their capabilities in performing different types of work especially in the use of modern technologies such as computers and electronic-based control equipment in offices, commissaries, store counters, and kitchens. Jollibee's knowledge workers include executives, managers, engineers, food technologists, nutritionists and other professionals, store cashiers, and store cooks. The competencies identified by the company as the requirements for business success include financial competence, entrepreneurial ability, marketing techniques, operations efficiency, knowledge of standards, and leadership ability. To beef up their competencies in R&D and in manufacturing operations in the commissaries, the company prefers to recruit graduates from top universities like the University of the Philippines.

Training Philosophy

Jollibee Foods Corporation, says vice president Robert Poblete in an interview, is a “training dependent organization.” The company believes that people need to be trained in order to acquire and develop their skills and competencies to enable them to efficiently perform any type of work. The employee’s level of performance depends a lot on the effectiveness of the training programs. Management is “very committed to training,” adds Mr. Poblete. In fact, Jollibee has a fully staffed training department with 17 personnel at the head office and 8 staff in the regions. The training department is assisted by in-house direct-line trainers and outside resource speakers and trainers.

Training Practices

Jollibee’s training department implements both formal and informal training programs and activities. The formal training of the company has a ladderized training curriculum like in a university. It caters to all levels of employees in the company, from the rank-and-file to the supervisory and managerial employees. It also caters to the employees of the franchise operators of Jollibee. Only college graduates in hotel and restaurant management (HRM) and other related business courses are recruited for store operations. Most of them go through a 5-month hands-on internship program in their fourth year studies of HRM course at the Philippine Women’s University (PWU). Part of this internship is an in-house 3.5-month “Basic Operations Training Program” (BOTP), which is a competency-based training that utilizes on-the-job and operations-related training methodologies.

Aside from PWU, BOTP is also accredited with the DOLE’s TESDA. To qualify for the company’s 5-month internship program, senior HRM students must pass the required examinations and interviews. After their graduation from college and based on their performance at the internship, the trainees may be hired on probation should they desire to work for Jollibee. The objective of additional OJT during the probationary period is to enable the trainees to apply their acquired skills and competencies through actual work performance. Jollibee through the BOTP also trains employees of franchise stores. Incorporated as part of the franchise fee are charges (at cost) for training of employees, which cost around 150,000 pesos per trainee. The company does not train the employees and staff of Jollibee’s suppliers. Instead, Jollibee has an accreditation program that sees to it that the suppliers’ operations are at par with the company and ISO standards.

Training Methodology

One unique component of Jollibee training is the “Training Kitchen.” This training laboratory simulates the store and kitchen operations of Jollibee. The training kitchen is augmented by “Training Stores” that serve as training venues during actual training operations. Throughout the training activities, Jollibee’s values and attitudes are inculcated among the trainees. Among these particular values include honesty and integrity, attentive to customers, and “working as a family.” Values formation activities are further supplemented by informal training mechanisms.

Training the High Level Knowledge Workers

Jollibee has tied-up with AIM for the conduct of an in-house MDP for managers and potential managers. Conducted by AIM faculty, the MDP, which runs for 5 weeks, is a mandatory requirement for full-fledged managers. In addition to the MDP are other specialized training programs for professionals and members of the store management teams. Jollibee's managerial employees and staff are also sent to public seminars and conferences, and are subsidized if they join professional and social-civic community associations.

Informal Training Activities

Jollibee conducts the following informal training activities:

1. Yearlong sports programs by region.
2. Daily morning "huddle" or store management meetings before the opening of the store. The usual agenda include an opening prayer, updates and pep talk to the employees for the attainment of the tasks for the day.
3. For the manufacturing groups, QC-like formations such as the Commissary Team Participation Program (CTPP), are created for the purpose of conceptualizing and implementing productivity improvement projects that run for a specific period, say 12 months.
4. There are also continuing group activities like the Safety Committee, Fire Brigade, First Aid Committee, etc.
5. At the main office, the 5S Committee is already in place.

Training Budget and Expenditures

The company spends around 30 to 35 million pesos per year for its various training programs within and outside Jollibee. Each employee is provided with 6 to 7 training days per year. For those at the higher level, Jollibee allocates 10 days of training per employee in various areas like functional and technical training, management and leadership skills, etc.

Training Needs Assessment

The performance management system is the most extensive mechanism in determining the training needs of employees. It serves as the strongest basis for the determination of the next level of training. This is supplemented in Jollibee by the job competency assessment (JCA) whereby the supervisor is able to measure his/her subordinate's potentials through observation and recording these observations through a prescribed scoring mechanism. Jollibee also utilizes a locally-developed human resources information system (HRIS) for the TNA of employees. This mechanism at present is being improved. Another mechanism for TNA is the company's succession planning mechanism that is simple and utilizes the next-in-line system. This is however applied only for staff at the senior management levels. Finally, the review of the effectiveness of the company's training programs utilizes the qualitative FGD method.

Jollibee's Best Practices in HRD

Among the best practices in Jollibee's programs for the development of its knowledge workers include:

1. The use of training laboratories and training stores in conducting on-the-job, operations-based training programs for prospective and probationary employees;
2. The tie-up with both a university and TESDA in the internship training of senior HRM students and employees of franchise operators; and
3. The incorporation of a strong value formation program in training prospective, probationary and regular employees of the company.

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Appendix I-A: Jollibee's Training Programs

	Description	No. of Days	Target Audience*	Facilitator
1	Roles of leadership	2.5	SM, officers, supervisors	CLCI
2	Roles of leadership (follow-up session)	0.5	SM, officers, supervisors	CLCI
3	7 habits of highly effective people	3	Shift, SMO, AA, specialists, professionals	LBG
4	7 habits conference	0.5		FPC
5	AIM's MDP		AM, managers, MSM	
6	Always customer first	2	Regular crew, AA	
7	Basic computer skills	3	All levels	
8	Basic financial accounting	1	SM	
9	Basic of communication and interaction skills	1	AA, professionals	JCM2/CML
10	Basic supervision	2	Shift, SMO, supervisors, officers	PERFORMEX
11	Basics of our business	1	Shift managers	RZM
12	Building and equipment management	3	ASM 1	JSS
13	Building effective teams and teamwork	3	Specialists	NES
14	Practicing good business ethics	2	SM, AM, OM, officers, supervisors, departmental managers	
15	Cash control system orientation	1	ASM 2	CMR
16	Change management	2	SM, departmental managers	JIH
17	Crew leader development program – developmental	4	Crew leader	OTG
18	Crew manpower management	3	ASM 2	OTG
19	Effective correspondence	2	AA, professionals	Pau Villadolid
20	Effective discipline	1	Shift, SMO	OTG
21	Financial analysis – SM/departmental manager	2	SM, departmental managers	External
22	Financial analysis – ASM 1	2	ASM 1	External
23	Franchise relations	2	Area managers	External
24	Product quality assurance & delivery	2	ASM 1	CML
25	Quality service delivery	1	ASM 2	MTA
26	Total quality assurance	2	Store managers	CML/LFA
27	Impacting your work processes	2	Specialists	JCM1
28	Interaction management for Store	2	Shift, SMO, officers, supervisors	NES
29	Interaction management for Support	3	Specialists	CML
30	Inventory management	2	ASM 1	JCM1
31	Mastering sales discipline – SM	3	SM	L. VILLENA
32	Mastering sales discipline – SMO	3	Store marketing officers	L. VILLENA

(Cont'd next page)

(Cont'd from pre-page)

33	Negotiation skills	2	Support unit dependent on-the- job	Joey Estrera/Jerry Roselada
34	Performance coaching & counseling skills	3	SM, officers, supervisors	Myra Lapus/CSI
35	Performance management system for crew	1	Shift/SMO	RZM
36	Presentation skills	2	Selective	FPC/GSS
37	Problem solving tools and Techniques	2	SM, specialists	Neville Clark
38	Project management	2	Support unit dependent on-the-job	Manila Execon/KT
39	Sales forecasting	1	SM	
40	Service leader's role in creating a service culture	2	Officers, supervisors, departmental managers	
41	Spirit of enterprise	2	OM, AM, departmental managers	PAZ/Mike Joseph
42	Systematic managerial analysis	4	ASM 2, specialists	Cecille Panadero
43	Targeted selection	2	Dependent on job	C. Panadero/NE S/CAF/MBE
44	What matters most	1	AA, SMO, shift, professionals, specialists	CLCI
45	Jollibee – AIM's entrepreneurial management program	25	MD/franchisee	

*Note**: Target participants

SM – Store manager

Shift – Shift manager

SMO – Store marketing officer

AA – Administrative assistant

Professionals – Head office positions with a particular degree of technical expertise required

ASM 1 – First store assistant

ASM 2 – Second store assistant

Officers – Head office positions with the same level as a store manager

Specialist – Head office positions that are technical in nature

OM – Operations manager, in-charge of a district, usually 50+ stores

AM – Area manager, in-charge of an area with 5-6 stores, reports to the OM

MD – Managing director, reports or is sometimes the franchisee himself/not a Jollibee employee

Appendix II: Case Study (2) Philippine Batteries, Incorporated

Company Profile

Philippines Batteries, Incorporated is a world-class manufacturing company with new, modern and state-of-the-art plant facilities located in Barrio Bulac, Sta. Maria, Bulacan, which is an hour away from the Philippine commercial capital, Metropolitan Manila. The company manufactures and exports automotive and industrial batteries to the US, Australia, Russia, Canada, Japan, China, Malaysia, Hong Kong, and Thailand. It is a member company of the Ramcar Group of Companies. Philippines Batteries' Sta. Maria plant is the latest facility of group and is involved in the production of lead-acid storage batteries. Upon full completion, the Sta. Maria plant is expected to have the largest capacity in Philippine Batteries' core business, producing batteries for the export market. Currently the leader in the industry, Philippine Batteries holds 80 percent of the local market share for automotive and industrial batteries.

Philippine Batteries' parent company, the Ramcar Group of Companies, is engaged in diverse business undertakings which include battery manufacturing, lead processing, plastic injection, tire re-treading, real state development, and fastfood operations. Philippine Batteries is located in a 170-hectare land with four hectares of factory and office floor spaces. The physical construction of Philippine Batteries' plant started in 1997. During the third quarter of the following year, the eagle oxide system, the SMS paste mixer, and the TBS assembly line were commissioned. In September of 1998, the commercial assembly of Philippine Batteries started. In November and December of the same year, the continuous lead strip casting/rolling lines and the Comico plate expander and blanker were installed. In February of 1999, the charging line was installed, thus, completing the full battery making line. During this time, the second line of the curing oven, paste mixing and assembly was also put in place.

The company has a total workforce of 517 (managers, supervisors, non-supervisory staff, and production/services personnel). The details are shown in Appendix II-A. Most of Philippine Batteries' employees are in production and services, accounting to about 80 percent of the total workforce. Of this figure, 375 or 91 percent of production/services personnel reached only high school/vocational school levels. Of the total workforce of Philippine Batteries, 79 percent are regulars while the remaining 21 percent (or 108 personnel) are either temporary or probationary. The affiliates of Ramcar Group of Companies are:

1. Oriental and Motolite Marketing Corporation (in domestic marketing and distribution);
2. Philippine Batteries Incorporated (in the manufacture of maintenance-free batteries);
3. Oriental Yausa Battery Corporation (in the manufacture of motorcycle and industrial batteries);

4. Ramcar Batteries, Incorporated (in the manufacture and distribution of batteries in Los Angeles, U.S.);
5. Super Charge Pty., Ltd. (a distribution subsidiary in Australia);
6. Ramcar Technology, Incorporated (in the manufacture of moulds, die and tooling);
7. Ramcar Plastics Company, Incorporated (in the operation of plastic injection facility);
8. Philippine Recyclers, Incorporated (a lead recycling plant);
9. Ramcar Tire Corporation (in the manufacture of tire retread products and compounds);
10. Worldwide Technology Systems, Inc. (information technology and service provider);
11. Agus Development (in real estate development); and
12. Marchant (stainless fabricators),

Knowledge Workers

Philippine Batteries' personnel, who manage and supervise the company's production lines, are mostly technical people (knowledge workers). There are 50 managers and supervisors (10 percent of the workforce), mostly males and married. Protech's personnel account for 7 percent of the workforce (35), mostly males with only 12 still single with the rest married. Most of these high-level knowledge workers are graduates of various engineering courses. Although not all the machines of Philippine Batteries in the Sta. Maria's Bulacan Plant are electronically-driven, the company prefers personnel with technical background. The manufacturing plant of Philippine Batteries is not yet fully computerized, and is manned by technicians and engineers as operators and supervisors.

Strategic Linkages

Philippine Batteries is one of the 12 affiliated members of the Ramcar Group of Companies. Ramcar is a Filipino-owned organization with a diverse range of business interests. Philippine Batteries is included in Ramcar's battery group. It is a member of the ECOP, Buy Philippine Made Movement (BPMM), PSQ, and PMAP. In terms of technology, there are not so many changes in the battery industry. Philippine Batteries, Inc. leads in the manufacture and distribution of automotive and industrial batteries. It was awarded an ISO 9000 certification by the TUV Rheinland of Germany in October 1999. The company is affected by the increasing competition due to the relaxation of import tariffs. In terms of environmental concerns, Philippine Batteries sees to it that it complies with various environmental laws and regulations of the country.

At present, Philippine Batteries has complied with the ISO 14000 standards. Its plant is distanced from the community. Together with the nearby communities, they undertake various outreach programs such as medical missions and give donations to the neighboring barangays (villages). Philippine Batteries boasts of having one of the most superior technologies in the country's battery manufacturing industries. The Bureau of Product Standards certified the company with the "Q Mark" since 1999. Despite the rampant smuggling of imported batteries in the Visayas and Mindanao areas (southern Philippines), Philippine Batteries maintains a dominant share of the

market. This is because of Philippine Batteries' comparative advantages against products from other Asian countries. Philippine Batteries produces maintenance-free batteries designed for "tropical countries" using the expanded grid technology.

Corporate Philosophy

The company's corporate philosophy is in line with the Ramcar Group of Companies' vision, mission and values. Ramcar's vision revolves around the objective of being Asia's most admired battery enterprise, while maintaining delighted customers by continually providing them with the best quality products and services. The Ramcar groups' mission emphasizes their commitments to their stakeholders while consistently providing customers with the best and quality products and services. Their stakeholders include customers, distributors, business partners, suppliers, stockholders, and society in general. The corporate values of the Ramcar group are as follows:

- BAYAHIHAN (Teamwork);
- KAGALINGAN (Excellence);
- KAGITINGAN (Integrity);
- KASIYAHAN (Self-fulfillment);
- MALASAKIT (Ownership); and
- MAPAGLINGKOD (Customer orientation).

Specifically, Philippine Batteries' vision is committed to meet the challenges of the 21st century by becoming a globally competitive manufacturer of lead-acid batteries. Further, its mission stresses the company's commitment to deliver superior, quality, competitive, and cost-efficient products and services. In this manner, Philippine Batteries aims to attract and develop the best people. The company also aims to operate in a manner that upholds its corporate social and environmental responsibilities. Philippine Batteries stressed that the two most important competencies for business success are technical knowledge of the battery business and analytical skills. Quality and productivity are also essential for business success as well as teamwork.

Training Philosophy and Practices

Philippine Batteries' corporate mission and vision define its training philosophy. Philippine Batteries aims to be the preferred employer to attract and develop the best people, training them to be skilled and highly motivated individuals. The top management is very supportive of developing the personnel complement of the various companies affiliated with the Ramcar Group of Companies. This is the reason why the group launched the Ramcar Academy in the middle of 1999 as its centralized training vehicle. The group also selects personnel to attend formal graduate studies in various universities and colleges. The role of training in Philippine Batteries is twofold, namely, culture formation and skills development. The training department of the battery group administers the Ramcar Academy. A TNA is conducted each year before coming up with the training plan. FGDs among department heads and managers are also conducted for this matter.

Philippine Batteries utilizes and practices several approaches in delivering training, namely, classroom-type seminars, OJT, task forces, and QCs. Informal delivery of training includes mentoring, and coaching. Being a non-unionized proactive company, Philippine Batteries implements a Philippine Batteries Team Forum, which serves as a venue for open communications at all levels. Every section is also given an hour each month to raise issues and concerns with the human resources department. Philippine Batteries also trains people through MDP.

The Ramcar Academy

Established in mid-1999, the Ramcar Academy is the training and education arm of the Ramcar Group of Companies. Operating like a school within the company, the Academy provides training to all employees within the group. Teachers and trainers are mostly in-house experts and external consultants. Potential trainers are required to attend and complete the trainer's training program. The vice-president for human resources, Noly T. Cayabyab, heads the Academy. There are various training programs and curricula designed for executives, managers, supervisors, staff, and rank-and-file employees.

The Academy's primary objective is to promote professional and personal development of employees and the overall development of the organization. This will hopefully facilitate the company's desire to become Asia's most admired battery enterprise. The Academy's missions are to integrate the professional and personal development of employees to organizational growth, and to promote teamwork among employees in work units and in the whole organization. This can be achieved by providing the best quality in-house training and education programs. Various courses and training programs are available to all qualified regular and probationary employees of the Ramcar Group of Companies. Classes are scheduled either during or outside office hours. Seminar venues, held mostly in the company's training facilities, are dependent on the employee-trainees' areas of assignments for easy accessibility.

Training Programs

I. CORE Program

These are basic courses to provide the employees with the foundation and a macro-level understanding of the business. These are prerequisites before an employee can undergo any developmental training.

- A. Probationary employees
 - Company orientation (1 day)
 - OJT (5 months)
- B. Regular employees
 - Battery seminar (1 day)
 - Basic total quality commitment (3 days)
 - Occupational/office safety (1 day)

- ISO 9000/14000 overview (1 day). This seminar is designed to give participants an overview in the two systems of standardization, the ISO 9000 and ISO 14000.

II. DEVELOPMENTAL Program

The objectives of this second phase training program are to develop employees' knowledge, skills, and attitudes in order to improve their performance in their jobs, and to prepare them to assume additional responsibilities. These training programs are based on a training plan that is usually aligned with the employees' career development paths.

A. Behavioral Courses

The 3-day teambuilding course aims to develop the values and attitudes of employees and improve their personal strengths and capabilities. After finishing the course, participants are expected to become highly effective in both their professional and personal endeavors and be able to work harmoniously with others.

B. Technical Courses

These are training courses are developmental programs that focus on improving the participants' technical knowledge, skills, and level of competencies in specific functional areas. It usually involves hands-on applications and simulations.

- Intermediate MS Office (1 day for each application)
- Project management (2 days)
- Trainer's training (3 days)
- Effective business writing (2 days)
- Basic pneumatics (3 days)
- Advanced electro-pneumatic control (3 days; pre-requisite: basic pneumatics)
- Sensor technology (3 days)
- Basic programmable logic control (PLC) (3 days)
- Basic electricity (3 days)
- Basic electronics (3 days)
- Digital techniques and logic control (3 days)
- Basic hydraulic control (3 days)

C. Supervisory/Managerial Courses

These are training courses under the developmental programs and are specifically organized for supervisors and managers. Participants will be prepared to handle and assume additional responsibilities and to develop necessary skills needed to become an efficient and effective supervisor/manager.

- Systematic managerial analysis (SMA) (2 days)
- Advance quality circle tools and techniques in problem solving (2 days)

- Hoshin and daily management planning process (1 day)
- Performance management (1 day)
- Benchmarking (1 day)

Training Budget and Expenditures

Philippine Batteries spent a total of 442,345 pesos for training in 2002. As a whole, the Ramcar Group of Companies is spending a minimum of 5 million pesos a year for training. The group, through its human resources department and other concerned sections/departments, handled most of the training programs undertaken by Philippine Batteries in 2002. The other programs were handled by the Ramcar Academy. Personnel were also sent to outside institutions such as UP-SOLAIR, UP-ISSI, and Neville-Clarke that provide specialized training.

Evaluation of Training Programs/Strategies

At the end of each training session, Philippine Batteries distributes an evaluation form (see Appendix II-B) as one way of assessing the effectiveness of the program. Based on the results of the training evaluation form, internal trainers then evaluate the training program. Trainers outside of the company are asked to submit training proposals. Their proposals must be linked with Philippine Batteries' objectives. They will be asked for a sample presentation. Also included in the proposals are the cost and content of the training program. The training department will evaluate these proposals.

Philippine Batteries aims to provide each employee with at least 4 training days each year, it is hampered by financial constraints, however. Another problem being encountered by the Philippine Batteries is the difficulty in scheduling training programs. The availability of the people participating in the training program has always been a problem since it conflicts with production targets and schedules. Despite of these barriers, the management is very supportive of the development of the company's workforce. The establishment of Ramcar Academy in the middle of 1999 attests to the commitment of the company in the development of human resources.

Best Practices

The Ramcar Academy, being an internal training arm of the Ramcar Group of Companies, could be considered as one of the best practices in the group's training strategies. This method is also practiced in other companies. The Ramcar Academy taps internal experts in the company as well as outside consultants and trainers to share their knowledge and skills on specific topics. External experts contribute new ideas to prevent too much in-breeding. The use of internal trainers, on the other hand, not only save the company in training expenditures but also institutionalize coaching and mentoring. Furthermore, participants are more comfortable with internal trainers since they belong to the same organization.

