Dong Yang Machinery Industrial Co. Ltd
Republic of Korea

Job Creation Capability of SMEs through Government Institutionalized Support

Written by

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Introduction

Today, jobless economic development and increasing unemployment of young college graduates have become main social issues decomposing middle class and aggravating social polarization. According to a report by the Korea Institute for Industrial Economics & Trade (KIET), the trend is more striking in the manufacturing industry. Manpower needed to make the same amount of products decreased by two-thirds over the past decade. In the report, the institute presented the latest changes in the ratio of employment to gross domestic product (GDP), which indicates the number of laborers needed to manufacture products worth 1 billion won (US$1.05 million).

Theoretically, economic growth should lead to job creation, thereby raising the employment rate. According to economists, an additional 1% economic growth rate is estimated to result in 55,000 to 70,000 new jobs. However, as the falling employment to GDP ratio indicates, the link between macroeconomic growth and employment has been weakening because of the advancement of the industrial structure and expansion of overseas investment in the era of jobless growth. Employment in the manufacturing industry in Korea had been following a slowly falling curve in the 2000s after a sharp decrease in the 1990s, unlike that in other advanced countries. According to the KIET report, Korea was showing a somewhat different pattern from that of advanced economies in which the increase in production was accompanied by an increase in employment.

The Small, Medium Enterprises (SMEs) play an important role in job creation in Korea across the total years. According to Jung's (2008) study, the unchanging robust results of the dominant role of SMEs in job creation in Korea affected the various measures of employment data such as size distribution of employment and new jobs created. Moreover, the effects of net job creation in SMEs w bigger than those of Large Enterprises and the job stability of SMEs was inferior to those of Large Enterprises. Therefore, it is necessary to figure out a new job strategy to create more decent jobs and develop government policies to support more job creating firms. Job creation is at the intersection of corporate management and government policy. The government is supposed to facilitate job creation in many different levels just as job creation is an essential part of corporate social responsibility.

It is in this light that the government's HRD Service conducted a case study to explore and strengthen the job creation capability of SMEs through government institutionalized support, the Public HRD Service. Dong Yang Industrial Machinery Co., which was established in 1987 as a registered partner contractor of Daewoo Heavy Industries & Machinery Ltd and Daewoo Motors Co. Ltd was selected as the enterprise case because it received the Prime Minister Award in 2012 for Job Creation Performance. As a government initiated service, the Public HRD Service was also in the best position to share good practices and experience about job creation, especially the quality of employment (which could be affecting the change in mindset of the CEO and workers), innovative culture, improvement of productivity and skills and the decline of industrial accidents in SMEs.

Factors of Job Creation Capability

A review of literature on job creation indicates that the variables of job creation capability are a high skills society (Finegold, 1998), high performance work system (Pfeffer, 1999), people centered management (Kim, 2006), great working place (Kim, 2006) and corporate social responsibility (Kim, 2006). The assumption is that job creation is not the goal of corporate organizations, but the output of strategic decisions focusing on human resources in order to increase performance. The firm's employment capability is composed of three components: job creation capability which could create new jobs, job stability which continues employment, and job quality which relates to decent jobs, such as fair rewards, employee welfare and humane workplace conditions.

Table 1: Factors of Job Creation Capability

	Category	Contents
Input	Human resources	Acquisition and development of high potentials, wage level
	Corporate governance	Separation of ownership and management, induction of international investment
	Organizational culture	Innovative culture, industrial relations
	Technology	Importing technology, technology change, technology development
Process	Strategy	Environmental change, Org. structure change, customer satisfaction, supply change management
	Organizational structure	Team matrix structure
	Leaders	Entrepreneurship, leadership, Org. management
	Skills and HRD	Labor productivity, skills, training
	HR Structure/policy	Encouraging long term employment, Reward system
Output	Measure of job creation	Ratio of new employees
	Measure of job protection	Turnover rate
	Measure of employment quality	Satisfaction of employment quality, engagement, motivation

Source: Kim, Youngsang, "Exploring Firm Assessment Model of Decent Jobs Creation and HRD Investment for Young College Graduates," *Asia Pacific Journal of Small Business*, 33(4), 19-41, 2011.