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Philippine Batteries, Incorporated – *Brief History, Management System Manual*

Philippine Batteries, Incorporated – Human Resource Department, Training Expenditure 2002

Philippine Batteries, Incorporated – Human Resource Department, Personnel Complement, November 2002

Ramcar Group of Companies, Training Evaluation Form

Appendix II-A: Philippine Batteries, Incorporated – Personnel Complement
(as of November 2002)

- Total number of workforce (Managers/Supervisors, Protech, Non-Supervisory/Staff, and (Production/Services Personnel) – 517
- 496 – Male/21 – Female
- 327 – Single/190 – Married
- 142 – College graduate/375 – High School graduate/Vocational
- 409 – Regular Employees/108 – Temporary/Probationary Employees

Level	No. of Employees	Sex		Civil Status		Educ. Attainment		Employment Status	
		Male	Female	Single	Married	College	H.S./ Vocational	Regular	Temporary/ Probationary
Managers/ Supervisors	50	42	8	6	44	50	0	50	0
Protech	35	33	2	12	23	35	0	30	5
Non-Supervisory/ Staff	22	11	11	14	8	22	0	21	1
Production/ Services Personnel	410	410	0	295	115	35	375	308	102
Total	517	496	21	327	190	142	375	409	108

Appendix II-B: Training Evaluation Form

Title of Seminar/Training:

Date (s) of Training: _____

Venue: _____

	☹ Poor	Fair	Good	Very Good	☺ Excellent
Applicability to my present job <i>(Kaugnayan sa aking kasalukuyang trabaho)</i>	1	2	3	4	5
Venue	1	2	3	4	5
Seminar Time Management <i>(Oras na ginugugol sa lahat ng gawan sa pagsasanay)</i>	1	2	3	4	5

What I liked most/Ano ang pinakanagustuhan ko sa seminar . . .

What I liked least/Ano ang hindi ko masyadong nagustuhan sa seminar . . .

Most important learning/Pinakamahalagang natutunan ko sa seminar . . .

(Cont'd from pre-page)

Comments/Suggestions

Please rate your SPEAKER(s) as to how they've conducted your training based on the given criteria below. Indicate the rate that would best for your evaluation.
(Paki-rate and mga speakers na nag-conduct ng inyong pagsasanay batay sa mga criteria na ibinigay. Isulat ang numero na tumutugma sa inyong sagot).

Name of Speaker(s):							
Criteria			☹ Poor	Fair	Good	Very Good	☺ Excellent
Content Mastery (Kaalaman sa paksang tinalakay)							
Clarity of Presentation (Linaw ng pagtalakay ng paksa)							
Facilitation Skills (Paraan ng Pagtuturo)							
Handling of Questions (Pagsagot sa mga tanong)							

Name: _____ (optional)

Appendix III: Case Study (3) CS Garment, Incorporated¹

Despite the gloom that the garments industry is a sunset business in the Philippines, CS Garment, Inc. has for the past decade distinguished itself as one of the leading garment factories in Southeast Asia. The company manufactures quality shirts and blouses for the world market. A German/Filipino-owned multi-million dollar company and among the top 2,000 corporations in the Philippines, the company listed 7 assets as their main ingredients for growth and success. Skilled manpower is their number one asset coupled with harmonious employer-employee relationship. The other assets include the use of finest materials, ISO 9002 quality standards, state-of-the-art equipment, air-conditioned work areas, and safe surroundings. German national Claus Sudhoff, who has been in the shirt business for most of his life,² started the business in 1990 in partnership with a Filipina, Concisa B. Atutubo who is the company's general manager. Sudhoff, president and CEO, was guided by the following corporate philosophy:

“We strive to deliver quality, style, service, and value to our clients. We offer a balance of modern, classical, seasonal styles for grand-parents, students, and professionals, pilots, policemen – to city dwellers and villagers.”

Located at the Cavite Economic Zone in Rosario, Cavite, south of Metro Manila, the company has expanded its facilities and capabilities tenfold, producing more than a million shirts a year. CS Garment products include:

1. Uniforms (shirts) for aircrew and ground staff, police, security agencies, armed forces, etc.;
2. Corporate identity shirts;
3. Pilot shirts;
4. Casual shirts;
5. Events/party shirts;
6. Executive shirts; and
7. Business shirts.

CS Garment exports 95 percent of its products to Europe, 3 percent to North America and 2 percent to Asia.

¹ Prof. Jorge V. Sibal interviewed Ma. Madiline Gainza, operations manager and Portia Atutubo, production central operations manager and coordinator of DTS (training manager) on December 20, 2002 at their factory in Rosario Cavite Economic Zone (CEZ). The interviews and consultations have been continuing through Internet communications up to the month of January 2003.

² www.csgarment.com

Globalization and Growth

Unlike most local garment manufacturers in the Philippines which were operating on low-cost and low-skilled subcontracted labor force, CS Garments pursued the opposite strategy by investing heavily in the latest technological innovations (equipment, merchandise, and process) and HRD (developing skills and work-value of workers). The company developed and hired skilled workers on a permanent basis and retained them by providing the best work environment (fully air-conditioned production areas), adequate compensation and continuous training and development of their capabilities and potentials.

While most garment manufacturers either collapsed or forced to relocate to other cheap labor countries like China, Vietnam or Bangladesh, CS Garment prospered and tremendously grew. It was awarded in 1995 the ISO 9002 quality standards from no less than the German-based TUV-Rheinland. The company was able to meet customer demands and expectations through increased quality levels and comply with the European Union's strict requirements. Specifically, the company's products were produced at the highest quality standards, (from inspection of raw materials, cutting/pattern-making, sewing, to packing for shipment), delivered on-time and priced competitively. As a result, CS Garments garnered almost all of the coveted awards in the garment industry. Among these were:

1. "Most Outstanding Manufacturer of Garments in the Philippines" (1997, 1999, 2000, 2001, and 2002) awarded by the Consumer's Union of the Philippines (CUP);
2. "Child Friendly Firm Award" by the ILO in cooperation with the ECOP;
3. "Kapatid Special Award for Quality Worklife (2001)" by the ECOP
4. "UN Global Compact Advocacy" initiated by ECOP, ILO and UNDP

CS Garment is actively linked with following networks:

1. ISO 9002 Certification;
2. ECOP;
3. European Chamber of Commerce of the Philippines (ECCP);
4. Buy Philippine Made Movement;
5. Cavite Economic Zone Investors Association (CEZIA);
6. Philippine Economic Zone Authority (PEZA);
7. TESDA of the DOLE;
8. Family Welfare Program of the DOLE;
9. Garments and Textile Export Board (GTEB); and
10. Confederation of Garment Exporters of the Philippines (CONGEP).

Management and Manpower Complement

CS Garment employed 222 employees as of 18 December 2002. It is highly feminized with women employees numbering 210. More than 90 percent are rank-and-file workers (203) mostly skilled factory workers. Only 4 are assigned in the offices. Nineteen people (8.6 percent) occupy managerial posts and classified as:

1. Top management	-	2
2. Managers	-	4
3. Middle managers	-	5
4. Supervisors	-	8
Total management		19

The company's top management positions consist of a president and chief executive officer (CEO), an executive vice president (EVP), a general manager (GM)/ISO representative, and an operations manager. These top people supervise 4 departments – finance and administration, sales and marketing, production, and technical. There are 35 managerial and technical positions in the organization. Most of the 19 managerial employees, or the high-level knowledge workers, are performing multi-tasking and are assisted by local and foreign consultants and technical staff. Management competencies (knowledge, skills and attitudes) that have positively contributed to the success of the company have been identified as follows:

1. Knowledge and technological skills of German origin and adopted to the local conditions in the country;
2. Knowledge and skills in mathematics and economics;
3. Leadership skills (planning, directing, organizing, monitoring and controlling);
4. Operations management specifically skills in time management and program implementation;
5. Management flexibility;
6. Work attitudes such as smart working (effective and efficient), dedicated, committed and disciplined; and
7. Skills in interaction and language proficiency.

Production Knowledge Workers

All of the 203 rank-and-file workers are considered production knowledge workers or technologists³ since all phases of operations in CS Garment are either computer aided or computer dependent. The company defines a knowledge worker as those trained to perform various (or multi-skilled) operations in producing quality shirts and blouses. Production workers are in fact assigned bar codes for their identities and management can easily monitor via computer the individual worker's performance and productivity. The basic competencies of the company's production workers are:

1. Skilful in shirt operations (sewing, pressing, folding, etc.);
2. Good work attitudes;
3. Quality conscious; and

³ A knowledge worker is defined as anyone who makes a living out of creating, manipulating or disseminating knowledge. Peter Drucker in his book *Management Challenges for the 21st Century* identified two types of knowledge workers, namely, high level knowledge workers who are mostly mental workers like professionals (doctors, teachers, consultants, etc.), managers, entrepreneurs, administrators, etc., and knowledge technologists who work with their hands and brain in the IT industry.

4. Skilled in computerized or computer-assisted operations.

Training Philosophy

CS Garment is a firm believer that investment in training to develop skills and work values is the key to a competitive and high performing workforce. In addition to DTS employed by the company for their production workers in partnership with the TESDA, the company regularly conducts or participates in in-house and outside training seminars, workshops, conferences and fora in cooperation with various agencies in the garment industry. Both Madiline Gainza, operations manager and Portia Atutubo, training manager, were in unison that management “is very committed to training.” Gainza and Atutubo identified the following training strategies and objectives of CS Garment, namely, to:

1. Classify potentials of trainees into trainers, supervisors or entrepreneurs;
2. Develop trainees into multi-skilled garment technologists-operators through job rotation;
3. Develop the trainees’ knowledge, skills and attitudes in a safe training environment;
4. Impart garment technical skills through practical learning exercises using the finest state-of-the-art machinery and equipment;
5. Teach good work habits and skills in getting along with others;
6. Use the entrepreneurship module for trainees with potential for self-employment; and
7. Produce technologists who are globally competitive.

Training Section

The training section, which is under the personnel section and the operations manager, administers the delivery of training for both managerial employees and rank-and-file production technologist-operators. Portia Atutubo, formerly a faculty member in a state university in the Bicol region, heads this section. Two trainers, one full time and the other part-time staff the training section. All section heads of CS Garment and other qualified staff are utilized as in-house trainers especially on technical matters.

CS Garment Training Programs

There are two types of formal training programs at CS Garment. The first is the DTS for the rank-and-file level and the second is the training program for management. The training program for managers and supervisors are designed annually based on the TNA conducted by the operations manager and the training manager. The general manager and the president & CEO submit the proposed annual training program for review and approval. Shown below is the 2002 training program for managers and supervisors for CS Garment:

Seminar/Training (Duration)	Participants	Facilitator
1. Effective business communication skills (1 day)	Secretary/managers	JRF Business Institute
2. Supervisory development and leadership training program (2 days)	Supervisors/line leaders	Executive Development Academy
3. Quality and productivity (1 day)	QA/section heads	DAP
4. Effective leadership training for managers and supervisors (3 days)	Middle managers/supervisors	Executive Development Academy
5. Effective business writing (2 days)	Merchandisers/sales/managers	Gurthrie-Jensen
6. People handling skills (3 days)	Supervisors/personnel	Gurthrie-Jensen
7. Professional skills management (1 day)	Top management	JRF Business Institute
8. A behavioral approach to human resource management (2 days)	HR staff	UP SOLAIR
9. Assertiveness training for managers and supervisors (1 day)	Supervisors/middle managers	Executive Development Academy
10. Keep customer coming back seminar (1 day)	Frontiers/sales	Harry Pound
11. Industrial relations/ human resource seminar (1 day)	HR staff	ECOP

Training for Rank-and-File Workers

The second type of training at CS Garment is for all the rank-and-file production technologist-operators. This training program is an adaptation of the German-model DTS and implemented in cooperation with TESDA and selected educational and technical institutions. It consists of the following training programs:

1. DTS Program for skills development for 18 months or 12 months for out-of-school youths. This program is tied up with TESDA and the trainees are provided with allowances equivalent to 75 percent of the minimum wage.
2. Industrial Sewing Machine Operation (ISMO), a 320-hours training program designed to upgrade the knowledge and skills of daily wage employees in the use of industrial sewing machines.

3. Apprenticeship Program for 1,000 hours training as shop tailor. Though still considered as unskilled workers, the apprentices are paid salaries equivalent to 75 percent of the minimum wage during training.
4. OJT for students in garment technology and mechanical/electrical courses. Normally, OJT trainees are not given allowances but CS Garment voluntarily gives them allowances. OJT technical vocational courses with CS Garment range from a minimum of 320 hours to a maximum of 1,200 hours. For OJT trainees on clerical training, they are required to render 600 hours. Among the educational institutions, sending OJT students to the company are Cavite State College, TESDA Women's Center, Bulusan National Vocational Technical School, Bicol Institute of Science and Technology, Western Colleges, Mapua, Sisters of Mary School, etc.
5. Seminars and Training for all employees. In 2002 for example, several rank-and-file and supervisory-level employees attended a 2-day "Work Attitude and Values Enhancement Seminar" conducted by a consultant, Mr. Vitancol, and a 1-day "Family Welfare Seminar" conducted by the DOLE.
6. Trainers' Training for TESDA trainers from different regions of the country. This 6-month training program hosted by the company is jointly conducted with the TESDA-GTZ. Its objective is to upgrade the skills of TESDA trainers nationwide by exposing them to the modern machinery and equipment of CS Garment. This includes educating them on how to produce high standard quality shirts.

DTS

CS Garment has also distinguished itself for the innovative training courses in the country's garment industry under the DTS of TESDA. This German-originated DTS was introduced in the country under RA 7686 or the Dual Training System Act of 1994. The DTS is a vocational-technical education and training system whereby accredited schools and enterprises jointly undertake both practical training and theoretical instructions. CS Garment sources its workers mostly from the company sponsored DTS.

The DTS develops multi-skilled, proficient garment factory technologist-workers from out-of-school youths aged 18-22 years recruited every 9 months. Each batch is limited to 35 trainees only. They are educated and trained by the company's German and Filipino trainers for 18 months plus a training allowances equivalent to 75 percent of minimum wage. The trainees learn theories and practical skills needed in the production of high-quality garments. After completing the course, the trainees can apply at the company, go into entrepreneurship, or apply for work abroad. It is a privilege and opportunity to qualify to the CS Garment DTS program. After the trainees pass the rigid selection process, they are provided training materials for free in addition to allowances. They are even covered with SSS and Philhealth membership during the apprenticeship program.

The DTS 18-Month Curriculum

Trainees undergo 2 weeks of basic training and 3 months of sewing practice with time-and-method study. These phases of training familiarize the trainees with the company's products, various operations and quality standards. The trainees are then given examinations and those who pass can continue with the program on shirt production from the 4th to the 9th month. They are trained in almost all operations in shirt making and after the 9th month, the trainees take another examination.

The next 9 months are spent in company rotation. Trainees leave the training section and are rotated to all departments, namely, cutting, sewing, warehouse, folding, packing, etc. On the last 2 weeks of the 18th month, they are back at the training section for preparation of the examinations. Thereafter, the trainees are given the final examinations. Those who pass will graduate from the 18-month DTS program. They will be awarded two certificates, a TESDA-certified certificate of completion, and a CS Garment Inc. certificate of training completion. The detailed curriculum of the 18-month CS Garment-TESDA DTS program is shown in Appendix III-A.

The 12-Month DTS Course

The company also runs a shorter 12-month DTS skills training program also under TESDA accreditation. The details are shown below:

Schedule (in weeks)	Training Activities
1	Basic training
2 – 7	Pattern making and cutting
8 – 14	Operating single needle lockstitch machine and double needle machine
15 – 28	Sewing preparation including training on special machine
2 days	Preparation for examination
32 – 47	Rotation plan on production
48	- Review for the final examinations - Final examinations after the 12th month

Training for ISMO

This 320 hours training program is known as ISMO. It is designed to develop and upgrade the skills of employees/trainees in the operation of industrial sewing machine in order to enhance their employability or career. This program is under the direct supervision of the training manager, training coordinator of TESDA training center, and the trainers of CS Garment. The scope of training under this program includes the following:

1. Basic parts of an industrial sewing machine;
2. Theoretical lessons (1 hour per week);
3. Practical sewing lessons;
4. Sewing of figures 1 to 8 with standard speed and quality;
5. Practice in making garments (shirt, blouses, shorts, etc.);

6. Examinations;
7. Evaluation of performance; and
8. Graduation.

Informal Delivery of Training

Formal training in CS Garment is further strengthened by informal training activities. Incorporated in the DTS training programs is the “Orientation Program for Parents of the Trainees.” Parents’ concerns are harnessed in the values formation of the trainees. Parents are made to realize the opportunities given to their children for having qualified into the company’s DTS training program. In addition to the formal training activities, the trainees are also individually tutored or coached by the trainers. There are also informal social activities that enhance values formation among the trainees.

Planning and TNA

The training designs and curricula of the various training programs of CS Garment are supported by mechanisms for the TNA of trainees (potential employees), employees and the company. Among the approaches used in the assessment are:

1. Performance appraisal system and career pathing of employees;
2. Interviews and tests of trainees/employees to determine their potentials as operators, trainers, or entrepreneurs;
3. Use of the HRIS for the individual assessment of trainees/employees;
4. Use of feedback system; and
5. Use of ISO standards for the needs of the company.

The top management determines the training needs of managers, supervisors and staff. TNA is performed on individual basis since there are only 19 managerial employees at CS Garment.

Training Budgets and Training Evaluation

The training evaluation system undertaken by the company’s training section is very detailed, elaborate and specific. One gets the impression that this system of training evaluation is similar to those practiced in educational institutions. Among the training evaluation tools utilized by CS Garment are:

1. Trade tests;
2. Written tests;
3. Individual efficiency evaluation;
4. Annual efficiency evaluation;
5. Actual performance tests to check various skills; and
6. Observations on trainees work attitudes and values.

Training delivery and approaches are likewise improved continuously through the application of the following techniques:

1. Seminars and training for trainers' advancement; Consultation with foreign (mostly Germans) and local resource persons and experts;
2. Identifying learning/training difficulties and studying ways to solve or overcome them; and
3. Benchmarking.

The annual budget for training at CS Garment is estimated at 3 million pesos as shown below:

- ISO-required training/audit	PHP 300,000.00
- Individual training/seminars	400,000.00
- Attendance in conferences, conventions, as resource speakers/participants (local and international)	100,000.00
- DTS and OJT training programs	1,800,000.00
- Trainers' honoraria, training materials including SSS and Philhealth contributions for employee-trainees	400,000.00
Total	PHP 3,000,000.00

Success and Restraining Factors in Training

According to the key training executives of CS Garment, among the various success factors in the company's HRD are:

1. High quality products;
2. ISO certification;
3. Finest or first class materials;
4. Modern facilities and fully air-conditioned workplace;
5. Latest computer-assisted machinery and equipment;
6. Favorable company policies on training, total management commitment and involvement;
7. Dedicated, quality workforce and skilled production technologist-operators;
8. Relevant and continuous training programs;
9. Recipient of various awards and citations;
10. Personal and career development of employees; and
11. Socially-responsible corporate philosophy.

On the other hand, the restraining factors against training deliveries are:

1. Limited budget for training and staff development;
2. Economic recession;
3. Negative socio-cultural influence on the workers;

4. Piracy from other garment companies locally and abroad (notably Taiwan) specially for the DTS graduates; and
5. Inadequate support from government agencies like unclear training rules and regulations.

Best Practices in CS Garment

CS Garment is indeed a leading local technological innovator in the garment industry not only in the fields of training and HRD but also in total quality improvement for customer satisfaction. There are indeed a lot to be learned from CS Garment, especially among local garment manufacturers. The best technologies in garment manufacturing need not be imported from abroad for these are already available locally at CS Garment. Among these best practices exemplified by CS Garment are:

1. 5S;
2. Transparent and computerized manufacturing operations;
3. Inculcation of the highest level quality consciousness among workers;
4. Application of the just-in-time delivery system;
5. Use of multi-skilling and continuous technological innovations in operations;
6. Practicing corporate social responsibility;
7. Contribution to the development of entrepreneurship among the workers; and
8. Harmonious employer-employee relationship.

Appendix III-A: Skill Training Program for Garment Technology

Duration	Training Program	Test and Examination
1 week	Basic training: 1. Orientation of company culture 2. Health & safety rules 3. Theoretical 4. Practical	
6 weeks	Pattern making & cutting operations: 1. Theoretical 2. Practical	
7 weeks	Basic know-how on how to operate a lockstitch machine & double needle machine: 1. Theoretical lesson 2. Simple exercises Preparation of test: 1. Review 2. Practice	Examination after the 2nd month
14 weeks	Sewing preparation including training on special machinery: 1. Theoretical 2. Practical	
3 weeks	Pressing & fusing machine operation: 1. Theoretical 2. Practical	
2 days	Preparation for examination: 1. Review 2. Practice	Examination after the 7th month
16 weeks	Transfer of trainees to production: 1. Theoretical 2. Practical	
1 week	Review & preparation for final examination	Examination after the 12th month

4. SINGAPORE

Mr. Paul Chandran
PSB Corporation

TRANSITION FROM PRODUCTION-BASED TO KNOWLEDGE-BASED ECONOMY – AN OVERVIEW

Globalization and information technology are bringing about major restructuring at the national and corporate levels. Companies are restructuring, downsizing, relocating to make the best use of global resources and re-engineering job processes to harness new technologies. Large scale mergers and acquisitions, massive retrenchments by multinational corporations, shortening product life cycles and new knowledge-intensive industries are just some of the examples of the new economic landscape. While these transformations have created new opportunities, they bring with them large scale displacement of workers and unsettling changes. Nations are beginning to re-invent themselves to respond to the new competition. In developed economies, the production, use and distribution of knowledge, as embedded in people and technology, have become central in creating wealth and sustaining economic growth. Singapore must therefore prepare herself to make a living in the new economic and business environment.

The question for Singapore therefore is: What are the key factors that will drive its productivity and hence competitiveness in the future? To answer this we need to trace the various stages of its economic development that the country has gone through.

Labor-Driven Growth

Singapore's economic growth in the past was due largely to labor and capital accumulation, i.e., input-driven growth. As Singapore embarked on the path of industrialization in the 1960s, there was an abundant supply of workers relative to demand. Hence, labor-intensive industries were encouraged to address the high unemployment problem. Besides, the low wages enabled Singapore to compete in the international market in terms of low cost.