Framework of Study

This case study consisted of two parts. First, the factors of job creation capability of SMEs in Korea were reviewed based on the systems approach (input-process-output). Second, an analysis was done on how the public HRD Service (HRD consulting, Learning Organization building, S-OJT) strengthened the job creation capability of Dong Yang Machinery Industrial Co. Ltd, and which component of the company's job creation capability had to be strengthened through public HRD Service.

Public HRD service referred to government institutionalized support from HRD Korea, a specialized organization in human resource development established in 1982 under the

Ministry of Employment and Labour. Figure 1 illustrates the study framework used for the case.

Figure 1: Framework of Study

Source: Young Saing Kim(2011),
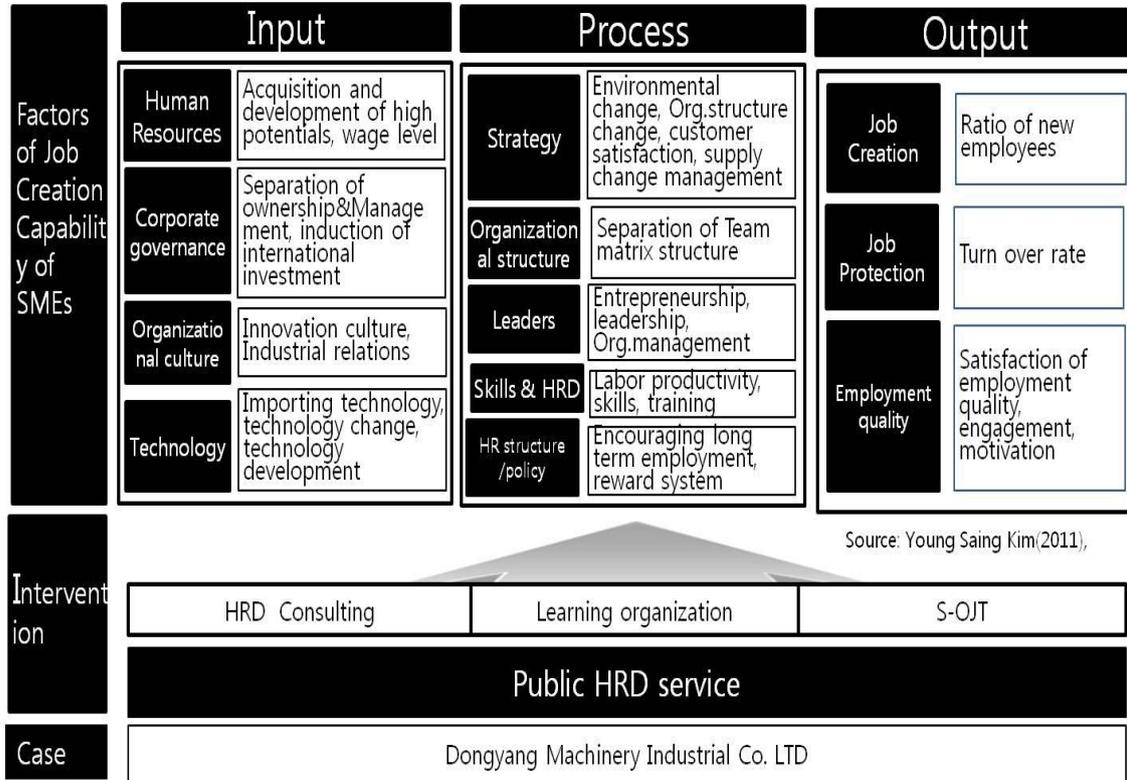
Company Background

Dong Yang Machinery Industrial Co. Ltd (Dong Yang) was engaged in the manufacture of heavy equipment (e.g., tail frame, center frame, side frame, bucket, tower crane, placing boom, crane). It was primarily a stock company with some 110 employees and sales reaching US$50 million in 2012. The company believed in their slogan, "Quality is the basic, Speed is requirement, Cost is survival!" The president served as the head of the company, supported by an executive director and directors heading the different units and divisions such as management, marketing, design, production, quality control, material division and Research & Development (R&D).

HRD Consulting Service

This service examined the quality of systems and problems of SMEs and what could be done to improve their operations, using information on recent technologies and processes. The output was an improvement plan that could help the subject SMEs correct their weaknesses in order to strengthen their competitiveness.

The HRD consultants conducted a survey of the HRD system of Dong Yang. Results of the survey indicated the need to:

- raise members' activities for communication and sharing value, delegation of power, problem solving;
- adopt an incentive system for learning and performance;
- manage knowledge information for individuals and deliver the new information easily; and
- build a systematic learning system

To complement the survey, the HRD consultants conducted an **observation of company operations and processes and interview** of key informants from Dong Yang to determine the company's problems and technical needs (Table 2). The results of these processes, together with additional information on the latest technologies, were used as inputs in crafting improvement plans to address the company's weaknesses in order to strengthen their competitiveness. The whole process helped Dong Yang design its own Learning Organization.

Table 2: HRD Consulting and Problems and Technical Needs Covered

Number	Date	HRD consultant	Performance
1	2011.2.14(Mon), 13:00~14:00	Jongwoo, Kim, Pangye, Choi, Sungyong, kim	Examining the quality of systems and problems of Dong Yang Industrial Machinery Co. Ltd
2	2011.2.23(Wen) 15:00~17:00	Jongwoo, Kim, Pangye, Choi, Sungyong, kim	Examining the problems of production line
3	2011.3. 29(Tue) 15:00~17:00	Jongwoo, Kim, Sungyong, kim	Proposing improvement plans & recent technology information
4	2011.5.2(Mon) 08:00~10:00	Sungyong, kim	Designing and time scheduling of Learning Organization Building
5	2011.6. 3(Fri) 14:00~18:00	Jongwoo, Kim, Pangye, Choi	Consulting and training for improving process
6	2011.6. 14(Tue) 14:00~18:00	Jongwoo, Kim, Sungyong, kim	Consulting and proposing recent technology information
7	2011.6.21(Tue) 14:00~18:00	Jongwoo, Kim, Pangye, Choi	Consulting and proposing recent technology information

Building a Learning Organization

Learning Organization building basically focused on the sharing and creation of knowledge, experience and know-how of the constantly changing learning culture of SMEs. It also involved the construction of learning infrastructure in SMEs to strengthen competitiveness and enhance their employees' vocational skills.

Using the improvement plan formulated as a result of the Consulting phase, the consultants helped Dong Yang build a Learning Organization. They formed five small learning groups focusing on the five important areas of their operations and competitiveness: quality improvement, cost reduction, industrial safety, welding improvement and material control. Each of the groups set its target and performance criterion against which their success or failure would be measured (Table 3).

Table 3: Learning Organization of Dong Yang Machinery Co.

Division	1 Group	2 Group	3 Group	4 Group	5 Group
Learning Group	Quality Improvement	Cost Reduction	Industrial Safety	Welding Improvement	Material Control
Target	10% Decrease of fraction defective	Creativity	Injury record	Working condition improvement	Manual development
Performance	Decrease of fraction defective	Product competitiveness through cost reduction	Continuous safe working area	Effective Welding	Sales increase through effective management

S-OJT Training Service

S-OJT was "the planned process of developing competence on units of work by having an experienced employee train a novice employee at the work setting or a location that closely resembled the work setting." The S-OJT training service was meant to encourage SMEs to conduct on-the-job training. HRD Service assisted SMEs to achieve this by developing their capability to construct learning infrastructures such as training of lecturers, developing training materials and establishing standard approaches for both classroom and on site skill development activities.

Table 4: The S-OJT Process Flow

The workers' performance and important qualitative and quantitative results of S-OJT are shown in Table 5.