Capital-Driven Growth

In the late 1970s, Singapore started to face a tight labor market and rising wages. As a result, capital-intensive industries replaced labor-intensive ones that had become less competitive. The economy moved from labor-driven to capital-driven in the 1980s. The rapid accumulation of capital resulted in high productivity growth.

Innovation-Driven Growth

As global competition for capital became more intensive in the 1990s, Singapore found it increasingly costly to raise capital. Furthermore capital increases that are not accompanied by improvements in other areas led to diminishing returns. In other words, as against the mere increase in factors of production, Singapore must identify

more effective and efficient ways to use labor and capital. Singapore economy is now in moving into the knowledge/innovation-driven phase of development – a phase which will be driven primarily by qualitative improvements in the use of resources. Economists call such improvements total factor productivity (TFP).

TFP

The key determinants of TFP are quality of labor, capital structure, technical progress, resource allocation, and intensity of demand. Of the 5 determinants, changes in the quality of labor and technical progress have a direct bearing on sustainable growth. These factors have to be complemented by efficient allocation of resources through restructuring in order to achieve maximum TFP gains. Singapore has set the target of an average annual TFP growth of 2 percent to sustain overall productivity growth of 4 percent and thus to achieve a targeted long-term economic growth of 7 percent. Singapore's TFP performance has improved over the years. TFP growth increased from an annual average of 1.1 percent during the period 1981-88 to 2.3 percent during the period 1988-96. Consequently, the contribution of TFP improvements to productivity growth increased more than doubled, from 22 percent to 60 percent over the same period. For the entire period 1981-96, TFP grew by an average of 1.7 percent annually and contributed about 40 percent to the overall productivity growth of 4.1 percent.

Quality of Labor

Quality of Labor is a term commonly used to refer to variables that affect the productive capacity of workers. A component of labor quality is human capital investment mainly in education and skills upgrading. The contribution of this factor to TFP growth can be raised by improving the educational level of new entrants to the workforce as well as by providing continuous training to those who are already employed.

ISSUES AND CHALLENGES FACED BY SINGAPORE

The economic transformation of Singapore from a small economy to a global city with capabilities in high value-added manufacturing and service industries has been made possible by many factors. The first key factor is its pragmatic manpower development policies. Unlike the bigger, resource rich countries, Singapore had no choice but to focus on developing the capabilities of its workforce. Like other countries Singapore's further progress up the economic ladder hinges on the availability of a workforce that has an attitude of lifelong learning. This factor was identified at the meeting of the OECD education committee at ministerial level in 1996 as a critical factor for sustaining the economic growth of the OECD countries. For the same reason, the European Union declared 1996 as a European year for lifelong learning.

As competition intensifies, companies with a skilled workforce would find it difficult to become knowledge/innovation-driven and compete effectively with others in the increasingly competitive global marketplace. Workers must become adaptable, prepared to re-learn and upgrade their skills continuously in order to become

innovative and undertake higher value-added work and remain employable for life. As Singapore moves into a knowledge-based economy the objective in manpower development is to have a world-class workforce that is dynamically capable to meet the more demanding skills of the industry over time. In developing a world-class workforce Singapore companies have to address a few challenges. These are:

Increasing Pace of Technological Change

The pace of technological change is accelerating, particularly in the industries. As skills have become obsolete at a faster rate, it is crucial for workers to continuously upgrade their skills and knowledge, only then can they contribute productively to their organizations and remain employable. Yet most employers do not consider it their responsibility to train their staff beyond their present job requirements.

Low Education and Marginally Trained

Whilst the educational profile of the Singapore workforce has improved significantly over the last two decades, it still lags behind many developing countries. Furthermore, most of them are marginally trained.

Table 1: International Comparison of Education Level of Workforce

Country/ Economy	U.S.	U.K.	Japan	Taiwan	Germany	Republic of Korea	Hong Kong	Singapore
Primary (%)	14	15	0	31	0	30	28	46
Secondary (%)	60	60	77	51	83	54	57	41
Tertiary (%)	26	25	23	18	17	16	15	13

As the pace of economic restructuring quickens, this segment of the workforce is vulnerable to the threat of structural unemployment. The large segment of marginally trained and poorly developed workforce will become a drag on the overall productivity of companies when the economy goes through the drag cycle. The current labor market has not provided the incentive for the workers of low education and low skills to upgrade. Due to the lack of skills these workers tend to command low salaries, making moonlighting more attractive than upgrading.

Older Workers with Low Skills

There are also a large number of workers who are aged 40 and above in the workforce. About 50 percent of them have received less than secondary school education. This group of workers is vulnerable to retrenchment. They usually find it hard to find alternative jobs after being retrenched. Many of the workers are unable to read and write English well enough for learning new work skills in the conventional way. They also have a fear of going back to school. Training them for new jobs is a challenge.

Shortage of Specialist

The development of high-tech industries in the knowledge economy is needed for economic growth. Specialist manpower such as precision engineers, process operation control technicians, and media production technicians are needed badly to support these industries. Whilst these skills are critical, the numbers required are not large. There are small pockets of them here and there. Training programs for such skills are necessary but costly to develop. Furthermore, the gestation period for developing such a skilled worker is also long.

Lack of Coordinated Workforce Development Program

The in-employment population does not have a skill planning and development mechanism as structured as that of the formal education system for the pre-employment population. As training is employer initiated, workers will only receive skills that their current jobs require. Whilst this system assures that workers can function effectively in their present jobs, it is not viable for the longer-term.

General Labor Shortage

Singapore's small workforce stems from its small population base. Due to the decline in the birth rate during the 1970s and 1980s the annual indigenous supply of new entrants has declined from 60,000 in the 1960s to 40,000 in recent years. The demand for labor far exceeds the supply. The small workforce is also a consequence of the relatively low labor force participation rate of women aged 30 and above and men aged 50 and above. The "M" shaped labor participation rate profiles of Japan and the Republic of Korea suggest that while women there stop working after marriage and childbirth and re-enter the workforce when their children are older, the participation rate for women aged 40-49 is only 52 percent in Singapore compared to 71 percent in Japan, 76 percent in the U.S. and 79 percent in the U.K. For those aged 50 and above only 41 percent are economically active in Singapore compared to 66 percent in Japan, 57 percent in the US and 52 percent in U.K.

As a consequence of the small workforce, the economy has to rely on foreign labor to make up for the shortage. This dependency ratio of indigenous to foreign workforce in some sectors such as construction and marine has increased to as high as 1:5. Over reliance on foreign workers can bring problems. Employers are reluctant to train transient workers. The problem of unskilled workers and poor quality work will ultimately hit industries. In the absence of a proper manpower development plan, continuous high dependence on foreign labor will depress wages and discourage new entrants to occupations facing shortages. At the same time there is a large pool of about half a million economically active persons aged between 20-60 who are at the fringe waiting to be tapped. They are mainly housewives who have left the workforce to raise their families and have not come back. The other group is the able bodied retirees who have chosen to leave the workforce at 60. Their early exit is the result of increasing affluence and cultural factors or skills rendered obsolete earlier by fast structural changes in the economy.

Aging Workforce

The low birth rate and increasing life expectancy of the population are contributing to the aging of the workforce. Table 2 shown below indicates that almost half of the workforce will be aged 40 and above by the year 2010. An aging workforce will be less adaptable to change. The consequence is poor productivity and output if the older workers are not trained and re-trained continuously. They are also the ones that are most affected by structural unemployment.

Table 2: Aging Workforce (1990-2010)

Year	1990	1995	2000	2010
Workers Aged 40 & Above	28% N=440,000	35% N=610,000	43% N=770,000	49% N=990,000

SINGAPORE'S NATIONAL MANPOWER DEVELOPMENT PLAN – MOVING INTO KNOWLEDGE-BASED ECONOMY

Role of Manpower in the Knowledge-Based Economy

In reviewing the manpower initiatives needed to drive Singapore's future competitiveness, one needs to conduct a stock take of the current manpower status and measure it against the desired profile required for the future. Singapore has only a small workforce of 1.9 million workers. The labor force growth rate was about 3 percent annually for the past 8 years. Although we can tap the region to augment our workforce, there are limits to the continual admission of foreign manpower. The combination of small size and limited scope for growth in our workforce means that the quality of our workforce becomes a critical factor in maintaining the economy's competitiveness. Our manpower should be skilled, adaptable and optimally used if we are to realize the long-term economic growth targets of 4 percent per annum.

The Business Environment Risk Intelligence S.E. (BERI) has placed Singapore first in Relative Labor Productivity in its 1999 ranking. The *World Competitiveness Yearbook, 1999*, also shows that Singapore workforce's competitiveness compares favorably with developed countries. Singapore is competitive because relative to the productivity and capabilities that it offers, the wages are not as high as that of others. The BERI's information shows that although the manufacturing productivity of developed countries such as Norway, Switzerland, U.S., and Japan are 1.3 to 1.6 times that of Singapore, their hourly compensation costs for manufacturing workers are about 2.4 to 3.3 times higher. Nonetheless, our cost competitiveness vis-à-vis the regional economies has been eroded, partly due to the recent devaluation of their currencies against the Singapore dollar.

Given the strengths of Singapore's workforce, there is potential to develop world-class capabilities. This must be pursued as we have less of a margin to bring costs down compared to what we can do to raise capabilities. We must focus on the development of world-class capabilities among our workforce to raise productivity further and develop entrepreneurial ability to link, integrate and add value to our core capabilities. The development and optimal use of our human capital is critical, not only for attracting investment, but also more importantly, for creating new comparative advantages that generate wealth.

In this regard, a national committee was convened to develop a blueprint for the manpower development for Singapore as it journeys into the new millennium. The blueprint is called “Manpower 21” and the lead agency entrusted to drive the National Manpower Development Plan is Singapore’s Ministry of Manpower. Manpower 21 is a strategic blueprint to develop our people as a key competitive advantage – to support as well as create growth in the knowledge-based economy.

NATIONAL MANPOWER PLAN: MANPOWER 21

Manpower 21 holds the vision of a talent capital – a place where people make a difference to Singapore’s competitive advantage. To realize this vision requires a total systems approach and a fundamental change in the way we develop our manpower resources. While in the past manpower was merely a factor of production, today it is a key source of wealth. To optimize the contribution of each individual, we must take into account the quality of jobs created, the renewal opportunities provided and the physical and psychological environment in which individuals work. At the same time, we must address the issues of structural unemployment, skills shortages for new industries and the impact of an aging population.

Six Strategies

Manpower 21 proposes six strategies. These six strategies and key recommendations are summarized as follows:

Strategy 1: Integrated Manpower Planning

Manpower planning plays a central role in shaping strategies and targets of all other manpower development efforts. The challenge for manpower planning is to identify and enhance the short and long-term fit between manpower demand and supply. National Manpower Council was established to oversee the national manpower strategies and targets. A manpower information system was also developed to provide relevant and timely labor information so that all players can respond quickly and effectively to shifts in the market.

Strategy 2: Lifelong Learning for Lifelong Employability

The rapid pace of change in the knowledge-based economy means that individuals can no longer depend on a job for life and will have to learn continuously to remain employable. A comprehensive in-employment education and training framework to be branded ‘school of lifelong learning’ will enable all levels of the workforce to learn and re-learn throughout their lives. Important features in this ‘school’ will be a national skills recognition system which defines the skills and competencies and gives recognition to learning achievements; a systems approach for public training providers to better meet the needs of in-employment learners; and an enhanced skills development fund and tax exemptions as incentives for employers and individuals to engage in lifelong learning. There is also a network of one-stop career centers to provide information and counseling on training and career planning and a promotional program to communicate the benefits and urgency of lifelong learning.

Strategy 3: Augmenting Our Talent Pool

Singapore must also leverage on international talent and networks to overcome its limited size and resources. As we migrate up the value chain, we must actively augment our manpower pool at the higher end and be prepared to lower our dependency on low skilled workers, as a large presence of such workers in Singapore have social costs. For high-end international talent, a strategic marketing plan was developed to capture the new spirit of Singapore and expand our international operations to better attract them to Singapore.

To extend our reach for talents, Singapore has established an Internet-based international talent recruitment website, develop programs to enable talents to work in overseas operations of Singapore companies, and cultivate a wide network of ‘friends of Singapore.’ At the same time, workpass guidelines to facilitate entry of value-adding talents such as entrepreneurs have been put in place. On the other hand, a foreign manpower management system has been put in place to review the allocation and deployment of low skilled foreign workers among certain sectors to minimize the social costs.

Strategy 4: Transforming the Work Environment

As Singapore transits to a knowledge-based economy, the nature of work, workplaces and workplace practices have to be aligned to the new demands of the economy. Our work environment and arrangements must improve the productivity and effectiveness of our workforce, enhance the competitiveness of businesses, increase workforce participation rates, and allow the workforce to enjoy a better quality of life. Flexible work arrangements and job re-design is encouraged to keep pace with the nature of knowledge-based work and increased participation rates of women and older persons; best practices in human resource management and development; and improvements in safety and health at the workplace, and not forgetting the professionalism, productivity, and job dignity of key domestic-based industries.

Strategy 5: Developing a Vibrant Manpower Industry

The manpower industry, comprising learning providers, manpower management services and manpower recruitment and deployment services, play an important role in realizing our vision of a talent capital. Private training providers and curriculum developers are essential components of a vibrant school of lifelong learning. Manpower management companies provide the expertise and guidance to help employers adopt world-class human resource practices. Manpower recruitment and deployment companies contribute to an efficient and responsive labor market. In addition, the manpower industry is also a high-growth, knowledge-based service industry and will contribute directly to Singapore’s positioning as a knowledge economy. The manpower industry should thus be developed further and the government can play a facilitating role in this effort.

Strategy 6: Redefining Partnerships

To make Manpower 21 a reality, we must work in partnership with all stakeholders at the national, industry and community levels to realize our vision. Partnerships must occur at several levels – at the national level among unions, employers and government to build on a strong tripartite foundation; industry level via the National Skills Council and other industry councils to link industry players and policy makers; and among government agencies for timely initiation and effective implementation of manpower programs.

TRANSLATING NATIONAL AGENDA TO CORPORATES – SUMMARY OF BEST PRACTICES

The People Developer Standard

All the four organizations surveyed are winners of the National People Developer Award and are rated as organizations who take care of their staff and seek to bring out the best in their people. They are rated as being progressive and forward looking organizations that systematically develop their staff. The People Developer Standard was launched in 1997 and provides a comprehensive framework for systematically reviewing the organization's human resource practices and adopting a structured approach to developing their people to achieve better business results. The standard provides a mark of distinction for organizations that invest in their people and adopt a total approach to align their people development activities with their business objectives. The framework provides a systematic process that includes:

1. Reviewing the human resource practices;
2. Adopting a structured approach for staff development;
3. Improving the effectiveness of training; and
4. Achieving better business results.

The people developer organizations have put the following 8 systems in place, namely:

1. Training needs analysis system;
2. Career development system;
3. Resource allocation system;
4. Communication system;
5. Induction system;
6. Monitoring system;
7. Evaluation system; and
8. Feedback system.

The best practices are summarized as follows:

1. Training Need Analysis System

- The analysis of training needs is based on business objectives that are translated into clearly defined departmental goals and targets; and
- The total training plan developed is reviewed continuously during the year through a dynamic training needs analysis process that addresses emerging business needs.

2. Career Development System

- Career development tools are developed for staff to plan their careers;
- Competency matrices are developed for every job position; and
- Opportunities for horizontal and vertical progression are given to all levels of staff.

3. Resource Allocation System

- All departments in the organization contribute resources for developing, delivering and monitoring training; and
- The deployment of resources for training staff is regarded as a strategic investment.

4. Communication System

- Corporate objectives are translated into personal targets;
- Corporate objectives are translated into personal career and training plans; and
- Corporate objectives are communicated to staff by means of staff conferences and dialogue sessions.

5. Induction System

- The orientation program for new staff reinforces corporate values by letting them personally experiences the organization's products and services; and
- The induction process for existing staff begins before they take up new assignments; and
- The induction program conducted for staff is customized to meet their individual needs.

6. Monitoring System

- Follow-up action are drawn up to monitor all training activities; and
- Specific jobs are assigned to staff before they go for training.

7. Evaluation System

- Specific performance measures linked to customer satisfaction are used to evaluate the effectiveness of training; and
- The evaluation of the total training plan makes recommendations for better achieving their strategic corporate goals.

8. Feedback System

- A corporate culture where feedback is encouraged for the continuous improvement of processes, products and services;
- Feedback gathered informally is acted upon; and
- Improvements to the total training plan are made continuously during the year to address emerging feedback.

Work Redesign

The strategy of work redesign refers to the changing of the content and the arrangement of specific jobs for improving productivity and quality of work processes. It involves automation, computerization, in-sourcing and out-sourcing for managing the less value added tasks. Depending on the solutions identified, work can be redesigned for enlargement, enrichment, and rotation as well as provide flexible work arrangements. One of the companies surveyed has adopted this practice and implemented it successfully. The best practices include:

1. Work Redesign Analysis

An examination of the existing work processes is conducted to identify the jobs to be redesigned, the investment and the infrastructure necessary to support the redesign and the potential impact of implementing the work redesigned on the company's productivity and competitiveness.

2. Job and Competency Analysis

An analysis of the existing and new jobs that will be affected and created as a result of the work redesigned to ascertain how the new jobs would be matched to existing staff, and identifying the necessary training programs to enable staff to acquire the new skills required and recommended enhancement to the current compensation system.

3. Implementation Plan

A detailed description of the steps and schedule of the activities that the company will have to undertake to implement the proposed work redesigned comprising 6 sub-plans, namely communication plan, assignment plan, infrastructure plan, training plan, compensation plan, and monitoring plan.

Critical Enabling Skills Training

A set of critical enabling skills is needed to develop a thinking and innovative workforce and to give Singapore's knowledge/innovation-driven economy a differential advantage in the global marketplace. As such a critical enabling skills training program was developed to equip the workers with critical skills to provide the

foundation for the continuous learning of new skills. The program focuses on 7 critical enabling skills. These are:

1. Learning to learn;
2. Literacy;
3. Listening and oral communication;
4. Problem solving and creativity;
5. Personal effectiveness;
6. Group effectiveness; and
7. Organization effectiveness and leadership.

The best practices adopted by the companies surveyed include the following:

1. Learning to Learn

Independently acquiring and applying new knowledge and skills required to meeting the changing workplace needs.

2. Literacy

Acquiring the proficiency in reading, writing and computation for interpreting, and analyzing and using more complex information and data.

3. Listening and Oral Communication

Understanding the needs and expectations of co-workers and customers and exploring new opportunities.

4. Problem Solving and Creativity

Going beyond conventional approaches, offering novel solutions and making a leap to innovation.

5. Personal Effectiveness

Taking personal responsibility for self-development and meeting the changing needs of the organization.

6. Group Effectiveness

Achieving synergy among team members for achieving higher performance.

7. Organizational Effectiveness

Understanding the values and systems, taking the lead and making decisions, which support the organization's goals.

8. Structured OJT System

The successful implementation of the training plans requires that the modes of training delivery be strengthened. Structured OJT is one very effective mode of training delivery and is a more important mechanism for organizations in Singapore to quickly equip their employees with job specific skills as business requirements change rapidly. Since the inception of the national OJT initiative in 1993 more than 25,000

workers have been trained through OJT and about 400 blueprints have been completed. The pace of OJT development has been accelerated with the emphasis on developing industry wide blueprints that lead to skills certification. Companies that have implemented structured OJT have reported up to 50 percent improvement in time-to-market, waste reduction, customer service, and staff retention.

The best practice adopted by the surveyed companies include:

1. Skilling staff effectively on-the-job through an organizational analysis. Here the organization's specific objectives, the different goods and services produced, the processes used for producing them and the jobs required are examined. The jobs that are critical for achieving the organization's specific business objectives are identified and prioritized accordingly.
2. For each critical job, a task analysis is conducted. This provides the detailed steps involved in performing the job, the key points for error free quality work, the performance standards, and training guidelines. The skilling process is one where the mentor coaches his subordinates, using OJT blueprints. The mentor can be the immediate supervisor or skilled staff member.
3. The evaluation of OJT is conducted at three levels:
 - At the skills level, the learning achieved by the trainee is assessed using observable performance measures;
 - At the training level, the coaching provided by the mentor is assessed to enhance his delivery skills; and
 - At the program level, the content of the program is assessed to enhance the achievement of the corporate goals.

CASE STUDIES

Case Study (1): A Leading Polytechnic

Institutional Profile

The polytechnic was established in 1954 and was the first technology training institution in Singapore. Its aim is to educate students and train them to excel in work and in life. In this regard it offers a wide range of courses that lead to diploma, post diploma and certificate awards. A principal who is assisted by 2 deputies, one heading 10 departments in the academic area and the other heading 12 departments in the administration area manage the polytechnic. The polytechnic turns out about 13,900 full time students and about 3,600 part time students. The polytechnic has 860 lecturers and 23 instructors who are responsible for educating and training these students. They are the knowledge workers of the polytechnic and they comprise about 60 percent of the workforce.

Challenges in Enhancing Knowledge Work Competencies

Some of the challenges faced by the polytechnic in enhancing the work competencies of its knowledge workers include:

1. The ever changing business conditions;
2. A competitive environment, in that there are other polytechnics; some of them offer similar programs though each polytechnic would specialize in certain areas of education to avoid wasteful duplication;
3. Coping with the changes in industry and customer requirements; and
4. Coping with the new and emerging information and other technologies that become available in the market and applying them strategically to give the polytechnic a competitive edge.

Description of Training Strategies

To cope with these challenges, the polytechnic adopts the following five strategies:

1. Align its training strategies to its corporate goals;
2. Training needs analysis is conducted based on job competencies, new skills and career development needs of the academic as well as administration staff. The analysis is both competency based and also based on the polytechnic's strategic initiatives. Whilst many of the competencies are generic there are also competencies, which are identified on a functional basis;
3. Strategic use of pedagogy to achieve excellence in education and training;
4. Strategic use of IT to achieve excellence in education and training as in the use of the e-learning mode; and
5. Technology-driven, technical courses.

One of the fundamental objectives of the training strategies is to improve labor productivity and the intellectual capital index of the polytechnic's knowledge workers.

Best Practice Focus

The polytechnic is a People Developer Award winner and some of its best practices are summarized in the section Key Success Factors Identified.

Lessons Learned

Being a People Developer Award winner, one of the most important lessons learnt is that it is very important for an organization to have a comprehensive framework for systematically reviewing the organization's human resource practices and also to have a structured approach for developing its people to achieve better operational results. Please see section Key Success Factors Identified for more details.

Key Success Factors for the Polytechnic

Some of the critical success factors identified for this case study are as follow:

1. The need for a good organizational training culture;

2. Availability of a sufficient and dedicated budget so that the objectives of the training plan could be achieved; and
3. Availability and allocation of time to facilitate a sufficiently high utilization rate of the training places to ensure the effective implementation of the training plan and the achievement of the training objectives.

Recommendations

One of the major recommendations is that all organizations should have an effective framework for the development of their human resource potential to the fullest. Furthermore, in view of the rapid improvements in IT, IT should be used as much as possible to enhance the design and delivery of the training programs through the use of latest hardware and software available in the market like flash animation, blackbox and centra to achieve the maximum impact on the transfer of learning and skills. Another recommendation is the use of JIT training as compared to the conventional modes. Appendix I is a summary of the key findings from the questionnaire interview.

Case Study (2): A Leading Bank

Institutional Profile

The bank was formed in the late 1960s to cater to the developmental financing needs of Singapore. Today, it is one of the leading banks in Asia. It provides a wide range of financial services, which include retail banking, investment linked treasury and market products. A senior management team led by a CEO manages the bank. They oversee a consumer banking group, an investment banking group and treasury market and support departments. The bank has an annual turnover of SGD3.5 billion. Its financial advisors, relationship managers and customer service officers form its knowledge workers and they comprise about 70 percent of its workforce.

Challenges in Enhancing Knowledge Work Competencies

Some of the key challenges faced by the bank in enhancing the work competencies of its knowledge workers include:

1. The Singapore-US Free Trade Agreement introduces new variables in competitiveness in the banking industry;
2. The deregulation of the financial services industry in Singapore;
3. Diverse customer segmentation in the banking industry;
4. Intensified competition which the bank will have to face locally and as it expands regionally and internationally;
5. High speed at which programs have to be designed and developed to meet the changing market conditions; and
6. High investment required installing a full-fledged learning management system.

Description of Training Strategies

As a result of the challenges faced by the bank, it has adopted the following strategies to ensure the effective transfer of learning and skills acquisition:

1. Business-driven approach;
2. Competency-based HRD model;
3. One-on-one and group coaching sessions;
4. e-Learning for the transfer of soft and financial skills; 16 percent of the total training days are dedicated to this mode of skills transfer;
5. Management associate program for talent development; and
6. “Townhall” sessions for senior management.

Best Practice Focus

Some of the exemplary practices adopted by the bank include:

1. Adopting the people developer framework for the development of human resource potential and as such adopting the best practices for people development. This is summarized in the section Key Success Factors Identified;
2. Linking its training plan to its PMS;
3. Adopting e-learning, which comprises about 16 percent of the bank’s total training; and
4. Adoption of an e-induction platform for the induction of its new and existing employees.

Lessons Learned

One of the major lessons learnt by the bank in its HRD is the importance of having a comprehensive framework for the systematic review of the bank’s human resources practices and having a total approach for the development of its people to achieve better business results. Then there is the need to ensure a clear linkage of the training plan to the PMS. There is also the importance of having an e-platform for learning, especially for global organizations.

Key Success Factors

Some of the key success factors identified by the bank include the need for:

1. Top management support;
2. Sufficient and available training facilities; and
3. Appropriate training infrastructure to ensure the effective delivery of the training programs to facilitate the requisite transfer of skills.

Recommendations

As an organization that adopts the people developer framework, one of the major recommendations of the bank is that there should be an effective framework for the development of an organization’s human resource potential to the fullest to stay competitive. Appendix II is a summary of the key findings from the questionnaire interview.

Case Study (3): A Leading Knowledge Company

Institutional Profile

The company was incorporated in 1966 and changed its name in 1991 in view of a merger between the Japanese and American counterparts. The nature of its business is in the sales and marketing of document management products and solutions. Its products and services include office machinery and equipment involving digital document and knowledge management. A management team that comprises a managing director and 5 general managers manages the company. The company has an annual turnover of more than SGD113 million. The customer service engineers, the sales professionals, and managers and executives comprise the knowledge workers of the company and they form about 60 percent of the company's workforce.

Challenges in Enhancing Knowledge Work Competencies

Some of the challenges faced by the company in enhancing the competencies of its knowledge workers include:

1. Wave of change from analogue to digital technology;
2. Move from the old mode of records filing to document management;
3. Move of the company's strategies from selling machines to selling solutions;
4. Dramatic changes that are taking place in the IT environment; and
5. Prepare the company for a cultural (mindset) change to higher level of learning culture.

Description of Training Strategies

To cope with these challenges, the company adopts the following training strategies:

1. Aligns training strategies to corporate goals;
2. Undertake training needs analysis every year based on job competencies;
3. Ensure job competencies are based on its strategic initiatives and are both generic and functional;
4. Develop a training roadmap for the key categories of the knowledge workers, namely the customer service engineers and the various categories of the sales force;
5. Focus the core competencies on product sales and customer service, including the overseas training of employees on new products; and
6. Adopt a strong e-platform for the delivery of its training programs such as e-learning, in view of the mobility of its employees.

Best Practice Focus

The company is a People Developer Award winner and some of its best practices are summarized in the section Key Success Factors Identified.

Lessons Learned

One of the most important lessons learned by the company is that it is crucial for an organization to have a comprehensive framework to review systematically the organization's human resource practices and have a structured approach for the development of its people to achieve better results. Please see the section Key Success Factors Identified for more details.

Key Success Factors

Some of the key success factors identified by the company include:

1. Need for good planning and time management skills to ensure the high training utilization rate;
2. Dedicated budget to enable the company to achieve its training objectives; and
3. Availability of training facilities to facilitate the delivery of the programs.

Recommendations

One of the company's recommendations is that all organizations should have an effective framework for the development of its human resource potential to the fullest. Furthermore, the organization should have a good organization culture and provides a good training environment to facilitate training. An effective monitoring system should also be in place to ensure the achievement of its training objectives. Appendix III is a summary of the key findings from the questionnaire interview.

Case Study (4): A Leading IT Company

Institutional Profile

Started operations in 1994, the company employs a workforce of 3,000 workers to date. Currently it is the only site in the world, which manufactures server hard disk drives. Managed by a general manager, the company has an annual turnover of US\$83 billion. The engineers and IT professional form the company's knowledge workers and they comprise about 40 percent of the company's workforce.

Challenges in Enhancing Knowledge Work Competencies

Some of the key challenges faced by the company in enhancing the work competencies of its knowledge workers include:

1. Shortening product life cycles;
2. Volatile work schedules;
3. Rapid rate of obsolescence of existing competencies and keep up with changing market conditions;
4. Accelerating speed of technological changes;
5. Increasingly mobile workforce; and
6. Contract workers' training to keep up with the performance requirements during the contract period.

Description of Training Strategies

As a result of the challenges faced by the company, the following strategies were adopted to ensure the effective transfer of learning and skills acquisition:

1. e-Learning, which has been used very effectively, from quick view to the use of simulation to collaborative learning;
2. Personalized training for every worker, by translating the corporate goals into individual goals embodied in the individual training plans (ITP);
3. Enhanced the ITP by a coaching model; and
4. Adopted a personal business commitment model, which links individual worker's development plan to the business objectives.

Best Practice Focus – Work Redesign

The company is a People Developer Award winner and some of their best practices are summarized in the section Key Success Factors Identified. In addition, it has also adopted and implemented work/job redesign successfully. The following is a detailed description.

To meet the growing demand for fast delivery, convenience and excellent service in the increasingly competitive knowledge-based economy, the company implemented telecommuting for its marketing and sales staff. The objective was to speed up its response to customers. Telecommuting was introduced and it meant that staff could carry on working without being physically present in the office. This was a paradigm shift. They worked away from the company and kept in touch with developments in the company using computers, e-mail, telephone, facsimile and other electronic communication devices linked to the company's systems.

To make this work, IBM Singapore adopted a total approach that looked at its arrangement required for a new work culture. Employees were concerned with how their bosses would track their performance. The company put in place an educational program to help bosses and employees adapt to the new requirements. The importance of speedy response and the need for change was communicated to all employees. All marketing and sales personnel were issued portable computers that could hook up to the main office system and access data. All they had to do was to plug in their computers into a phone line and start accessing data. They could retrieve any information on products and clients, keep in touch with colleagues, update their bosses on the progress made as well as keep in touch while away on business trips. Apart from scheduled progress meetings and events, employees were not required to report in the office.

The office was redesigned. Instead of office desks for all, user-friendly workstations were set up. There were no fixed desks. Employees could use any of the workstations available. When they need to use the office, they use a computer at the office entrance and select an available workstation. They then plug in their personal computer at the workstation, do their work, and leave. While at the office, all calls are directed to them from a central system. When they are gone, the workstation is available for use by another staff.

Lessons Learned

One of the major lessons learned by the company is the importance of having a comprehensive framework for the systematic review of the company's human resource practices and having a total and structured approach for developing their people to achieve better business results. Furthermore, it is also very important to review the existing work processes and redesign them where necessary, to enable the workers to enlarge and enrich their jobs for higher productivity and quality. This could also be achieved through job rotation and flexible work arrangements.

Key Success Factors

Some of the key success factors identified by the company include the abilities to:

1. Conduct learning activities during working hours;
2. Obtain a highly mobile workforce trained;
3. Train contract workers quickly so that they can contribute within the contract period; and
4. Design and deliver training programs in-house.

Recommendations

One of the recommendations from the company's experience is that there should be an effective framework for the development of the human resource potential of the organization to the fullest in order to stay competitive. Another major recommendation is that all existing work processes of the company should be reviewed and redesigned where necessary through job enlargement, job enrichment, job rotation, and flexible work arrangements, in order to stay relevant and achieve higher productivity and quality. A summary of findings obtained from the questionnaire interview of the company is given in the Appendix IV.

KEY SUCCESS FACTORS IDENTIFIED

The key success factors identified from companies surveyed can be summarized as follows:

- (1) Commitment from top management is necessary for the successful implementation of the organization's training plan. This could be demonstrated through their active participation in all staff development activities.
- (2) A "dynamic" training need analysis, which responds to the changing business environment, is also necessary. New skills requirements emerge frequently; as such companies must respond quickly to changes, anticipate trends and meet emerging needs to sustain their competitiveness.
- (3) Workers should take personal responsibility in their career development. In this regard the organization could provide them with comprehensive tools of self-assessment to help identify their needs to upgrade themselves. They

could also provide counseling services to help them better understand themselves and nurture them to achieve their fullest potential.

- (4) Another key success factor is that organizations should have “dedicated” resources to ensure the success implementation of the training plan. For example dedicated training staff, a dedicated training budget (the national standard being 4 percent of payroll), and dedicated hours for training (the national standard being 40 hours per worker).
- (5) Personalized communication is another key success factor. A personal commitment to the company’s goals is necessary for business success. As such it is necessary to personalize, communicate and commit to the development of the capabilities of all staff by translating the corporate and departmental goals into personal plans and personal goals. This also fosters ownership of the corporate goals. In this process the supervisor reviews and counsels the subordinates regularly.
- (6) A “structured ” induction process is necessary to ease staff into their jobs quickly. New and existing employees, who are given new assignments or job functions, should be provided with a customized program to prepare them for their jobs. In this regard the OJT blueprints are a very effective mechanism to facilitate better job performance.
- (7) A measurement system is also necessary to track and measure every training activity and make it accountable to the performance of the departments and the organizations. In this way the organization will know whether there has been an effective transfer of learning and skills and an improvement in the staff’s work performance and the organization’s bottom-line.
- (8) An effective feedback system is also necessary to ensure that employee feedback is monitored and tracked and that follow-up action is taken to ensure improvement in the training effectiveness in an on-going basis.

RECOMMENDATIONS

1. A Total Approach for People Development

In today’s knowledge-based economy, people are a strategic competitive advantage – one that can determine success or failure. The people strategy for competitiveness requires a total approach that starts with business objectives and aligns their development activities to achieve those objectives.

2. Redesigning Present Jobs for Higher Productivity

The key to enhancing productivity lies in the way goods and services are produced and the role of people in that process. Fundamental to the paradigm shifts needed in this new age is the redesign of work. Companies have to redesign their work processes to be more responsive to customers. Workers have to be empowered with more knowledge and technology to create more value. New work arrangements such as virtual office and teleworking have to be explored.

3. Critical Enabling Skills

A set of critical enabling skills is necessary to develop a thinking and innovative workforce. The eight key success factors identified in this study could be useful for the continuous learning of new skills to provide foundational skills for the workers in the knowledge-based economy. They would also form the foundation of technical and specialist skills upon which companies could build on and which is vital for the growth of the skills base of the company.

4. Structured OJT

The successful implementation of training plans requires effective modes of training delivery to ensure the effective transfer of skills. OJT allows for progressive skills formation and multi-skilling of the worker. OJT is a very effective system whereby the worker acquires skills through progression within a workstation or a cluster of workstations in the company. Learning is structured and systematic and is conducted in the company by the immediate supervisor while work carries on.

Appendix I: A Leading Polytechnic

Organization Profile	
Nature of business	To educate students and train them to excel in work and in life
Products and services	A wide range of courses that lead to diploma, post diploma and certificate awards
Sales turnover	About 13,900 full time students and 3,600 part time students
Organizational structure	Management team led by the principal, assisted by 2 deputy principals. Academic (10 departments), administrations (12 departments)
Types of knowledge workers	Lecturers and instructors
Knowledge workers/total workforce (%)	60 percent
Brief history	<ul style="list-style-type: none"> • Established in 1954 • First technology training institution

1. Driving Forces of Change (technology, globalization, etc.)	<ul style="list-style-type: none"> • Changing business conditions • Competitive environment • Changes in industry and customer requirements • Technology changes
2. Top Management Involvement	
<ul style="list-style-type: none"> • Underlying policies and principles (values, beliefs, etc.) 	<ul style="list-style-type: none"> • Excellence in education and training • Excellence in management • Conducive learning environment • Lifelong learning • Employability
<ul style="list-style-type: none"> • Organizational mechanisms (training department, training advisory board, etc.) 	<ul style="list-style-type: none"> • HRD • Training and development committee – comprising senior management
<ul style="list-style-type: none"> • Training strategies (focus, target groups, priorities, etc.) 	<ul style="list-style-type: none"> • Aligned to support corporate goals • TNA based on the job competencies, new skills and career development needs
3. Training Needs Analysis	
<ul style="list-style-type: none"> • Approaches (training needs and options) 	<ul style="list-style-type: none"> • Competency-based • Linked/aligned to strategic corporate initiatives

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<ul style="list-style-type: none"> • Competency identification 	<ul style="list-style-type: none"> • Functional competencies • Generic competencies
<ul style="list-style-type: none"> • Curriculum framework for the various knowledge workers 	<ul style="list-style-type: none"> • Pedagogy – excellence in education and training • IT in education, e-learning • Technology-driven – technical courses • Productivity improvement (including student management and administration)
4. Design and Delivery of Key Courses (formal, informal, mentoring, etc.)	<ul style="list-style-type: none"> • Lectures • E-learning • Sharing • Industrial attachments • Paper presentations • Study tours
5. Budget and Expenditure	
<ul style="list-style-type: none"> • Budget (various levels) 	4 percent of payroll
<ul style="list-style-type: none"> • Expenditure tracking system 	Course administration system
6. Training Evaluation	Kirkpatrick model
<ul style="list-style-type: none"> • Level 1: Training environment 	Yes
<ul style="list-style-type: none"> • Level 2 & 3: Transfer of learning 	Yes
<ul style="list-style-type: none"> • Pre- post course evaluation 	Yes
<ul style="list-style-type: none"> • Level 4: Impact on departments 	<ul style="list-style-type: none"> • Attrition rate • Student feedback • Percentage reduction of repeat students • Improvement of mean aggregate scores • Percentage of staff involved in training for industry
<ul style="list-style-type: none"> • Level 5: Corporate impact 	Same as above
7. Review and Improvement of Training Approaches	
<ul style="list-style-type: none"> • Barriers 	<ul style="list-style-type: none"> • Budget constraints • Training time constraints – due to tight work schedules
<ul style="list-style-type: none"> • Critical success factors 	<ul style="list-style-type: none"> • Good organizational training culture • Budget availability • Availability of training time

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<ul style="list-style-type: none"> • Strengths 	<ul style="list-style-type: none"> • e-Systems • Effective TNA process • Effective course administration system • Dedicated training budget • Training opportunities
<ul style="list-style-type: none"> • Areas for improvement 	<ul style="list-style-type: none"> • Review of training effectiveness • More effective transfer of learning • Innovation • Pursuit of best HRD practices • Alignment to organizational excellence
<p>8. Best Practices</p>	<ul style="list-style-type: none"> • Alignment to corporate scorecard • e-Learning • e-Mentoring • Teaching factory • Use of simulators
<p>9. Issues and Challenges in the Design and Delivery of Effective Training Programs for Knowledge Workers</p>	<ul style="list-style-type: none"> • Rapid improvements in IT • Hardware and software as a means of delivery • Flash animation, blackbox, centra • JIT training

Appendix II: A Leading Bank

Organization Profile	
Nature of business	Financial services provider
Products and services	Wide range of retail banking, investment linked and treasury and market products
Sales turnover	SGD3.5 billion (group)
Organizational structure	Corporate office comprising a senior management team which oversees consumer banking group, investment banking group, treasury, market and support departments
Types of knowledge workers	Financial advisors, relationship managers and customer service officers
Knowledge workers/total workforce (%)	70 percent

1. Driving Forces of Change (technology, globalization, etc.)	<ul style="list-style-type: none"> • Singapore - US Free Trade Agreement • Deregulation of the financial services industry • Diverse customer segmentation • Intensified competition
2. Top Management Involvement	
<ul style="list-style-type: none"> • Underlying policies and principles (values, beliefs, etc.) 	<ul style="list-style-type: none"> • Building the best bank in Asia • Creating value through M&A • Global scope and local insights
<ul style="list-style-type: none"> • Organizational mechanisms (training department, training advisory board, etc.) 	<ul style="list-style-type: none"> • A corporate training department supported by departmental training representatives
<ul style="list-style-type: none"> • Training strategies (focus target groups, priorities, etc.) 	<ul style="list-style-type: none"> • Business-driven approach • Competency based • Training relationship model • 2 Training needs analysis conducted per financial year

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3. Training Needs Analysis	
<ul style="list-style-type: none"> • Approaches (training needs and options) 	<ul style="list-style-type: none"> • A training needs analysis framework is established for every business unit • A competency model to support the analysis and performance management • Each business unit is represented by a learning champion
<ul style="list-style-type: none"> • Competency identification 	<ul style="list-style-type: none"> • Competency categorization <ul style="list-style-type: none"> - Universal - Transferable - Unique
<ul style="list-style-type: none"> • Curriculum framework for the various knowledge workers 	<ul style="list-style-type: none"> • Various learning media – face-to-face, blended with learning and e-learning methodologies • Accessibility – web-based, Internet and intranet • Wide range of courses, about 300, available to all staff across the bank • Straight through processing for course registration, evaluation and feedback
4. Design and Delivery of Key Courses (formal, informal, mentoring, etc.)	<ul style="list-style-type: none"> • Classroom – lectures, seminars and workshops • e-Learning for soft and financial skills (16 percent of total training days) • Mentoring and induction schemes • Management associate programs for talent development • “Townhall” sessions for senior management (informal) • Coaching (one-on-one and in groups)
5. Budget and Expenditure	
<ul style="list-style-type: none"> • Budget (various levels) 	4 percent of payroll
<ul style="list-style-type: none"> • Expenditure tracking system 	2 components <ul style="list-style-type: none"> - Training infrastructure, facilities and overheads - Internet and external programs

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6. Training Evaluation	Kirkpatrick model
<ul style="list-style-type: none"> • Level 1 	<ul style="list-style-type: none"> • All programs
<ul style="list-style-type: none"> • Level 2 & 3: Transfer of learning 	<ul style="list-style-type: none"> • Test • Role Plays • Simulations • Assignments
<ul style="list-style-type: none"> • Pre-post course evaluation 	<ul style="list-style-type: none"> • Yes
<ul style="list-style-type: none"> • Level 4: Impact on department 	<ul style="list-style-type: none"> • Cost per transaction processed • Service KPIs • Sales productivity
<ul style="list-style-type: none"> • Level 5: Corporate impact 	<ul style="list-style-type: none"> • Same as above
7. Review and Improvement of Training Approaches	
<ul style="list-style-type: none"> • Barriers 	<ul style="list-style-type: none"> • Budget constraints • Line managers' having to give priority to the demands of business operations
<ul style="list-style-type: none"> • Critical success factors 	<ul style="list-style-type: none"> • Top managers, support • Learning facilities and infrastructure
<ul style="list-style-type: none"> • Strengths 	<ul style="list-style-type: none"> • Corporate training department cum support services • Business and product-driven training needs • Internal resources to leverage on
<ul style="list-style-type: none"> • Areas for improvement 	<ul style="list-style-type: none"> • Management and leadership development • Training measurement
8. Best Practices	<ul style="list-style-type: none"> • Training linked to performance management system • e-Learning (16 percent of total training)
9. Issues and Challenges in the Design and Delivery of Effective Training Programs for Knowledge Workers	<ul style="list-style-type: none"> • Speed in design and delivery of training to meet changing market conditions • High investment required to install a full-fledged learning management system