Table 5: S-OJT 's Results
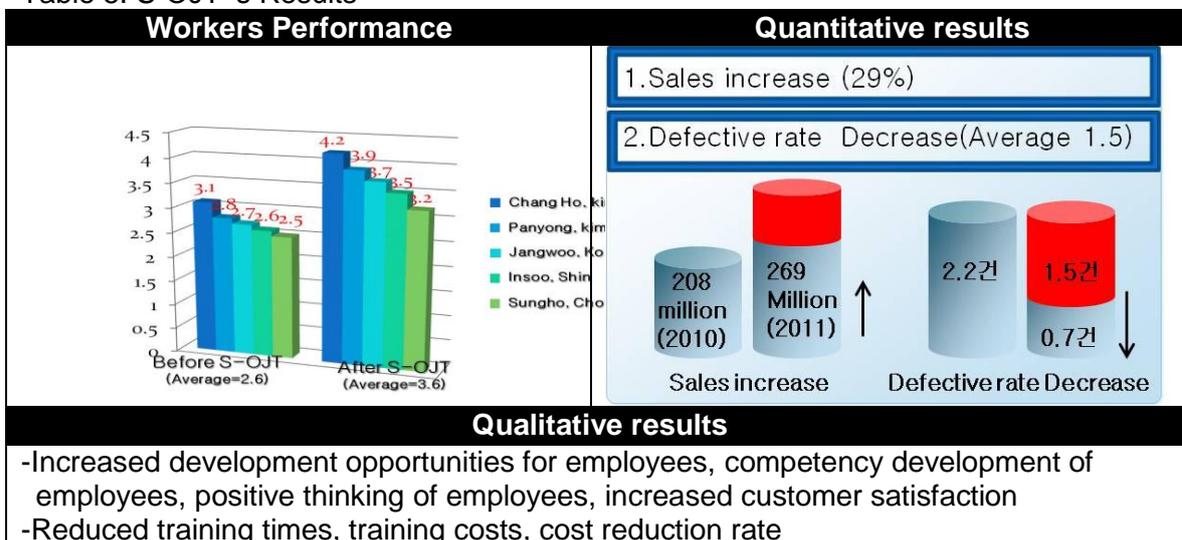
Job Creation Capability of Dong Yang Machinery Industrial Co.

Results of the observation and interviews conducted by HRD Services revealed the job creation capability factors of Dong Yang.

Input

Human Resources

In the 21st century knowledge-based society, the competitiveness of companies depends on a competent human resource development and training. Dong Yang prioritized the recruitment and hiring of highly skilled employees who were considering career in the heavy equipment manufacturing industry. The company provided opportunities for new employees to develop their skills continuously in order that they could attain the level of skills required in the various divisions of Dong Yang.

For instance, before a new employee could join the new product development division, he had to work in the existing production pilot plant, Doosan Infracore, as the first condition for employment. Since the company often provided new employees with some tasks such as welding, cutting and canning, it hired technical high-school graduates and let them develop their skills. The company also nurtured and encouraged employees with high potentials for growth in order to enhance their enthusiasm for their work, and to develop the mindset that their job was not just about making money, but a means for self-development.

Corporate Governance

The company had a strong and close relationship with the employee unions. Dong Yang enjoyed the trust and confidence of the unions because the company was able to

recover from the IMF economic crisis without resorting to restructuring. The workers were provided information on important management decisions regarding the steps that were taken to ensure its continuous future even in the midst of the crisis. Hence, the unions came to appreciate their job security rather than complained about wage cuts.

Organizational Culture

The company considered work experience and capabilities needed in the heavy equipment industry as the most important factors in choosing and retaining employees. It had a performance-based culture aimed at developing the world's best employees through a strong culture of innovation and sustainable growth. All employees could easily share an action-oriented corporate culture that was based on job security and the quality of basic employment, as well as the consensus that Dong Yang was a great place for work.

Technology

The development of a superior product through technological innovation and manufacturing process efficiency was a survival strategy for businesses. The development of technologies and products that continued to accumulate know-how would contribute to increasing employment and income. Dong Yang emphasized continuous innovation in its core technology as the key to its competitiveness. It recognized the inability of stereotype, traditional technologies to survive international competition. Starting out as a subcontractor company, Dong Yang succeeded in becoming a global company with highly skilled workers.

Since its establishment in 1987, Dong Yang had received a number of awards reflecting the culture of innovation and technology that it adopted. The company was given the Outstanding Contractor Award and Certification from Daewoo Heavy Industries & Machinery Ltd in 1990 and 2006. It also obtained placing-boom Patent Pending and Register a Design (Patent Office) in 1998 and KSA9001/ISO3007 Quality Assurance System Certification in 1999.