Appendix III: A Leading Knowledge Management Company

Organization Profile	
Nature of business	Sales, marketing, and servicing of document management products and solutions
Products and services	Office machinery and equipment involving digital, documents and knowledge management
Sales turnover	SGD113 million
Organizational structure	Management team led by 1 managing director and 5 general managers
Types of knowledge workers	<ul style="list-style-type: none"> • Customer service engineers • Sales professionals • Executives and managers
Knowledge workers/total workforce (%)	60 percent

1. Driving Forces of Change (technology, globalization, etc.)	<ul style="list-style-type: none"> • Changes from analogue to digital technology • From records filing to document management • From selling machines to selling solutions • IT Environmental changes
2. Top Management Involvement	
<ul style="list-style-type: none"> • Underlying Policies and Principles (values, beliefs, etc.) 	<ul style="list-style-type: none"> • Excellence in document and knowledge management • Learning organization
<ul style="list-style-type: none"> • Organization mechanisms (training department, training advisory board, etc.) 	<ul style="list-style-type: none"> • Learning committee • Business excellence management committee • Corporate operation committee
<ul style="list-style-type: none"> • Training strategies (focused, target groups, priorities, etc.) 	<ul style="list-style-type: none"> • Focus on product sales and customer service • IT training-related and product servicing
3. Training Needs Analysis	
<ul style="list-style-type: none"> • Approaches (training needs and options) 	<ul style="list-style-type: none"> • Training need analysis conducted annually
<ul style="list-style-type: none"> • Competency identification 	<ul style="list-style-type: none"> • Functional competencies • Generic competencies
<ul style="list-style-type: none"> • Curriculum framework for the various knowledge workers 	<ul style="list-style-type: none"> • Training roadmap for core designations in various categories, e.g. customer service engineers and various categories of sales force

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4. Design and Delivery of Key Courses (formal, informal, mentoring, etc.)	<ul style="list-style-type: none"> • Classroom training • OJT • e-Learning • Pen & paper tests • Overseas training on new products • Marketing and sales services
5. Budget and Expenditure	
• Budget (various levels)	4 percent of payroll
• Expenditure tracking system	<ul style="list-style-type: none"> • TRMS • Training and records management system • Developed in-house
6. Training Evaluation	Kirkpatrick model
• Level 1	Yes
• Level 2 & 3: Transfer of learning	Yes
• Pre - Post course evaluation	Yes
• Level 4: Impact on department	Yes, for digital engineers and consultants
• Level 5: Corporate impact	Customer satisfaction index
7. Review and Improvement of Training Approaches	
• Barriers	<ul style="list-style-type: none"> • Budget constraint • Availability of staff to attend training due to lack of manpower • Stress
• Critical success factors	<ul style="list-style-type: none"> • Good planning and time management skills to attend training • Dedicated budget to achieve training objectives • Availability of training rooms and facilities
• Strengths	<ul style="list-style-type: none"> • Effective monitoring system • Good organization culture and training environment
• Areas for improvement	<ul style="list-style-type: none"> • Pursuit of best practices in HRD • HRD to be a strategic business partner
8. Best Practices	<ul style="list-style-type: none"> • People developer best practices
9. Issues and Challenges in the Design and Delivery of Effective Training Programs for Knowledge Workers	<ul style="list-style-type: none"> • Preparing the company for a cultural (mindset) change to move to a higher level of learning culture

Appendix IV: A Leading IT (Manufacturing) Company

Organization Profile	
Nature of business	IT (manufacturing)
Products and services	Server hard disk drives
Sales turnover	US\$83 billion
Organizational structure	Management team led by general manager and heads of departments
Types of knowledge workers	Engineers and IT professionals
Knowledge workers/total workforce (%)	40 percent
Brief history	<ul style="list-style-type: none"> • Started operation since 1994 • Expanded to over 3,000 employees • Currently the only site in the world manufacturing server hard disk drives

1. Driving Forces of Change (technology, globalization, etc.)	<ul style="list-style-type: none"> • Competitive IT industry • Leadership in technology
2. Top Management Involvement	
<ul style="list-style-type: none"> • Underlying policies and principles (values, beliefs, etc.) 	<ul style="list-style-type: none"> • A learning organization
<ul style="list-style-type: none"> • Organization mechanisms (training department, training advisory board, etc.) 	<ul style="list-style-type: none"> • People Developer Steering Committee
<ul style="list-style-type: none"> • Training strategies (focused, target groups, priorities, etc.) 	Individual development plan linked to personal business commitment which is linked to the business objectives
3. Training Needs Analysis	
<ul style="list-style-type: none"> • Approaches (training needs and options) 	<ul style="list-style-type: none"> • Based on the company's 6 business imperatives • Learning needs analysis • Employee opinion survey
<ul style="list-style-type: none"> • Competency identification 	<ul style="list-style-type: none"> • Functional competencies • Professional competencies
<ul style="list-style-type: none"> • Curriculum framework for the various knowledge workers 	<ul style="list-style-type: none"> • Based on leadership and management development • Functional training • Professional development • Information technology

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4. Design and Delivery of Key Courses (formal, informal, mentoring, etc.)	<ul style="list-style-type: none"> • Talks • Courses • 4 tier blended e-learning from quickview to simulator to collaborative learning to learning laboratory • Learning
5. Budget and Expenditure	
<ul style="list-style-type: none"> • Budget (various levels) 	7 percent of payroll
<ul style="list-style-type: none"> • Expenditure tracking system 	Training administration system <ul style="list-style-type: none"> • Weekly tracking of training places, training hours and training expenses by the training department • Monthly tracking by the finance department
6. Training Evaluation	Kirkpatrick model
<ul style="list-style-type: none"> • Level 1 	Conducted for all programs
<ul style="list-style-type: none"> • Level 2 & 3: Transfer of learning 	Yes
<ul style="list-style-type: none"> • Pre - Post course evaluation 	Yes
<ul style="list-style-type: none"> • Level 4: Impact on department 	Performance of all departments tracked by the finance department
7. Review and Improvement of Training Approaches	
<ul style="list-style-type: none"> • Barriers 	<ul style="list-style-type: none"> • Short product cycle • Volatile production schedule
<ul style="list-style-type: none"> • Critical Success Factors 	<ul style="list-style-type: none"> • Ability to conduct learning activities during working hours • In-house design and delivery of programs
<ul style="list-style-type: none"> • Strengths 	<ul style="list-style-type: none"> • Award winning e-learning system • Availability of a dedicated budget • Online course nomination by staff
<ul style="list-style-type: none"> • Areas for Improvement 	<ul style="list-style-type: none"> • Speed in meeting technological changes • Better engagement in e-learning
8. Best Practices	<ul style="list-style-type: none"> • Every worker having an individual training plan • Employee development cycle • Adopting a coaching model • Continuous benchmarking of national and market best practices

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9. Issues and Challenges in the Design and Delivery of Effective Training Programs for Knowledge Workers	<ul style="list-style-type: none">• How to get a highly mobile workforce trained effectively• How to get contract workers trained quickly so that they can contribute effectively during the contract period
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5. THAILAND

Dr. Rangsima Airawanwat
Dhurakijpundit University

TRANSITION FROM PRODUCTION-BASED TO KNOWLEDGE-BASED ECONOMY

A critical challenge that faces human society in the 21st century is to attain full employment and sustained economic growth in the global economy and social development. This challenge has become even more complicated and demanding for any countries. Economic, social and technological changes are accelerating at a rapid pace, which call for continuous policy and institutional adaptation to meet the new demands and opportunities that are unfolding in an increasingly integrating global economy. It has been recognized that people endowment in advanced skills and capabilities and investment in education constitute a key to economic and social development.

Skills and training increase productivity and incomes and facilitate participation in economic and social life. Learning, education and training benefit individuals, enterprises as well as society. Education and training enable individuals employable and help them gain access to decent work and improve their productivity and income-earning opportunities at work, as well as fasten their mobility in the labor market and widen their choice of career opportunities. Enterprises also get rewards from education and training. By investing in human resources, enterprises can improve productivity and compete successfully in global markets.

In addition, countries that invest in education and training have high economic growth and social development. HRD and training contribute to improve productivity in the economy, reduce skill mismatches in the labor market, and promote their international competitiveness. Moreover, education and training bring benefits to society. HRD and training enhance the fundamental value of society – equity, justice, gender equality, non-discrimination, social responsibility, and participation of all in economic and social life (International Labour Organization, 2002).

The Thai government and enterprises also recognize the increasing importance of education and training in global economy. The Thai government has formulated and implemented many policies to enhance the knowledge and skills of the labor force, emphasizing on knowledge workers for the improvement of national competitiveness in a globalized economy.

Macroeconomic and Political Policies (1960s-90s) – An Overview

Historically, the Thai economy had been agrarian based in that economic growth was based on the use of more land and labor. Nevertheless, the Thai political economy has undergone tremendous changes in the last three decades in response to the changing environment.

Table 1: Stages of Economic Development in Thailand

Period	Major Characteristics
1960-70	<i>Promotion of industrialization</i> - Import substitution and export promotion.
1970-90	<i>High economic growth</i> - As a result of manufacturing for local markets and export.
1990-96	<i>Financial liberalization</i> - Over capacity of capital inflow among large firms.
1997-	<i>Economic crisis</i> - Increased non-performing loans of financial sector at a rapid pace, portfolio quality deteriorated and currency was attacked.

Promotion of Industrialization (1960-70)

Thailand opened the Kingdom to external trade in 1855 with the signing of the Bowring Treaty with Britain. The main purpose was for the liberalization of trade between the two countries. In the year thereafter, Thailand specialized in exporting rice, golden teak and tin production. Even though Thailand has been opening the country to the outside world, innovation of rice producing techniques came to Thailand in 1950. After the World War II, Thai peasants expanded their crops to hillside crops. At present, rice cultivation is still the major agricultural export of Thailand (Oudin et.al., 1994). Thailand was an agricultural country until 1960s. Its GDP depended heavily upon the agriculture sector (37 percent in 1961).

Thailand has been promoting industrialization since the 1960s. The industry was developed as a result of the combination of import substitution and export promotion policies. The share of agriculture in 1991 has fallen to 13 percent. The rapid diversification of the manufacturing sector was stimulated by export prospects for external markets. Industry took advantages of local market as well as the country's low cost of labor and materials (Oudin et.all. 1994). Between 1960 and 2000, agricultural sector tended to grow, but at a slower pace than non-agricultural sectors. Agriculture's share of GDP fell from 33.4 percent in 1960 to 10.5 percent in 2000. Manufacturing and services sectors grew rapidly, accounting for 31.9 percent and 49.4 percent in 2000, respectively (see Table 2). Since 1980, manufacturing was no longer the largest sector in Thailand.

High Economic Growth Era (1970-90)

In the early 1970s, Thailand suffered from inflation caused by the oil crisis in 1973. The Thai economy experienced slow growth with the average GDP growth rate of 6.09 percent during 1970-74. In the late 1970s, Thailand registered better economic performance from the revenue of rice exports and high agricultural product prices in international market. In early 1980s, effects of worldwide recession slowed down the growth of Thai exports and Thai economy. However, in the late 1980s, Thai economy grew rapidly as a result of inward FDI, especially from Japan. From 1990-95, the rapid growth of Thai economy was led by FDI from NIEs in East Asia. Manufacturing continued to lead the country's GDP growth, accounting for 27.2 percent in 1990 and 31.1 percent in 1995, respectively.

Table 2: Share of Agriculture, Manufacturing and Services Sectors in GDP**(1960s-90s)****(Unit: %)**

Sector	1960	1970	1980	1990	1999	2000
Agriculture	33.4	25.9	23.2	12.5	11.2	10.5
Industry	54.4	61.1	28.7	37.2	39.3	40.1
Manufacturing	14.5	16.1	21.5	27.2	31.1	31.9
Services	12.2	13.0	48.1	50.3	49.5	49.4

Source: NESDB and World Bank, Thailand at a Glance

Financial Liberalization (1990-96)

Thailand instituted financial liberalization by relaxing the controls of interest rates and allowing more flexible capital inflow to finance the domestic demand oriented activities. The international banking facility, namely the Bangkok International Banking Facility (BIBF), was set up to facilitate international lending and borrowing (Limskul, 2000). The BIBF was popular among Thai private investors because the interest rate on dollar loans was about 4 to 6 percent lower than domestic rates. The financial liberalization without adequate supervision and monitoring led to a large capital inflow, which largely went to speculative sectors such as real estates and stock market (Kittiprapas and Intaravitak, 2000).

Economic Crisis (1997)

Thailand's economic crisis in 1997 could be largely attributed to 3 factors: financial liberalization while keeping the currency exchange rate uncontrolled, rigid and premature liberalization of financial institutions, and failure to supervise financial institutions. The non-performing loans of financial sector increased at a rapid pace, portfolio quality deteriorated and currency was attacked twice. The authority tried to defend the attack by intervening in the markets, however the intervention was unsuccessful. The Thai currency was floated or devalued and Thailand has to ask for bail out package from the IMF soon after the float. The crisis had severe effect on Thai economy. The GDP growth rate dropped dramatically: 6.45 percent in 1996, 0.06 percent in 1997, and -5.5 percent in 1998.

Table 3: Key Economic Indicators of Thailand (1970-2000)

	1974 - 75	1975 - 79	1980 - 84	1985 - 89	1990 - 94	1995 - 99	2000
Average annual GDP growth rate (%)	6.09	7.90	6.09	9.05	9.06	1.00	4.30
Average unemployment rate (%)	n.a.	n.a.	n.a.	n.a.	2.94	2.68	3.8

Source: NESDB and World Bank

To revive the economy, the government has systematically implemented economic policies, starting from restoring stability as a priority during late 1997 and throughout 1998. Once stabilization was achieved, policies were then geared toward growth stimulation. In addition, the Thai government tried to boost the economy by

setting up many measures that addressed the underlying causes of the crisis. Such measures are financial reform, improved regulatory and supervisory regimes, and a more balanced financial system. In addition, there are programs largely targeted at the rural area and less well-to-do people, such as the one district one product campaign, village fund, etc. As a result of these policies, the Thai economy grew slowly to 4.2 percent in 1999 and 4.3 percent in 2000.

PREPAREDNESS, ISSUES AND CHALLENGES

Suffering from the impact of economic crisis, the government instructed governmental agencies to implement programs to promote the economy and resolve the social problems occurred as a consequence of the economic downturn. The Office of National Economic and Social Development Board (NESDB) invited experts in economics and other fields to work jointly in the formulation of the Ninth National Economic and Social Development Plan to achieve a balanced development of human, social, economic, and environmental resources. A priority goal is the pursuance of good governance at all levels of Thai society in order to achieve sustainable people-centered development.

The Ninth National Economic and Social Development Plan has been formulated on the basis of a shared vision of Thai society for the next 20 years. It reflects the views of Thai people from all social sectors at provincial, sub-regional, regional, and national levels. In the brainstorming process to develop this vision for the Thai society, participants examined the country's past performance, the management of the rapid change resulting from globalization, as well as the need to strengthen desirable values. The NESDB reported the causes of Thailand's unbalanced development partly on education especially in science and technology disciplines:

“Thailand's development trajectory over the past four decades clearly indicates imbalanced development. While success measured in terms of quantitative indicators has been achieved, improvements in quality of life seem to lag far behind. This can be explained by weaknesses in Thailand's economic, political and administrative management systems that are centralized and inefficient. The legal system also requires updating. All of these shortcomings have led to chronic corruption in both the public and private sectors. At the same time, the quality of education among Thai people has not been significantly upgraded. Therefore, the Thai people cannot adapt themselves to modern technology. A weak educational foundation in science and technology inhibits innovation. The foregoing factors, accentuated by inefficient management, give rise to continuing erosion of Thailand's international competitive position. Meanwhile, the widening income gap, increased poverty, and natural resources and environmental deterioration have contributed to increased social conflict and tension. Adherence to materialistic social values is associated with deteriorating moral values.”

NESDB also cited the importance of globalization and emphasized the importance of building a knowledge-based economy including ways and means to maintain international competitiveness. These are as follows:

“Rapid globalization has given rise to both opportunities and threats for sustainable development in Thailand. On the economic front, the world economy has become more complex and inter-related. A new world economic order has arisen, which is leading to new agreements on international trade and investment. Regional trade groupings at both bilateral and multi-lateral levels are expected to increase. The world economy is significantly more knowledge-based and technology-driven than in the past. In order for Thailand to maintain its international competitive position, there is an urgent need to undertake necessary structural reforms and develop human resources to facilitate timely adjustment to rapidly changing conditions. Given present volatile world economic conditions, it is expected that the global economy will continue to slow for a period of time, which will jeopardize Thailand’s economic stability. Hence, there is an immediate need for Thailand to undertake restructuring of its economy from the grassroots to the macro level, based on the adoption of an appropriate national economic policy that will strengthen Thailand’s international competitive position.”

Based on the above-mentioned situation and future trends, Thailand should radically improve its educational and training systems to serve as the basic foundation of national development in a knowledge-based economy.

EMERGING HRD ISSUES IN THAILAND

Thai Educational System

Three types of education are provided in Thailand, namely, formal, non-formal and informal education. Formal education is divided into 2 levels: basic education and higher education, with 9 years compulsory education (6 years primary and 3 years secondary education). Basic education comprises pre-primary education, 6 years primary education and 6 years secondary education. The 6 years secondary education comprises 3-year lower secondary education and 3-year upper secondary education.

Higher education is offered at 2 levels: lower-than-degree or diploma level, and degree level. The provision of higher education can be classified into 3 programs, namely, academic, professional and technological programs. Higher education institutions are classified into 3 types, namely, universities and 4-year colleges that offer undergraduate and graduate degree programs, specialized colleges that offer undergraduate and graduate degree programs in a particular field (such as nursing, agriculture, and others), and technical-vocational institutions that offer degree programs on technology and applied sciences.

Educational Budget

The educational sector has received most attention from Thai government and receives the largest share of public expenditure since 1991. In 1997, the government's budget for education reached 22 percent of public expenditure. In addition, it has reached 25 percent of public expenditure in 1997 and 1998 regardless of the impact of economic crisis. It was increased to 25.7 percent in 2000, before declining to 22.1 percent in 2002.

Literacy and Participation Rate

Literacy rate grew to 93.8 percent in 1995 and functional literacy rates improved from 51.9 percent in 1992 to 57.3 percent in 1997 (Ablet and Slengesol 2000). Participation rate in primary education was 90.7 percent in 1997 and increased to 101.2 percent in 2000. The enrolment ratio at primary level was more than 100 percent was a result of repetition rate as well as under-age and over-age population of students. Enrolment in secondary education, on the other hand, increased gradually from 59.5 percent in 1997 to 68.2 percent in 2000.

Problems in HRD

The World Bank cited several problems of HRD in Thailand. Among these problems was limited enrolment in secondary education, though Thailand had been successful in providing quality primary education to all children in the 1970s and 1980s. Nevertheless, expansion of opportunities at lower and upper secondary levels and in post-secondary education proceeded more slowly. At the beginning of 1990s, less than 40 percent of the Thai workforce had completed secondary school, and about 80 percent had completed the primary school. Another problem was the more serious issue of curriculum relevance and quality.

At the tertiary level, science and engineering programs were weak, and graduates failed to meet labor market standards. A productivity gap emerged between Thailand and other NIEs, which led to a decline in Thailand's export share of labor-intensive goods. Secondary schools in Thailand are dominated by rote learning and narrow vocation courses, the main concern was Thai students would find it difficult to adapt to the rapidly changing occupation and job requirements. Beginning in the early 1990s, the government began to address issues of access and quality in secondary and higher education. Enrolment rates began to rise. Critical to meeting this challenge will be an expanded role of the private sector in employment training and the direct provision of education.

The financial crisis has had marginal impact on education. The crisis struck just as the ambitious expansion and quality improvement programs began to take hold. One immediate impact has been a slowdown in project implementation. A major casualty has been the extensive external training of leading science and engineering educators and teacher educators, who are considered the key to improving the country's education quality. The crisis has also created an opportunity for change and improvement in education. A provision mandating 12 years of basic education for all children was put in place in the new constitution adopted in November 1997. A new Education Act, which establishes the framework for far-reaching reforms is being

debated in the parliament, but has already led to the formation of public-private reform alliances and public consultations on the directions of reform.

While the ultimate impact of the economic crisis on the education sector remains uncertain, the mechanisms by which the crisis will affect the education sector are relatively straightforward. There are two countervailing forces at work, namely, a substitution of private by public education sector and a general reduction in the number of children in the school system. As household incomes fall, an increasing number of households will transfer their children from private to public schools. Since many of these children come from households that have been made poor, or rendered vulnerable by the crisis, this will place financial pressure on the government. In addition, children may be withdrawn from the education system entirely in order to supplement household income or reduce household expenditures. The poorest households, and especially those in rural areas, where students must often travel long distances to schools, are most vulnerable to pulling their children out of school. The short-term challenges will be to keep students in school, so as to prevent any long-term damage to the country's human capital, and provide job-training assistance to workers affected by the crisis.

Problems of Vocational Education

Besides general education, Thailand is also facing the challenge in the provision of training to its labor workforce. In Thailand, vocational education is provided at 3 levels: upper secondary, post-secondary and at universities. Vocational education and occupational training are provided by public and private educational institutions or through cooperation of educational institutions and enterprises. The main problem of vocational education in Thailand is a lack of unity in terms of policy guidelines, such as master plan, to coordinate the efforts in HRD. The provision of vocational education is more supply-driven. Furthermore, graduates as the educational outputs have weaknesses in both theory and practice. Moreover, there is a lack of R&D on vocational education to produce new technology and generate new jobs. Finally, there is a lack of qualified and experienced teachers and no incentives for vocational teachers to upgrade themselves. There is also a lack of cooperation between vocational institutions and the industry. Thailand has to take heed of the economic crisis and to adapt its vocational training strategies quickly to the evolving needs of economy. (Chinnapat Bhumirat, 2002)

PREPAREDNESS OF THAI GOVERNMENT TO RESPOND TO CHALLENGES

The Thai Constitution

A provision recognizing the importance of HRD and mandating 12 years of basic education for all children was put in place in the new constitution adopted in November 1997, which was the first attempt to reform Thai's educational system. The constitutional provisions that protect the rights of Thai people to access education and training and emphasize the importance of HRD are:

1. *Section 30, Paragraph 2* – Unjust discrimination against a person on the grounds of difference in origin, race, language, gender, age, physical or health condition, personal status, economic or social standing, religious beliefs, education and training, or political views (if not in violation of the Constitution) shall not be permitted.
2. *Section 40, Paragraph 2* – In carrying out the act under paragraph two, regard shall be given to maximal public benefit at national and local levels in education, culture, State security, and other public interests including fair and free competition.
3. *Section 42, Paragraph 1* – Education, training, learning, research and the dissemination of such research according to academic principles shall be protected; provided that it is not contrary to civic duties or good morals.
4. *Section 43* – Individuals shall enjoy the equal right to receive fundamental education for the duration of not less than twelve years, which shall be provided by the State thoroughly, of quality, and without charge.
5. *Section 53, Paragraph 1* – Children and youth with no guardians shall have the right to receive care and education from the State, as provided by law.
6. *Section 69* – Every person shall have the duty to defend the country; serve in the armed force; pay taxes and duties; render assistance to the government; receive education and training; protect and pass on national arts and culture and local wisdom; and conserve natural resources and the environment, as provided by law.
7. *Section 81* – The State shall provide education and training and promote the private sector to provide education and training to create knowledge along with morality, enact a national education law, improve education to be in harmony with economic and social change, create and strengthen knowledge and instill correct awareness with regard to politics and an democratic regime of government with the King as Head of the State, support research in various sciences, accelerate the development of sciences, accelerate the development of science and technology for national development, develop the teaching profession, and promote local wisdom and national arts and culture.
8. *Section 289, Paragraph 1* – Local administrative organizations have the *right to provide education and professional training* in accordance with its suitability to and the need of that locality and participate in the provision of education and training by the State; provided that is shall not be contrary to section 43 and section 81, as provided by law.

The National Education Act 1999

In accordance with the requirement of Section 81 of the 1997 Constitution, the first National Education Act was promulgated in August 1999 to serve as the fundamental law for the administration and provision of education and training. Essential features and the implementation plan of the Act are as follows:

Educational Rights and Duties: At least 12 years of basic education will be provided to all and will be specially provided to persons with special educational needs.

“*Section 10* – In the provision of education, all individuals shall have equal rights and opportunities to receive basic education provided by the State for the duration of at least 12 years. Such education, provided on a nationwide basis, shall be of quality and free of charge.”

Benefits From Government: These benefits are mainly for parents, individuals, organizations and institutions supporting or providing basic education.

“*Section 11* – Parents or guardians shall arrange for their children or those under their care to receive compulsory education as provided by section 17 and as provided by relevant laws, as well as further education according to the families’ capabilities.”

Vocational Education and Occupational Training: “*Section 20* – Vocational education and occupational training shall be provided in educational institutions belonging to the State or the private sector, enterprises, or those organized through co-operation of educational institutions and enterprises, in accord with the Vocational Education Act and relevant laws.”

Mobilization of Resources and Investment for Education: “*Section 58* – There shall be mobilization of resources and investment in terms of budgetary allocation, financial support and properties from the State; local administration organizations; individuals; families; communities; community organizations; private persons; private organizations; professional bodies; religious institutions; enterprises; other social institutions; and foreign countries, for use in the provision of education...”

Establishment of a System for Educational Quality Assurance: “*Section 47* – There shall be a system of educational quality assurance to ensure improvement of educational quality and standards at all levels. Such a system shall be comprised of both internal and external quality assurance.”

“*Section 49* – An Office for National Education Standards and Quality Assessment shall be established as a public organization, responsible for development of criteria and methods of external evaluation, conducting evaluation of educational achievements in order to assess the quality of

institutions, bearing in mind the objectives and principles and guidelines for each level of education as stipulated in this Act.”

Decentralization of Educational Administration and Management: “*Section 21* – Ministries, bureaus, departments, state enterprises, and other state agencies shall be authorized to provide specialized education in accord with their needs and expertise, bearing in mind the national education policy and standard. The criteria, methods, and conditions as stipulated in the ministerial regulations shall be observed.”

“*Section 41* – Local administration organizations shall have the right to provide education at any or all levels of education in accord with readiness, suitability and requirements of the local areas.”

Educational Administration and Management by Private Sector: “*Section 43* – The administration and management of education by the private sector shall enjoy independence with the State being responsible for overseeing, monitoring, and assessing educational quality and standards. Private educational institutions shall follow the same rules for assessment of educational quality and standards as those for state educational institutions.”

“*Section 46* – The State shall provide support in terms of grants, tax rebates or exemptions and other benefits to private education institutions as appropriate. It shall also provide academic support to private education institutions to reach the standards required and attain self-reliance.”

In addition, the Office of the National Education Commission (ONEC) and Department of Vocational Education (DOVE) are in the process of drafting the Vocational Education Act to provide quality, standard, and efficient vocational education with the cooperation and shared responsibility among the public, private, and community sectors. Vocational institutions should provide equal and lifelong learning opportunities, emphasizing practical experience, competency-based training, entrepreneurial skills, and work ethics that are relevant with the economic and social context of Thailand. Moreover, a system of vocational qualification to serve as a bridge between education and workplace shall be established so that an individual could joined the workforce and return for education and training at any time.

In summary, the 1997 Constitution, the National Education Act 1999 and other laws are attempts to legally and forcefully ensure that all people will have the right and access to education and training as well as academic freedom. Both public and private sectors take major roles in the provision of education at all levels. In addition, participation of local people and communities in educational provision will be enhanced to provide Thai people better access to education and to respond more effectively to the changing environment. The wider provision of education through formal, informal and non-informal education by various organizations would transform Thailand into a learning society in the forthcoming knowledge-based economy.

NATIONAL PLAN/AGENDA FOR MOVING INTO KNOWLEDGE-BASED ECONOMY

The Ninth Economic and Social Development Plan (2002-06) has been formulated against the economic situation above-mentioned and the HRD issues facing the country. It has adopted the philosophy of “sufficiency economy” bestowed by His Majesty the King as the guiding principle of national development and management. The philosophy of sufficiency economy, based on adherence to the middle path, is advocated to overcome the current economic crisis that was brought about by unexpected changes under conditions of rapid globalization, and to achieve sustainable development. The philosophy can be summarized as follows:

“Sufficiency economy” is a philosophy that stresses the middle path as the overriding principle for appropriate conduct and way of life of the entire populace. It applies to conduct and way of life at individual, family and community levels. At the national level, the philosophy is consistent with a balanced development strategy that would reduce the vulnerability of the nation to shocks and excesses that may arise as a result of globalization. “Sufficiency” means moderation and due consideration in all modes of conduct, and incorporates the need for sufficient protection from internal and external shocks. To achieve this, the prudent application of knowledge is essential. In particular, great care is needed in the application of theories and technical know-how and in planning and implementation. At the same time, it is essential to strengthen the moral fiber of the nation so that everyone, particularly public officials, academics, business people, and financiers adhere first and foremost to the principles of honesty and integrity. A balanced approach combining patience, perseverance, diligence, wisdom, and prudence is indispensable to cope appropriately with critical challenges arising from the extensive and rapid socio-economic, environmental and cultural change occurring as a result of globalization.

Furthermore, the Ninth Plan has established Thailand’s development vision for the next 20 years focusing on the alleviation of poverty and the upgrading of the quality of life for the Thai people, so that “sustainable development and well-being for all can be achieved.” In order to bring about change and nurture commendable values based on Thai’s cultural identity, the vision of Thai society characterized by a “strong and balanced society” is as follows:

1. “*Quality Society*” connotes adhering to balanced development principles that will encourage and empower all people to be capable, ethical, responsible, public minded, and self-reliant. People will inhabit cities and communities that are livable and efficient; and the quality of the environment will be improved. The economy will be stable, strong and competitive resulting from policies supportive of balanced and sustainable development. The political and governance system will be transparent, democratic, and accountable. Equality in Thai society will be substantially increased.

2. A “*Knowledge-Based and Learning Society*” will allow Thais to empower themselves through creative and rational thinking. Lifelong learning opportunities will be made available so that people can cope with changes and be able to accumulate intellectual capital, as well as to benefit from, interpret, and apply local wisdom as appropriate.
3. A “*United and Caring Society*” is one in which the people uphold moral values, and adhere to Thai national identity characterized by values such as interdependency, caring, and living in warm families within strong networking communities.

In summary, the Ninth Plan subscribes to the philosophy of “sufficiency economy” as the guiding principle of national development. A “sufficiency economy” will be one in which the Thai people are well educated, engage in lifelong learning, and possess high moral standards, especially honesty and integrity. Such a society will be a knowledge-based learning society that incorporates local wisdom and retains Thailand’s cultural identity. In order to realize the long-term shared vision of Thailand based on the philosophy of “sufficiency economy,” the Ninth Economic and Social Development Plan sets the following objectives for development.

1. *To promote economic stability and sustainability.* Measures will be taken to strengthen the financial sector and fiscal position of country, along with economic restructuring, to create a strong and self-reliant economy at the grassroots level. The overall economy will be made more competitive through development of the knowledge base.
2. *Establishment of a strong national development foundation.* The objective is to better enable Thai people to meet the challenges arising from globalization and other changes. HRD, education and health system reforms, and the setting up of a social protection system are priorities to be implemented. At the same time, popular participation in communities and rural areas will be enhanced to create sustainable urban and rural development networks, improve management of natural resources and the environment, as well as development of appropriate science and technology.
3. *Establishment of good governance at all levels of the Thai society.* Good governance will be fostered based on the principles of efficiency, transparency and accountability. Emphasis will be placed on the reform of government management systems, the promotion of good corporate management in the private sector, public participation in the development process, as well as the creation of a political system that is accountable to the public and does not tolerate corruption.
4. *Reduction of poverty and empowerment of Thai people.* Thai people will be empowered through equal access to education and social services. Employment generation will be supported, leading to increases in incomes.

Quality of life will be upgraded. Public sector reform will be undertaken to create an enabling environment for public participation.

In addition, the Ninth Economic and Social Development Plan sets a target related to HRD, which is as follows:

“Quality of Life Targets. Focus on maintaining a balanced demographic structure and appropriate family size. Fertility will stay at the replacement level. Every Thai person should have access to resources to achieve good health, develop the abilities to adapt to change, and practice high moral standards and social responsibility. Young people should have an opportunity to receive at least 9 years of education by the year 2006. The enrolment rate in lower secondary education is to reach 50 percent by the same year. Health insurance schemes will be extended to cover all of the population on an equitable basis. The social protection system will be improved to provide social insurance for all age groups, thereby strengthening communities and civil society. Community empowerment will create an enabling environment that fosters people participation in the development of livable cities and communities, as well as sustainable management of natural resource and the environment.”

In order to achieve the objectives and target related to HRD, strategies are established and prescribed as follows:

Development of Human Potential and Social Protection

1. *Empowerment of the people to cope with changes.* To this end, health system reform should emphasize disease prevention. Education and learning processes should be geared towards development of human potential based on knowledge, learning of useful occupational skills, and development of capacity to adapt to a rapidly evolving society.
2. *Employment policies should promote self-employment and small-scale entrepreneurship.* Employment opportunities should be created in all regions of the country, including in the faster growing non-agricultural sectors. Programs to facilitate access to labor markets in foreign countries are needed.

Strengthening of S&T Development

1. *Development and application of technology.* Emphasis should be placed on the development and application of technology in production. R&D activities should be focused and in accordance with potentials of the Thai people. Increased equality in access to technology is a priority. Technological innovation should be encouraged to increase production efficiency and upgrade the quality of goods. Innovation that builds on local knowledge and has potential to reduce reliance on foreign technologies should be encouraged.
2. *Development of human resources in science and technology.* This strategy requires reform of the educational system. More emphasis is needed on scientific learning

so that Thailand can keep pace with rapid change. Science and technological manpower needs to be developed, both in terms of quality and quantity, so that efficiencies can be achieved through appropriate assessment, selection, application and development of technology.

3. *Development and application of information and communications technology.* The objective of this strategy is to establish strong systems in Thailand for dissemination of knowledge and information to support economic stabilization and increased international competitiveness.
4. *Managed commercialization of science and technological development.* Emphasis should be placed on commercialization of science and technological inventions. The private sector should be encouraged to play the leading role in this regard, with support from the government.

In summary, the Thai government has established a national strategic plan including targets and human resource strategies to guide policy implementation that would enhance development and achievement of a knowledge-based society.

AGENDA FOR MOVING INTO A KNOWLEDGE-BASED SOCIETY

In order to respond to needs for enhancing knowledge and skills of knowledge workers, the government uses the vocational institutions and the Department of Skill Development (DSD) as the key organizations to provide occupational training. Vocational education and occupational training in Thailand are provided in education institutions, which belong to the public and private sectors, enterprises, or those organized through cooperation of educational institutions and enterprises in the form of formal education. Many departments in various ministries provide non-formal education for vocational training. The departments that are actively involved in vocational training for knowledge workers are the Department of Vocational Education, Ministry of Education; and the DSD, Ministry of Labor. Vocational training is also provided by enterprises in the form of short-term training and in-company training. The DSD is responsible for vocational and occupational training, and its activities are as follow:

- Study, analyze and develop training curricula, training aids and equipment, set up training facilities, standard, and develop training methodology;
- Study and develop suitable skill development method and guidelines for women and children and undertake a coordinating function for vocational training and information dissemination for women and children;
- Establish occupational skill standards and carry out skill testing activities;
- Develop skill development methodology in accordance with the ministerial policy and master plan including the monitoring and evaluating function of the department;

- Conduct research and develop training systems for the skill development of instructors in government and private sectors to keep pace with modern technology and to serve as a data and information center for the development of training personnel and the development of industrial technology; and
- Organize pre-employment training and skill upgrading training for labor including support and encourage private sector to take part in skill development.

In addition, the DSD underscored the fact that rapid growth of industry, commerce, and services has brought the country into intense competition in the world market. In response to this situation, the DSD is determined to be responsible for the development of skill labor, to enable them to be more productive and be the best in the region in order to compete effectively in the world market. Specifically, the DSD's strategies are as follow:

- Expand education opportunities to workers through cooperation with the Ministry of Education to provide professional training, while the Ministry of Education provides basic education for students in secondary education;
- Emphasize skill development in order to increase productivity. The DSD is responsible for national manpower planning and providing training to enhance the potential of labor force to correspond with the needs of industry;
- Optimize professional training systems to emphasize practicality of their contents;
- Emphasize cooperation between public and private sectors through tripartite committee at the national and provincial levels;
- Stimulate private sector to participate in skill development by registering trainers of private sector as professional trainers under the Vocational Training Promotion Act 1994 in order to obtain tax exemption and deduction from income tax. Besides, employers provide trainings in their workplaces are entitled for the deduction of additional expenses in the income tax. Furthermore, the government supports the private sector to establish Skill Standard Testing Centers, with the DSD responsible for determining the standard and issuing licenses. In addition, loans are provided to companies for the skill development of employees;
- Improve the efficiency of skill development through the replacement of machinery to keep up with new technology, expedite the training of trainers to encourage the transfer new technology; and utilize computer technology such as computer-based training;
- Emphasize that training courses to be developed should meet the needs of the market, e.g. computer, tourism, and nurse-aids; and
- Develop a skill development efficiency index with cooperation from the Budget Bureau, the Civil Service Commission, and the NESDB.

To implement such strategies, the DSD has established 12 skill development institutes, one central institute and 11 regional institutes, and 10 provincial centers located all over the country to conduct training for labor. Among these training

projects, the competency based skills training (CBST) was well received by the institutes and provincial centres.

CBST

The CBST is a pilot project for the Asia-Pacific region including Thailand. The curriculum is organized into small, building block training modules and distinct observable actions called competencies. Trainees are permitted to progress through the training program at their own pace by demonstrating mastery of competencies. As a result, training is rapid and efficient with lower costs and drop-out rates. Since the modularized training program is developed and customized to meet the need of employers, CBST is highly responsive to industry demand. This project includes development of efficient computer-based training modules for the DSD in accordance with international standards. To support this new training approach, the project includes the development of a comprehensive plan for computerized career guidance, skill trainings, skill certification, job placement assistance, and necessary software and CD-ROM.

Additionally, there is a need to address the training needs of small and medium sized enterprises (SMEs). In Thailand, the Metalworking and Machinery Industries Development Institute, the Thailand Productivity Institute, and the Institute of SMEs are actively involved in providing training to upgrade and increase productivity of SMEs. In summary, the government has put into a great deal of effort to enhance the knowledge and skills of knowledge workers through the establishment of national policies and various governmental agencies to improve formal education and non-formal education, and provide trainings in cooperation with private sectors to respond to the changing global environment.

HOW NATIONAL AGENDA TRANSLATES INTO CORPORATES – BEST PRACTICES IN IN-COMPANY TRAINING

The importance of HRD, especially for knowledge workers, has been recognized in business and non-government enterprises. HRD in private, state and non-governmental enterprises has become most prominent in capacity building. At present, companies are incorporating human resource planning into their business strategic planning. They develop action plans with multi-year strategies to attract and maintain knowledge workers. The human resource departments in large and medium sized firms comprise professionals and specialists in HRD. There are also professional organizations to help practitioners in improving their skills and capabilities by providing training services and consultancy to needed organizations.

In many enterprises, workplace learning, training and staff development are becoming an integral part of their corporate objectives and strategies. The companies surveyed in this study reflect such practices albeit they are facing different business environment. These companies are the Somboon Group, which is a 100 percent Thai-owned automotive parts company, the Honda Automobile (Thailand) Co., Ltd., which is a MNC, and the Airports of Thailand Public Company Ltd., which is an aviation

services company with the government of Thailand, owns 100 percent. A summary of their best practices in in-company training is as follow:

Alignment of Corporate Philosophy, Culture, Strategies, and Policies with Training Policies and Strategies

Training and development is a subsystem of the organization and has its own inputs from the organization and outputs to the organization. If the interaction is resulted in increased organizational effectiveness, then it is clear that priorities for training needs must be related to organizational goals and strategies as well as responsive to its philosophy and culture. All companies surveyed have strong philosophy and/or corporate culture that emphasize the importance of training. In addition, they blend their training strategies with corporate strategies that stress the development of products and services in response to customer needs and improve customer satisfaction. In the case of the Somboon Group, it believes in hard work philosophy. The vision of the group is to produce different kinds of automotive parts in response to the expanding demand of the Thai automobiles, both for domestic and international markets. The mission of the group is to become a leading, world-class automotive parts manufacturer, with the aim to enhance product value and contribute to society. The Somboon Group has established a training philosophy and policy that focuses on the development of company workforce to enhance their capabilities and competencies in implementing all tasks in operation processes in order to produce world-class products.

The Honda Automobile (Thailand) Co., Ltd. shares similar experiences. Indeed, all the corporations of Honda Group worldwide share the same philosophy. The company's mission is based on several fundamental beliefs: respect for individuals by respecting individual's initiative, equality and trust, and the three joys that include joy of buying, joy of selling and joy of creating. The founder of Honda Group, Mr. Honda, established the philosophy to guide the company's vision. Based on this philosophy, Honda's corporate culture emphasizes freethinking and open mindedness. This culture has been converted into Honda's management policies in carrying out its daily operation. The corporate philosophy and culture affect the training strategy in developing qualified personnel to respond to the need of customers in the changing environment.

The Airports of Thailand Public Co., Ltd. has also its training policy that emphasizes HRD for excellence and response to customers' and organizational needs. The company also emphasizes on the importance to become a learning organization and provides IT devices, facilities and other supports to enhance learning. These include electronic library, development of teamwork and creation of an enabling environment that supports learning.

Assessment of Training Needs

Accurate identification of training needs is crucial to the success and the development of organizations. McGehee and Thayer (Bramley, 1991) suggest that effective training need analysis requires the analysis at three levels, the organization, job and person. These analyses are inter-related and built on each other to produce a complete training need identification program. The analysis at the organizational level

is to determine where training can and should be implemented. The focus is on the total organization and such analysis will look at things like the organizational objectives, the pool of skills presently available, indices of effectiveness as well as the organizational climate. Analysis at the job level involves collecting data about a particular job or group of jobs. The analysis will determine what standards are required and what knowledge, skills, and attitudes are required in order to achieve the standards. The focus is on how well a particular employee is carrying out the various tasks which is necessary for the successful performance of the company. (Bramley, 1991)

At the organizational level, the organizational goals give the direction and sometimes imply changes in performance standards that have implication on training. The human resource plan predicts gaps caused by retirement, promotion, turnover and future need for human resources to accomplish the organization objectives. This provides a demographic basis for identifying training required to fill the gap. The skills pool is an inventory of knowledge and skills held within the organization. The analysis help identify training needs and predict in advance some skills that are not existed but will be required in the future. Organization climate such as absenteeism, grievances and strike, and attitude survey among staff in the company also help identify training needs as well as indicate some aspects of work situation that needed to be changed. Efficiency and effectiveness indices such as customer surveys may help identify shortfalls in performance that can be improved by training. In addition, requests by line managers or surveys of their opinions are often used to build up the training plan. Moreover, there is often a training implication when new systems or new equipments are introduced. At the job analysis level, it is necessary to discover what tasks need to be performed in order to determine the staff's job duties and how the staff should be trained to perform well.