Process

Strategy

A strategy determines the company's direction and how to achieve the mission and goals of the company. The strategy is formulated through an analysis of the external environment (opportunities and threats) and internal situation (strengths and weaknesses). In selecting desirable strategies for the company, human resource management should be considered a priority. There are opportunities and threats in the external environment which affect people in the company. For example, potential labor shortages, wage levels of competitors, such as employment-related laws and government policies are factors to consider in human resource management.

Dong Yang recognized that the development of the company contributed to the development of society; hence, the company had to take on its corporate social responsibility. The company's involvement in profit management and employment creation ensured its long-term sustainability as a profitable enterprise and a contributor to economic development. Despite the difficulties posed by the external environment, the

company considered the employment of workers and their increased productivity as one of Dong Yang's organizational strengths.

Organizational Structure

Dong Yang supported the development of skills and lifelong learning for workers to safeguard their welfare and work-life balance in the workplace. The continuous lifelong learning system brought about by Dong Yang's adoption of the learning organization paradigm boosted the confidence of the members. Because of its horizontal organizational structure which promoted equality among the members, Dong Yang employees knew and shared selection and concentration strategy, the overseas marketing differentiation strategy (pricing, marketing, distribution channels, etc.), people-oriented management and lifelong learning support system.

Leaders

Dong Yang President Lee regarded the human resource development in Dong Yang from a wider perspective. He sought to develop workers skills to support the company's development. President Lee believed in the importance of staff training and the need to actively invest in it. Training of employees led to better performance, promotion and career advancement of the workforce, all of which could translate to overall company growth. By developing further the capacity of the staff, employees would be able to be more productive and creative. While workers competence could not be converted to monetary value in the short-term, it could have its long-term benefits both for the individual and the company. Those who were lazy complained about payment and working hours, whereas the workers eager to attain self-development and training did not complain at all.

Skills and HRD

Dong Yang set "Progressive thinking and creative man who does the best in his work" as the ultimate goal of its human resource initiatives. It was based on Honesty (customer oriented), Loyalty (his best work), Family-centered (teamwork), Professionals (the best in mechanical fields), and Creativity (progressive thinking).

The company's learning organization established with the help of the public HRD Service played a pivotal role in establishing skills development and HRD at Dong Yang. This was mainly accomplished through the five learning organization groups.

In operationalizing the learning organization however, Dong Yang encountered a number of problems. For example, it was hard to provide appropriate job-related training and adequate compensation, allocate time to participate in HRD activities, or build the learning space.

Employee awareness in the early stages of the learning organization was also average. In order to investigate the status of employees' awareness of Dong Yang' learning organization, the company commissioned a survey by an external research agency. The research agency developed the questionnaires based on Marchick & Watkins (2001) learning organization measurement tools. The questionnaire was administered to 66 Dong Yang employees, out of which 21 or 42.4% responded to the survey. Table 6 presents a summary of the survey results.

Table 6: Employees' Awareness of Learning Organization at Dong Yang

Members behavior/ characteristics		System for learning organization		Learning Process		Learning level		Education& training	
Open communication	3.07	Leadership-CEO	3.52	Knowledge creation	2.98	Individual learning	2.72	System	2.45
Personal mastery	3.11	Leadership-team leader	2.77	Knowledge storage	2.59	Team learning	2.61	Curriculum	2.74
Delegation of authority	2.84	Information system	2.93	Knowledge sharing	2.80	Organization learning	2.65	Methods	2.59
Team learning	2.90	Compensation system	2.84	Knowledge Application	2.78	Trends learning	2.65	Performance	3.20
Building shared vision	3.07	Organizational structure	3.00			Customer learning	2.70		
Systems thinking	3.18					Environment learning	2.65		
3.03		3.01		2.79		2.66		2.75	

Source: KMC Khan Consulting (2011). Learning organization consulting reports of Dong Yang Industrial Machinery Co. Ltd.