The instruments used to facilitate this analysis are job descriptions, job specifications, performance standards, outcome assessment, and job observation including work sampling. At the personal or employee level, the emphasis of the analysis is on assessing their performance against those required in the job. Theoretically, a training program can be designed for each individual to close the gap between present and desired level of performance. The techniques for identifying individual's training needs are performance appraisal, observation, work sampling, and knowledge testing, They also include interviews and questionnaire surveys. Recently, the analysis at employee level also emphasizes observable behavior rather than the abstract qualities. This usually takes in the form of defining the "competencies" which are important for successful performance in a particular job and the appraisal of employee's performance against these competencies. (Bramley, 1991)

Regarding the identification of training needs, the companies surveyed performed a combination of techniques at three levels, namely, organization, job and employee. In the case of Somboon Group, organizational goals and strategies provide direction for competencies development that is congruent with organizational goals. The survey of employees and feedback from line managers are used to facilitate training need identification. Specifically, the HRD department conducts survey on TNA and requests inputs from customers, mangers and staff to develop training courses. At the job analysis level, the Somboon Group has established the core

competencies that contain general competencies and functional competencies for each position in the organization. At the employee level, the HRD department analyses employees' competencies to identify gaps between existing and desired competencies for training. In addition, the management ties core competency system, especially competency-based training, with all the human resource management process.

TNA at the Honda (Thailand) Co., Ltd. is also conducted by using a combination of strategies at organizational, job and employee levels. At organizational level, the sources of information to help develop training plan and curriculum include the parent company's philosophy and policy, management policies, corporate strategies in term of sales and customer satisfaction, survey of customers, and feedback from line managers and employees. At job analysis level, the company has established functional skills needed to perform the tasks for each level of technicians. At employee level of analysis, the company develops a management information system (MIS) containing database of all technicians in the company and authorized dealers. This database comprises demographic characteristics, level of technical skills, training records, and results of performance evaluation. The service training section forecasts the needs for maintenance and repairs by using computer programs to compare these with existing number and skills of technicians.

TNA at the Airports of Thailand Public Co., Ltd. is conducted in the same manners as the other companies surveyed. The analysis includes three levels, namely, organization, job and employee. At organizational level, corporate strategies and policy affect the direction of training are examined. In addition, inputs collected from customers' surveys and inputs from managers, supervisors and employees help identify the training needs. At the job level, job descriptions and performance standards are sources of information to assess training needs. At the employee level, the analysis of demographic characteristics and training records and performance appraisal are used as tools to assess training needs and develop training plan.

Training Strategies and Methodologies

All the companies used a combination of OJT and off-the-job-training (Off-JT) as well as informal training. Training strategies mostly used are participative training, practical training and social activities. Training courses cited as the best practices are directly associated with major products or services of the companies. Training evaluation includes reactive, learning and performance evaluation. The results of evaluation are used for the improvement of future training programs. In the case of Somboon Group, its HRD department uses both OJT and Off-JT altogether. The OJT comprises probation, induction and refresh training using task list breakdown prepared by supervisors. The objective is to better identify the training needs.

Furthermore, it includes training at worksites conducted by the training taskforce, and training on problem solving through consultation between subordinates and their supervisors. The Off-JT includes management meetings, classroom trainings covering both theory and hands-on practices, as well as attending training courses conducted by government agencies and taking partial study leaves (with or without company sponsorship). It also includes allowing staff to attend degree programs in Thailand and participate in international training. The informal training consists of group activities such as walk rally, FGD and morning talk. Non-formal education provided in the

factories includes distance learning, skill testing and mobile library. One of the best training courses of the Somboon Group is “upgradation of skills on operation and control of CNC-lathe machines.”

In the case of the Honda Automobile (Thailand) Co., the training section uses both formal and informal training. The formal trainings are OJT, which includes selection, probation, induction, taskforce, and refresh training. Off-JT includes in-house classroom training, training provided by other institutions, and overseas training provided by Honda Motors (Japan). Techniques used for informal training are coaching, consultation between technicians and their supervisors, taskforce, and exchange of knowledge and skills among technicians. The best training courses of the company are “in-dealer instructor implementation” and “individualized skills training.”

In the case of the Airports of Thailand Public Company Ltd, training methods used include both OJT and Off-JT. OJT consists of probation, induction, refresh training, and job location. Off-JT consists of management conferences, management meetings, classroom trainings, degree courses conducted in cooperation with Thammasart University, and short-term training courses conducted by other private institutions in Thailand and abroad. The company also provides scholarship to staff to obtain further education at bachelor and master degree levels. Informal training, on the other hand, comprises coaching, mentoring, exchange of knowledge and skills among employees, and social interaction during training sessions. The best training course cited by the company is “airport management (junior level).”

Training Deliveries

Although training may create changes in knowledge, attitudes, and skills of employees, however employees may not apply these new skills on their jobs. If this happens, then efforts to promote training will be wasted. Hence, the importance of training delivery to ensure that what is being taught will be supported and practiced in the workplace. All companies in the survey have established management systems to enhance the delivery of training. The Somboon Group has developed a coaching system by using supervisors as the major persons for consultations. They have also developed a system that ties competencies to selection, rewards and promotion.

In Honda Automobile (Thailand) Co., Ltd., aside from coaching, a training taskforce was established to provide assistance in problem solving and consultation of transferring new knowledge and skills at worksite. The Airports of Thailand Public Company Ltd. also uses supervision, coaching and mentoring to support and enhance the transfer of knowledge through training. In summary, these companies possess comprehensive in-company training strategies that started from the alignment of training strategies and policies with corporate philosophy, culture and corporate strategies. In addition, TNA and training methodologies are effectively combined. They have also established various systems to enhance the effectiveness of knowledge transfer.

CASE STUDIES

Case Study (1): Somboon Group

Company Profile

Somboon Group is a holding company engaging in the automotive parts business for over 40 years. The founder of the company is Mr. Somboon Kitapanich. At the beginning, the group operated as a retailer of suspension replacement parts and expanded into automotive parts manufacturing. Currently, the group produces more than 100 types of automotive parts. The group consists of three subsidiaries, formed according to different business lines. These subsidiaries are automotive parts business group, joint ventures business group and retailing and real estate group. Thais wholly own the automotive parts business group. It employs about 1,200 people in the manufacture of automotive parts. Furthermore, the group has three main companies as follows:

(1) Bangkok Spring Industrial Co., Ltd. (BSI). It was established in 1976. The company has a registered capital of US\$2.4 million and is wholly owned by Thai shareholders. In 2001, the total sales turnover of the company was US\$11.6 million, employing a total of 370 people. The company has a technical agreement with Mitsubishi Steel Manufacturing Co., Ltd. (Japan), and has received many awards in the past: The Winner of Outstanding Performance in Quality Control – Toyota Motors Thailand; Best Effort Award 1995-97 – Thai Kashiwakai Club for three consecutive years; Case Study Activity – Toyota Cooperation Club; Clean Technology Demonstration Line for Painting Booth by Thailand Environmental Institute and European Commission; Silver Award for the year 1999 on The Quality and Delivery Evaluation – Thai Kashiwakai Club; and 2001 Delivery Improvement Award – Siam Kubota. Awards conferred in recent years include 2002 Honorable Mention Award 2002 – CPIE Cleaner Production; 2002 QCD Award Certificate – Honda Automobile (Thailand); and 2002 Silver Award Quality & Delivery Evaluation – MMC Sittipol Co.

The major customers of BSI are from the automotive industries of Thailand and overseas, e.g. General Motors (Thailand); Asian Auto Parts Co.; Honda Cars Manufacturing (Thailand); Toyota Motor (Thailand); Long Motor Corporation (USA); and Mitsubishi Steel Manufacturing (Japan).

(2) Somboon Malleable Iron Industrial Co., Ltd. (SBM). The company was established in 1975 with US\$1.65 million registered capital and wholly owned by Thai shareholders. In 2001, its total sales turnover was US\$16 million, and employed 600 people. It receives technical cooperation from Ibara Seiki Co. Ltd. (Japan) for machining. The company has received many awards over the years such as 1996 Certificate Guarantee Purchasing System – Isuzu Motor (Thailand); 1997 Model Line – Productivity Improvement – Thailand Productivity Institute; 2002 Cost Reduction Activity - Thai Fukoku; and 2002 Honorable Mention Awards 2002 – CPIE Cleaner Production. The major customers of SBM are from the automotive industries of Thailand and overseas, e.g. Auto Alliance (Thailand); Siam Nissan Automotive; Honda Cars Manufacturing (Thailand); Toyota Motor (Thailand); Hicom Engineering SDN BHD; and Persahaan Otomobil Nasional Berhad.

(3) Somboon Advance Technology Co., Ltd. (SAT): The company was established in 1995 with US\$1.8 million registered capital and wholly owned by Thai shareholders. In 2001, its total sales turnover was US\$8.9 million and employed 160 people. The company has received many standard certificates over the years such as Certified ISO 9002 in 1997 for forging shafts and machining shafts, Certified QS9000 in 1998 for the manufacture of axle shafts, Certified ISO 14001 in 1999 for Environmental Management Standard, and Re-Certified ISO 9002:1994 and QS9000:1998 in 2002 for the manufacture of shaft and assembly parts. The company was also conferred the 2002 Honorable Mention Award 2002 – CPIE Cleaner Production. Major domestic customers of the company are Dana Spicer (Thailand), Isuzu Motors (Thailand), Toyota Motors (Thailand), and PT. Inti Ganda Perdana.

Although the business of Somboon Group was affected by the economic crisis in 1997, it recovered in 1999 and maintained considerable growth in the past few years (Table 4).

Table 4: Total Sales Turnovers of Somboon Group (1996 – 2001)

Somboon Group	Sales Turnover (in thousand baht)					
	1996	1997	1998	1999	2000	2001
BSI	780,180	545,630	320,622	448,204	554,136	541,686
SBM	566,740	317,348	258,848	481,710	672,665	719,277
SAT	0	108,199	115,280	238,409	338,452	392,875
Total	1,346,920	971,177	694,750	1,168,323	1,565,253	1,653,838

Source: Company files of Somboon Group

Corporate Philosophy and Culture

The group believes in hard work philosophy, which will lead it to be a major automotive parts manufacturer in international markets. The vision of the group is to produce different kinds of OEM suspension parts in response to the expanding demand of the Thai automobile industry, both for domestic and international markets. The group transferred the technology from Japan, and combined with its own experience to achieve customer satisfaction by the implementation of quality mission and compliance with international manufacturing standards. The mission of the group is as follows:

"To be a leading automotive parts manufacturer of world-class standard with the aim to enhance product value and contribute to society."

With the philosophy of hard work, Somboon Group was awarded ISO 9002 in 1997 and QS9000 in 1998. In addition to continuously improve product quality, the group also stresses the importance of protecting the environment that directly affects customers, employees and society. As a result, the group has received in 1999 a certificate of ISO 14001 for its environmental management system. Because of its efforts in enhancing product quality and environmental protection, Somboon Group is well known in Thailand for its leading position in automotive parts manufacturing. The group believes that hard work philosophy will lead the company to be a major automotive parts manufacturer in the international market in the future.

Challenges in Enhancing Knowledge Worker Competencies

Somboon Group does not have specific definition of knowledge workers; instead all the employees are classified as knowledge workers because each employee uses knowledge and skills to perform his/her job. The group developed a competency system in 2002 to define the basic knowledge or education level essential for the workers. A lot of efforts have been put into it to determine the core competencies required by the company's employees. As a matter of fact, the group is the sole company in Thailand that develops such competencies. Such core competencies consist of general core competencies and functional competencies. General core competencies are commitment to success, adaptability to changing environment, interpersonal relationship, communication, willingness to learn, quality awareness, leadership, and expertise. Functional core competencies are technical knowledge and skills to perform the jobs as specified for each position in the organization. The functional competencies differ according to position, job categories, and levels of management.

At present, the group has identified several external forces that shape the organizational focus in the development of knowledge workers. These forces are international environment at global and local levels that comprises production technology and international competition, especially cost competition. The production technology and cost competition have forced the group to strengthen the capabilities of employees especially in R&D to develop new products using new technology to compete in world market. The group has to develop quality and efficient workforce to compete with other companies and be able to compete for orders from multinational corporations through demonstrating the fact that its products could reach international standards. The company already meets the international standard for automotive industry of QS9000 and tries to operate beyond this standard in order to provide quality products to customers, which in turn has called for more efforts in HRD.

Environmental factors at national level include economic situation, social environment and governmental policy have also prompted the Somboon Group to focus more on training and development of knowledge workers. Factors that are having influence on the company to map out strategies focusing on the development of knowledge workers include customers and community. In case of community, the group contributes to community by transferring knowledge in the reduction of pollutants through training of local government officials and students in neighboring schools. At present, the group is renowned as a learning center of the community. Internal forces that also play a major role in developing knowledge workers include organizational culture and participation of management in HRD. The group is in the process of reviving its organizational culture to include "willingness to learn" and to make it explicit to all employees.

Furthermore, the style of participative management provides opportunities to all employees in decision-making also affects the HRD strategies at Somboon Group. Employees can provide feedback to their supervisors and carry upward the chain of command. Management meetings also provide opportunities for the exchange and sharing of ideas. In addition, task groups such as QC circles and 5S has been established to help disseminate and receive feedback from employees. Management also uses these channels to communicate issues that affect employees such as future plans of production that would require cooperation of the workers, as well as financial

status of the company including profit and loss. These activities help develop a sense of ownership among employees.

Response: Training Strategies

Although the group has recognized the importance of HRD of knowledge workers since 1993, the economic crisis in 1997 constituted a setback to the company. The group tried to motivate and retain quality employees and to develop systematic approach to HRD. In order to response to the forces influencing the organization, the Somboon Group has established a training philosophy and training policy that focuses on the development of company workforce to increase their capabilities and competencies in implementing all tasks in the operation processes under each strategic business unit. The objective is to produce world-class products. Training strategies of Somboon Group are as follows:

“Conduct training for staff at all levels by following the training plan that derived from TNA using the analyses of discrepancies between existing and desired general and basic functional competencies.”

To implement the strategies, the group sets a training committee composed of managers from functional units. This committee plays an important role in determining training courses, contents, training methods, and facilitators. Executives, especially CEO, play significant roles in the initiation of training, as well as in monitoring the progress. The committee, which is consisted of 18 staff, is fully responsible for training execution. Aside from HRD, the production department also supports training. Somboon Group also uses informal group and activities such as walk rally and QC circles to foster an enjoyable environment to encourage learning that are applicable to work situation. In 2003, the group has allocated a budget of 3.1 million baht for training. The training objectives for the year are to:

1. Close the gap between actual and desired basic competencies. At least 60 percent of employees in production units have higher than level 1 – functional competencies. In order to achieve this objective, the group has set the target to conduct training for technical staff of 750 training days, and to conduct training for supportive staff and first line supervisors for 200 training days;
2. Apply the professional system in the organization;
3. Train the trainers to enhance technical, teaching and training skills to effectively and efficiently manage training in accordance with the training plan;
4. Set up training laboratory for practical training;
5. Set up library to enhance self-learning;
6. Cooperate with other organizations to develop and conduct training as well as to enhance the image of its subsidiaries; and
7. Create linkages between professional qualifications especially for core competencies and human resource process, including recruitment, career development, compensations and rewards, and performance appraisal system.

In order to achieve these training objectives, the Somboon Group assesses training needs by analyzing the tasks needed to accomplish jobs to determine the functional core competencies and skills. These functional core competencies have become the company's standards in recruiting new staff as well as promotion. Employees and new applicants for employment are tested to determine their level of functional competencies. If there is a gap, there is a need for training for that employee. The HRD department uses the information derived from this process as the basis for formulating the training course and curriculum development. The HRD department also uses other sources of information, e.g. from supervisors, subordinates, management, QC circles, etc., as supplementary tools to assess training needs. The HRD department also collects feedback from customers to develop training courses and curriculum. In addition, survey among employees is useful to supplement the core competencies system to assess training needs and develop training courses. At present, the HRD department is in the process of developing a computerized MIS system that contains employees' bio-data and data related to core competencies and training.

The HRD department also uses a variety of training methods including OJT and Off-JT. The OJT comprises probation, induction and refresh training using task list breakdown performed by supervisors to identify needs for refresh training. Furthermore, it also comprises training provided by taskforce at work sites and problem solving through consultation between subordinates and their supervisors. The Off-JT includes management meeting, classroom training including theory and hands-on practices, training courses conducted by government agencies, partial leave for study with or without company's scholarship, and undertake degree programs with scholarship. The scholarship is provided for free and with no string attached.

Regarding training with government agencies and universities, the group cooperates with the King Mongkut Institute of Technology, DSD and the Ministry of Labor to provide in-house trainings for knowledge workers. The group has also established a national skills testing center for the DSD. In addition, the group is in the process of cooperating with Burapha University to develop a master degree program to be conducted at Somboon's facilities for employees as well as employees of the holding and associated companies. If there is a need for training abroad, such as to acquire new technology, the Somboon Group supports their knowledge workers to attend international training.

Best Practices in Training

At present, the Somboon Group considers technical skills in automotive manufacturing as the most important skills for training. In order to enhance these skills, the group has established a core competency system that ties to competency-based training and all the processes related to HRD such as recruitment, selection, training, career path development, compensation and reward, and performance appraisal. The group develops a list of core competencies for all employees. The core competencies include general competencies required for employees at all levels, and functional competencies for each position in the organization. The functional competencies are technical skills needed to perform the jobs. The core competencies are used as criteria for recruitment and selection. After recruitment, each employee receives an individual card called VISA that contains the worker's existing

competencies and desired competencies. The human resource department analyses each employee's competencies to identify gaps between existing and desired competencies and determine the training needs. If a discrepancy exists, the employee needs to attend particular training to close the gap. In addition, the HRD department conducts TNA survey to supplement the analysis of discrepancies. The core competencies are also used as a tool for performance appraisal to determine staff promotion, rewards and career path development.

Aside from the development of core competency's system, the group is proud of its cooperative training courses conducted in collaboration with DSD and Ministry of Labor. One of such examples is the training course "upgradation of skills on operation and control of CNC-lathe machine." The objective of this 60-hour training course is to transfer knowledge and skills on the operation and control of CNC-lathe machine for the 32 employees of production units. Training methods used are classroom lectures and practices. At the end of 60 hours, the training course is evaluated through reactive and learning evaluation. The group also provides training to the community on the subjects of environmental protection and income generation. The group also cooperates with other organizations by allowing outsiders to visit the company for study tour to learn, at first hand, about its best practices in HRD.

Lessons Learned

The success of training for knowledge workers in the Somboon Group relies heavily on the initiatives of the founder. The founder of Somboon Group had put into a lot of efforts to enhance the skills of its knowledge workers, especially in the manufacture of automotive parts. He established the policy that all employees should be trained and upgraded their skills continuously. This policy is still practiced by current management who are kinships of the founder. The skills that Somboon Group prefers are not only technical but also general skills that gear toward self-learning and improvement of the relationship and capacity building in the future. The other factors influencing its training strategies are management involvement and participative management style.

At Somboon Group, management involves in trainings in many forms. First, they are members of the training committee, which play an active role in providing inputs to the training plan proposed by the HRD department. Second, the management supports training by providing resources as well as monitoring and follow-up. Furthermore, consultants who have extensive experience in automotive industry are engaged to help develop the core competencies system and the implementation procedures. Aside from these factors, communication within and outside the organization facilitates HRD.

Case Study (2): Honda Automobile (Thailand) Co., Ltd.

Company Profile

The company was started in 1983 as a distributor of Honda cars under the name Honda Cars (Thailand) Co., Ltd. In the following year, a joint venture was established with the Bangchan General Assembly Co., Ltd. to begin supplying Honda cars to meet rising demand in the Thai market. After eight years of operation, Honda Cars Manufacturing (Thailand) Co., Ltd. was established as a manufacturing plant at Minburi. Four years later, in 1996, the second manufacturing plant was opened at

Rojana Industrial Park of Ayutthaya Province with a full production capacity of 70,000 units per year to meet the increasing demand both domestically and externally. The company started exporting Honda's automobile parts (of "City" model) in 1996, Honda's automobiles ("City" model) to Singapore and Brunei in 1997, and exported Honda's parts (of "Accord" model) to Malaysia and the Philippines in 1997. In addition, the company exported Honda's Accord model to Australia and New Zealand in 1998. Furthermore, the company has been exporting right-hand-drive Honda's City model to several countries in the Middle East, Africa and Southeast Asia.

In 1999, the Honda Automobile (Thailand) Co., Ltd. (HATC) was established by merging the Honda Cars (Thailand) Co., Ltd. and Honda Cars Manufacturing (Thailand) Co., Ltd. with a registered capital of 5,460 million baht (approx. US\$130 million). The goal of this merger is to enhance the potential and effectiveness of Honda's operation in the country, gearing toward the supply of high quality cars in accordance with the market's demand and rapidly changing customers' preferences. HATC's total number of employees is 3,068 (and consists of 497 employees in sales and services and 2,601 in manufacturing factories).

Products and Sales & After Sales Services

At present, HATC's products consist of 7 car models comprising Honda City, Civic, Accord, CRV, Stream, Odyssey, and Civic Hybrid. Its sales faced severe setback in 1997 because of the economic crisis but has recovered in the last several years (Table 5). The numbers of cars sold from 1997 to 2001 were 37,157, 16,559, 24,595, 30,139, and 38,820, respectively. Total sales turnovers for 2000 and 2001 were 25,833 million baht and 34,696 million baht, respectively. To enhance customer satisfaction to cover after-sale services, HATC has increased its showrooms with service centers up to 100 countrywide.