In order to overcome these learning organization related problems, the management tried to motivate the group members to provide a learning space, conduct small learning group activities and structural on-the-job training (S-OJT) programs, invite external resource persons and well-known lecturers and study work-related books. The resulting cost reduction, quality improvement, and improvement in sales were significant changes that made it all worthwhile for Dong Yang.

HR Structure and Policy

In hiring new employees, the Dong Yang management primarily considered their career path in the heavy equipment manufacturing industry and their potential to be developed in the long term. The employee also had to personify the ideal Dong Yang Man — a creative and progressive thinker who gave his best to his work based on Honesty (customer oriented), Loyalty (his best work), Family-centeredness (teamwork) and Professionalism (the best in mechanical fields). The management used objective assessment tool based on HR related regulations to evaluate employees for promotion and placement. The company usually used employees working checklist of monthly personal job performance, attitude, attendance and extra points earned which could be the basis for rewards.

Output

Job Creation

During the financial crisis, the company carried out "The union and management are one" slogan. They cut work hours to reduce operating costs but they used the extra time to conduct skills training in order to improve productivity. Management's move not to fire workers enhanced employee loyalty and helped keep the company afloat in those critical times. In fact, the company managed to hire seven more employees with its increased

productivity. Dong Yang continued to recruit and contribute to job creation in Korea with the development of new technology and infusion of new business investments.

Job Protection

Dong Yang maintained the employment of its workers even during the financial crisis through job sharing scheme and shortened working time (closing time strategy) as agreed on by labor and management. At first the employees opposed the closing time strategy because it cut down their wages and salaries. However, the union persuaded the employees to agree or else the company would not be able to survive and all employees would lose their jobs. The employees accepted the conditions of their employment and eventually all of them survived the crisis. Dong Yang continued to operate without resorting to restructuring. The company experienced the most number of days with shortened work hours in December 2008. Thereafter, the company tried to reduce the number of "closed days" and as much as possible prevented their occurrence.

Table 7: Closing Time Strategy

Closed Year, Month	Closed Allowance(US$)	Closed number	Closed days
2008.12	29,270	110	22
2009.01	8,426	101	3
2009.03	5,418	56	8
2009.06	4,455	52	11

During closing time (shortened working time), the company supported workers to get training and skills development, which had the effect of improving productivity

Employment Quality

Employee loyalty for the company was higher than for other companies because it carried out job protection without restructuring during the crisis. Likewise, Dong Yang employees took pride in belonging to one of the world's leading companies where they could grow through continuous learning. Through the learning organization, employees shared and created knowledge, experience and know-how. It also strengthened their competitiveness and increased their job satisfaction and engagement. The job creation capability factors of Dong Yang are summarized in Table 8.

Table 8. Current Job Creation Capability Factors of Dong Yang

	Category	Contents
Input	Human resources	-Securing highly skilled manpower in heavy equipment manufacturing industry fields -Based on creativity and challenge of human resource development -Workplace is a venue for self-development rather than a means for making money
	Corporate governance	-Harmony between labor and management through the formation of mutual trust
	Organizational culture	-Performance-based culture, -Innovation culture and world's best technology development -Sustainable growth -Based on cooperative labor-management relations

*cont .*Table 8. Current Job Creation Capability Factors of Dong Yang

Category		Contents
Input	Technology	-Development of superior technology in the heavy equipment manufacturing industry -Investment on highly skilled workers -Strong R&D
Process	Strategy	-Long-term perspective -Environmental Analysis -Corporate Social Responsibility -Employment protection as priority
	Organizational structure	-Continuous lifelong learning system through learning organization -Activated S-OJT
	Leaders	-Employees motivation development based on strong leadership -Empowerment -Proactive organizational management -Socially responsible entrepreneurship
	Skills and HRD	-Establishment of "Dong Yang Machinery Company Man" -Activated learning organization -Improvement of human resource competency -S-OJT activation
	HR Structure/ policy	-Possibility of future development in long-term perspective -Establishment of the Company Man -Objective assessment -HR related regulations
Output	Job Creation	-Increase of employees loyalty without restructuring -Skills development during closing(off-day, shortened working time) time -Hiring new employees with increased productivity
	Job protection	-Maintain employment through job sharing -Induction of closing with the harmony of union & management -Paid training for closed(off-day, shortened working time) workers -Increase of change consciousness rather than restructuring
	Employment Quality	-Increase of employees loyalty with job protection -Employees' pride in world's best company -Job satisfaction and engagement through skills development

Conclusion

A company's job creation capability does not depend on just an unconditional increase in investment on new employment. A variety of factors can influence job creation capability. This case has shown how the government's HRD Service influenced the job creation capability of SMEs in Korea. The HRD Service has played an important role in changing the management mindset of SMEs even in the face of a difficult business environment.