Table 5: Number of Honda Cars Sold (1996-2001)

Year	1996	1997	1998	1999	2000	2001
No. of cars	42,387	37,157	16,559	24,595	30,139	38,820

Source: Company files of HATC

Achievements and Awards

The then Honda Cars Manufacturing (Thailand) received ISO 14001 in 1998 and 1999 respectively, and in 2000, the ISO 9002. Currently, two branches of Honda's showrooms with service centers at Bangna and Sri Ayudhya have been conferred ISO 9002 certificates. HATC plans to expand this recognition to all of its dealers nationwide. The company has also received many awards for its products, e.g. 1998 Car of the Year Award for Honda Accord and CRV; 1999 Car of the Year Award for Honda City Type Z, Accord, and CRV; 2000 Outstanding Cars of the Year Award; and 2001 Car of the Year Award for Honda Civic.

Honda's Corporate Philosophy

As a part of the multinational corporation, Honda Automobile (Japan), HATC follows Honda's corporate philosophy, which is stated in *Honda Philosophy – A*

Pocket Book that was given to all Honda's employees worldwide. Honda's corporate philosophy is as follows:

“The driven force behind Honda's growth was the leadership of its founders – Mr. Soichiro Honda and Mr. Takeo Fujisawa. The most valuable legacy that our founders gave to our company is a philosophy. This Honda philosophy will continue to serve as the basis of our daily business action and judgment for all companies and associates within the Honda Group...It is important that Honda philosophy be fully understood, respected, shared, and translated into action by every Honda associates around the world.”

The framework of Honda's philosophy can be understood as the management standards to be shared by Honda Group's corporations worldwide. The company's mission is based on several fundamental beliefs: respect for individuals by respecting individual's initiative, equality and trust; and the three joys that include joy of buying, joy of selling and joy of creating. Based on this philosophy, Honda firstly creates the company's principle in 1956 and later adjusted it in accordance with the international environment. The current philosophy for the 21st century stands for the company's vision and stated as follows:

“Maintaining a global viewpoint, we are dedicated to supplying products of the highest quality yet at a reasonable price for worldwide customer satisfaction.”

The Honda's corporate culture emphasizes freethinking and open mindedness that includes a challenging spirit, sincerity, integrity, and co-evolution. Honda converted Honda's philosophy, principle and culture into Honda's management policies, which serve as the company's standards for carrying out daily operation. The policies are as follows:

- Proceed always with ambition and youthfulness;
- Respect sound theory, develop fresh ideas and make effective use of time;
- Enjoy your work, and encourage open communications;
- Strive constantly for a harmonious flow of work; and
- Be ever mindful of the value of research and endeavor.

Honda sets its direction for the 21st century as a “leading company in the mobility business.” By sharing its “joys” with the world, it has a desire that society will want Honda to exist for creating higher value through leading-edge technology; and the joy for the next generation's eco-solution by addressing global concerns. It also aims to fostering a corporate culture by merging the way of doing business with different cultures and talents to reach a higher level of creativity; and expanding the joy of globalization by constantly expanding the “joy of affiliation” that people can experience through association with Honda.

Challenges in Enhancing Knowledge Worker's Competencies

HATC has focused on the development of knowledge workers since the company's establishment in 1985. At present, the company has defined knowledge

workers as technicians who use specific technical knowledge and skills to perform technical tasks. For the after-sales services business units, which contain the biggest number of knowledge workers, the definition of knowledge workers is focusing on auto-mechanics at different levels of education and experiences. The company has classified its mechanics into four categories according to their technical knowledge and skills and abilities to analyze problems.

The first category is apprentice technician (AT) who is new to the company and has no technical experience. The second level is maintenance technician (MT) who is able to do maintenance job. The third level is repaired technician (RT) who is able to perform repair work. The fourth level is diagnostic technician (DT) who is able to analyze mechanical problems and perform repairing tasks. Each technician has to undergo certain skill tests and awarded the skill certificate accordingly. The technician has to attend corresponding training courses for promotion.

Challenges in enhancing knowledge worker's competencies came from two aspects – global and domestic. Global aspect includes automotive technology that shapes the training modules and curricular related to new car model. In addition, international competition in automotive industry also affects the training strategies. The company faces intense international competition with its products and technician's skills. In addition, changes in automotive technology have forced company to equip its employees with new skills render after-sale services to customers effectively. The international product quality standards adopted by Honda Motors (Japan) also contribute to the development of knowledge workers to cope with the changes.

The Honda Motors (Japan) publishes regularly manuals for car maintenance and repair; each country adapts the training curriculum, taking into account its country-specific situation and cultural setting. In the case of Thailand, the service training uses 80 percent of curriculum published by the headquarters; the rest 20 percent has been adapted to Thai environment. Moreover, the new technology that focuses on environmental protection and awareness especially air pollution has effect on the development of emission training. Economic situation has some influence on the training strategy in that the company could not provide training to all dealers' employees. At present, HATC sends trainers to train technicians of authorized dealers in order to save cost of travel and living expenses for dealers.

Description of Training Strategies

The training implementing strategies for staff of sales and services are centralized in three sections: service training section with 12 staff who are responsible for training of technicians and service advisors for all service centers nationwide; sales training section which is responsible of training of sales personnel nationwide; and human resource department which is responsible training all employees in the company. There is also a separate training section for the automotive manufacturing factory. In 2004, all training sections will be combined into the Asian Training Center.

The main objectives of training is to support the corporate objectives of becoming the number one firm in Thailand in terms of customer satisfaction by reducing the number of repeat repair, doubling Honda's customer retention and ensuring high profitability. Honda's management supports training by reviewing and approving the annual training plan and budget submitted by training section. In

addition, they may assign specific courses to be conducted by the training section. In addition, the management has high commitment to training. This commitment has been communicated to all dealers as evident by the number of dealers' technicians who had attended the training courses conducted by the service training section. The Honda (Japan) also supports these training programs by sending an evaluation team twice a year to assess the training quality and give recommendations for improvement. Additionally, the team provides training manuals, curricula and training aids to facilitate training in different countries.

The number of training courses conducted in 2002 was 275 and the number of trainees, 2,787. These training courses can be categorized in accordance with the levels of technicians. For new employees, there is a training course on Honda's philosophy to orient them with the corporate culture of Honda. Supplementary knowledge about Japanese working styles such as TQM and QC circles are also conducted to orient the new employees with Honda's management style. Technical training courses are classified into two categories: mechanical training including individualized skills training and new model training, and non-mechanical training. Training is provided for all employees at all levels. Training courses are divided into 4 levels in accordance with the levels of technicians: AT courses for apprentice technicians, MT courses for maintenance technicians, RT courses for repair technicians, and DT courses for diagnostic technicians.

The trainings for apprentice and maintenance technicians are now in the process of decentralization to authorized dealers for implementation. The Honda service training section also provides Honda service management action and renovation training (H-SMART) for service personnel. The H-SMART training courses are classified in accordance with the level of service management – entry course for new staff; basic course on interpersonal skill and operation management for service advisors and job controllers; advanced course on interpersonal skill and operation management for workshop managers, senior service advisors and senior job controllers; and master course on customer satisfaction and operation management for service managers and senior service advisors.

Training assessment is conducted by using a combination of strategies. Firstly, the company has established the functional skills needed to perform the tasks for each level of technicians. Furthermore, service training management develops MIS system containing a database of all technicians in the company and authorized dealers. This database comprises demographic characteristics, level of technical skills (MT, RT, and DT) and training records as well as the result of performance evaluation. The database is used as the preliminary tool to assess the technicians' training needs. Additionally, the service training section forecasts the needs for maintenance and repairs by using computer program to compare the number of cars sold with the number of incoming cars for maintenance and repairs at all service centers nationwide to forecast the future needs for maintenance and repairs. Then the service training section uses these figures as baseline and uses computer program to compare them with technical skills and training record of technicians at different levels in the database to identify technicians' training needs as well as needs for recruitment. Moreover, they also collect inputs from dealers through a training taskforce that coordinates with all dealers in the country. They also use customers' feedback through customer satisfaction survey

related to quality of after-sales services and repairs to identify training needs and modify the training courses. In addition to customer survey, they routinely send formal letters to collect information from general employees and their supervisors, functional managers, center managers, and dealers.

In-Depth Description of Best Practice

The service training section has identified the “in-dealer instructor implementation” and “individualized skills training” as their best practices in training. Details of these training courses are described as follows:

In-Dealer Instructor Implementation

This training course was conducted to support dealers that normally send less number of technicians to attend training because of travel expenses and labor shortage. In addition, facilities at the training center are unable to meet the increased demand. To cater to such situation, the training course was developed with the objectives to:

- Reduce time and cost with the courses conducted outside the training centers; and
- Quickly develop the skills of maintenance technicians.

Each dealer selects two candidates who are currently the repair technicians and with strong training records to become instructors. These candidates are trained at Honda’s training center for the full modules of maintenance for two days and individualized skills training for two days. The training programs also cover teaching methodology. Upon completion of training programs, the candidates will be certified as in-dealer training instructors, and are responsible for the preparation of annual training plan and execution of training among dealers.

Individualized Skills Training

Individualized skills training is an art of learning initiated by Dr. Robert F. Mager. Honda has adopted this learning technique that focuses on individual and independent training. Learning by individualized skills training can be more effective than conventional training method since trainees are stimulated to learning at different stages rather than focusing on passing the examination. HATC’s individualized skills training program started in 2001 and consists of 500 modules that contain technical knowledge and skills from basic to advanced skills. Time used for each module is approximately one hour. These training modules are provided to dealers and technicians through computer network and Internet with authorized access from service training section. Learners can learn from video training aids as well as undertaking self-evaluation. In addition, Honda is the only company in Thailand that practices individualized skills training.

Lessons Learned

The success of training in HATC does not occurred by chance. The prime factor that contributes to this success relies heavily on the philosophy of the founders of

Honda. The Honda philosophy provides guidance, mission, vision, and policies that influence the daily business operation and creates a corporate culture that is unique to the company as well as to their employees. Customers also play an important role in shaping the training policy and plan. Success in competition in the automotive industry relies heavily on quality products and excellent after-sales services. To respond to these challenges, HATC has developed its training philosophy and strategies that are congruent with the Honda's philosophy and market needs.

Making use of the advances in IT, the company has decentralized its basic technical skills training to dealers while maintaining QC and standards through the development of training modules, manuals and training aids. In addition, management commitment also plays a crucial role in enhancing the skills of its knowledge workers. Moreover, the effectiveness of training execution depends on quality and skills of training management. Other factors that contribute to the success are involvement of functional units and supports from employees at all levels, as well as support from its parent company – Honda (Japan), and linking training evaluation to performance appraisal.

Case Study (3): Airports of Thailand Public Company Ltd.

Company Profile

The Airports of Thailand Public Company Ltd. (AOT) operated initially as the Directorate of Civil Aviation in the 1940s. In 1979, with the enactment of the Airports Authority of Thailand Act, the Airports Authority of Thailand (AAT) was established as a public enterprise to manage the country's international aviation and airports. In 2002, AAT completed its privatization program and the Ministry of Finance owned 100 percent of its shares. Following privatization, AAT changed its name to AOT and is responsible for providing services for passengers and 79 airlines in 5 international airports, namely, Bangkok, Chiangmai, Hat Yai, Phuket, and Chiang Rai.

In 2001, the five airports served 243,375 commercial flights, an increase of 5.4 percent over the previous year. The number of passengers in the same year was 36.2 million, or an increase of 5.88 percent over the previous year. The volume of air cargos, on the other hand, decreased by 0.05 percent in the same year as a result of global recession, especially in U.S. and Japan. The income of the company in 2001 was 11,759 million baht (US\$273.5 million) or an increase of 1.07 percent over the previous year. The net profit increased by 1.09 percent. At present, the company has 2,906 employees with 1,880 males and 1,026 females and outsources some operations that are not directly related to aviation management and airport services. The company maintained growth despite the economic crisis in 1997 (Table 6). In 1999, the company (then AAT) adopted the following quality policy:

“AAT intends strongly to continuously develop the quality of airport services in order to ensure that only safe, convenient, rapid, and efficient services are carried out with international standard to the satisfaction of the airport uses.”

Following this policy, the company received the ISO 9002: 1994 certificate in 1999 and 2000 for 5 airports and ISO 9001: 2000 in 2001 for 3 airports. In addition, the company was named as the “best performance public enterprise” and received

grade level of excellence for all items rated by the Thailand Rating Institute in 2001 and 2002. Moreover, the company implements “good corporate governance” by establishing audit committee, selection committee for CEO and risk management committee. It also encourages open communication to enhance transparency, and implement procedures in accordance with professional ethics internationally.

Table 6: AOT’s Annual Sales Revenue (1996-2001) (Unit: million baht)

Year	1996	1997	1998	1999	2000	2001
Sales Revenue	6,968	7,974	8,788	10,279	10,938	11,759

Source: AOT Annual Reports, 1996, 1998, 2000, and 2001

Challenges in Enhancing Knowledge Worker Competencies

Currently, the company defines knowledge workers as professional employees who require expertise to perform their jobs for the public enterprise. The company gives training priorities to knowledge workers in the area of airport management especially in services and security.

Major factors identified by the company that affect its policy toward the continuous development of knowledge workers include advances in aviation technologies and standards, intensified competition, international cooperation, changes in political, social, and legal environment, and growing awareness on pollution. Specifically, advances in information and aviation technologies have been pertinent for the company to prepare its knowledge workers to cope with the changes and to implement modern technologies. The competition between Thai and Singapore airports, for instance, points to the necessity to upgrade such training. The adoption of international standards such as ICAO and ISO, on the other hand, necessitated the inclusion of these standards into the company’s training curriculum. In respond to the market needs, the company’s language proficiency trainings include four languages, namely, Japanese, Chinese, English, and French; and trainings to enhance security measures at airports have been upgraded in light of the international political situation. In addition, the company also uses customer satisfaction survey to help develop and improve training continuously.

Except for the September 11 incident, AOT’s business has not been affected to a significant extent by the adverse economic situation because airport service in Thailand is monopolistic and the company continues to deliver profits. The company outsources some of the operations that are not directly related to its main business to reduce cost and increase efficiency. AOT’s corporate culture resembles that of military, emphasizing discipline, tolerance, courage, humbleness, and workers’ competencies. The training plan developed at AOT is congruent with its corporate strategy. The management style is semi-autocratic because of its close relationship with the air force, though the management decentralizes some decision-making to its subordinates.

Description of Training Strategies

The company holds the view that knowledge employees, who have the expertise, professional skills, discipline, and affiliation to the organization, are crucial to its competitiveness in the marketplace. The company establishes a training policy that

emphasizes HRD for excellence and responsive to the need of customers and organizational policies. The company also emphasizes the importance of learning organization by providing technology to support learning, e.g. electronic library, development of teamwork, and create an enabling environment that supports learning. Training strategies used are participative and practical. Involvement of management in training is high; senior executives attend opening and closing ceremonies and provide feedback during presentations. Furthermore, senior executives are members of training committee that sets policies and authorizes training plan and budget. The committee also includes managers from the company's academic units, which host a HRD center to develop training plans, conduct training and evaluate results. In 2002, the center implemented 91 in-house training courses.

One of the major sources of information for training need identification is from the comments received during performance evaluation. The center also conducts survey among employees to identify training needs; other means include MIS for human resource management and FGDs. The center uses both OJT and Off-JT approaches for its training; OJT includes probation, orientation, refresh training, and job location and Off-JT consists of management conferences, management meetings, degree courses conducted in cooperation with Thammasart University, and short-term training courses conducted by other private institutions in Thailand and abroad. The AOT also provides its employees with scholarships to further their education at bachelor and master degree levels. The budget for scholarships is around 3 million baht per year. Informal trainings adopted by AOT comprise coaching, mentoring, and exchange of knowledge and skills among employees, and social interaction during training courses. The director of the human resource department emphasized that social interaction is a crucial element that affect the success of these training programs. Participants maintain networking and social interactions even after the completion of these training courses, which help facilitate cooperation among employees during operations. Training budget for 2003 was 46 million baht, constituting 3 percent of the company's total budget of the year.

In-Depth Description of Best Practices

The company cited a training course on airport management as its best practice. The training course is divided into three levels. Level I is for level 4-5 employees; Level II for level 5-6 employees; and Level III for level 6-7 employees. The center conducts 2 training batches of Level I and Level II annually. Level III training is conducted only once a year. The training course emphasizes airport management, service mindset and security procedures. Around 200 employees attend the training course annually and the training methods used are lecture and discussion sessions and in-site practices. The following provides further descriptions of a part of the training course on airport management, which focused on junior managers. Covering both technology and management aspects, the objectives of this training course on junior airport management are to:

- Provide junior managers with knowledge and understanding of the line of authority, duties, roles, responsibilities and skills;

- Cultivate their capabilities to implement action plans and policies of the AOT in a teamwork setting, and to develop their leadership and proactive attitudes;
- Encourage them to apply the knowledge learned about airport management to their work situation; and
- Develop their service mindset and management ethics.

The training curriculum contains five elements for 120 hours. These elements are: general knowledge about aviation industry (21 hours), operation of airport and airport management (30 hours), airport management (30 hours), principles of management (21 hours), and operational seminar (18 hours). There were 42 employees participated in this training in 2002 and all possessed bachelor degree or above but without former training on airport management.

Lesson Learned

The success of training programs in developing knowledge workers largely stems from management commitment, training management, and support from functional units in the company. In AOT, management commitment plays an important role and their involvement takes several forms: planning for training, allocating budget and providing inputs. In addition, corporate culture also plays a major part to facilitate training and a learning organization. The AOT emphasizes loyalty and affiliation among employees to enhance the development of knowledge workers.

KEY SUCCESS FACTORS

The concept of training model in these companies has changed dramatically over the years, namely from an individual training model to an increased effectiveness model. In the traditional individual training model, the focus was on individuals and the process to enhance learning. If an employee wants to improve himself, then learning is an appropriate process to change the skills and attitudes that would change his work performance and finally creates changes in organizational effectiveness. Although the individual training model does not ignore the importance of situational factors that affect learning, it believes that the “changed” individual is not able to change the situation factors.

However, this will only be successful if the people are sufficiently autonomous to change the interaction and the work situation. Factors that determine the work situation described above may include the structure of organization, organization culture, design of work, and reward system. It will often be necessary to change some of these and to train the people as their effect on the interaction may be more powerful than the ability of the individuals to innovate in job. Therefore, the desired training model should be based on changing the organization’s effectiveness rather than on educating individuals. The first step in implementing the new model is to identify the determining factors that could bring changes effectively. The second step is to define the criteria for measuring the improvements. The third step is to define skills and resources necessary. In other words, ignoring the organizational factors can be

expensive and ineffective to accomplish organizational goals through training. (Bramley, 1991)

Organizational Culture, Commitment and Involvement of Management

As discussed earlier, the success of training to enhance the development of knowledge workers stems largely from management's commitment in training. In this regard, corporate culture also plays an important role to facilitate training and a learning organization. In the case of Somboon Group, key factors contributing to its success relies mainly on the involvement and commitment of management. The management sets company policy to ensure all employees should be trained. The training committee that includes management as members provides inputs for the planning, implementation, control, and evaluation of all training programs. In the case of HATC, the success of training relies heavily on the philosophy of the founders of Honda. The philosophy provides guidance, mission, vision, and policies that influence the daily business operation of the company and creates a corporate culture that is unique to the company as well as to its employees.

Training Management and Facilities

The management of Somboon Group provides its support to training in terms of budget and facilities. HATC's management, on the other hand, recognizes the importance of training by ensuring adequate resources to implement training. In addition, HATC also indicates strong capabilities to perform training needs identification, conduct training, and utilizes training evaluation to develop future programs. AOT's HRD center, on the other hand, is also very capable in managing training. Its training programs are conducted with excellent support in terms of facilities such as IT equipment.

System to Enhance Training Effectiveness

Systemmatic approaches were adopted by the three companies surveyed in training. These included supervision, coaching, mentoring, group work, performance appraisal, and linking behavioral and mindset changes to their workplace situation.

Other Supporting Measures

All the companies surveyed have fostered an enabling environment for training. The Somboon Group has developed a communication system to enhance learning and staff involvement. It also receives cooperation from external organizations such as the DSD. HATC, on the other hand, receives active support from its parent company. In the case of AOT, support from management contributes to the success of training in the organization. Lastly, these case studies provide valuable insights for training, which should be conceived as organizational change rather than individual change. Accordingly, training should be started from analyzing existing situation at three levels, namely, organizational, job and employee to identify training needs. Trainers should secure management's commitment to develop training objectives and change organizational practices that allign with organization objectives. In designing training program and delivery, involvement of management and related stakeholders is necessary to ensure their effectiveness and relevancy. Management should also provide

adequate training facilities and budget. In addition, trainers should secure support from line managers to ensure that the system to facilitate and enhance the transfer of knowledge through training be established.

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List of Contributors

Chief Expert

Philippines

Mr. Enrique V. ABADESCO, JR.
Principal Consultant
Effectiveness Advisors
Suite 910 West Tower
Philippine Stock Exchange Building
Pasig City 1605

National Experts

India

Mr. Jagdish KUMAR
Director (Information Technology)
National Productivity Council
New Delhi 110003

Malaysia

Ms. Sau Khong YOW
Unit Manager/Service Research
National Productivity Corporation
Petaling Jaya 46904

Philippines

Mr. Jorge Villadolid SIBAL
Associate Professor V
School of Labor & Industrial Relations
Center for Labor & Grassroots Initiatives
University of the Philippines
Quezon City

Singapore

Mr. Paul CHANDRAN
Principal Consultant
PSB Corporation
Singapore

Thailand

Dr. Rangsimai AIRAWANWAT
Director of Master of Public Administration Program
Dhurakijpundit University
Bangkok 10210