When the economy worsens, companies generally cut their training expenses. Other companies have also been turning to automation or machines rather than developing their human resource. There are however more progressive and innovative companies that recognize education and training of their workers as future revenue sources. When the direction of innovation puts its emphasis on human resource development, the company can be a significant source of job creation because a culture of innovation anchored on HRD can utilize creative problem solving skills and develop new and improved products and services.

The benefits of training and HRD are to enhance the knowledge, skills, and abilities and loyalty of the employees. In addition, training and HRD can improve customer satisfaction by activating information sharing and communication among workers. Training and HRD for workers can raise employee welfare and work-life balance in the workplace. Through continuous learning and a horizontal organizational culture, employees become more creative, productive and efficient. They contribute to a culture of excellence in the company which further leads to the company's productivity and profitability.

Don Yang activated S-OJT which is the training process wherein one employee—usually a supervisor or an experienced employee—passes on knowledge and skills to a new employee. Trainees are expected to immediately use their newly acquired skills on the job based on company standardized checklist of tasks and performance criteria. In this way, new hires learn not only the job, but the skills and knowledge they need to successfully perform in the position. With structured OJT, any experienced employee given minimal "trainer instruction" can train new employees. In a well-implemented and well-monitored structured OJT program, all new employees receive consistent, effective, and efficient training regardless of the trainer assigned to them. S-OJT is one of the most cost-effective ways to provide job task training and skills.

It is thus important that the SMEs undertake continuous capacity building and human resource management that would help them become more competitive. Given the important role of SMEs in the economy, particularly in job generation, government intervention on training and HRD for SMEs is critical. In particular, SMEs with lack of resources and vulnerable structure should be supported following the framework for job creation of "high investment on people>high skilled manpower>high wage-job creation" virtuous circle model. Corresponding policies on HRD and job creation likewise need to be adopted.

Appendix 1: Employees' Level of Awareness of Learning Organization

1. Members behavior's characteristics

Category	Members behavior's characteristics	Average
1. Open communication	1.1.1. Mutual communication with workers in related business and jobs in my company	2.90
	1.1.2. Actively encouraging new proposal related to the work in my company	3.25
	1.1.3. Are willing to accept good suggestions, regardless of position in my company	3.05
	Sub-Sum	**3.07**
2. Personal mastery	1.2.1. Employees of our company are pursuing the quality of the product or service in the world in the highest level.	3.29
	1.2.2. Employees of our company are active for the future of the new changes	3.10
	1.2.3. Employees of our company have a strong motivation to new goals to challenge constantly	2.95
	Sub-Sum	**3.11**
3. Delegation of authority	1.3.1. Our company's executives are delegating access rights to their subordinates and supporting them actively.	2.86
	1.3.2. The authority delegated staff have a lot of discretion to conduct the business.	2.85
	1.3.3. My company provides the authority delegated staff enough support.	2.85
	1.3.4. Company-wide decision-making and responsibility is granted to individuals in my company	2.81
	Sub-Sum	**2.84**
4. Team learning	1.4.1. Inter-departmental communication is well in my company	3.10
	1.4.2. The exchange of information between departments is well in my company	2.80
	1.4.3. Inter-departmental cooperation is well in my company	2.80
	Sub-Sum	**2.90**
5. Building shared vision	1.5.1. The company staff is well aware of the goals of the company	2.95
	1.5.2. In developing strategy, the company tries to seek the opinion of the employees actively	2.90
	1.5.3. All employees do the best to achieve the goals of the company	3.37
	1.5.4. Teaching and learning activities to achieve a given goal, is highly recommended in my company	3.05
	Sub-Sum	**3.07**
6. Systems thinking	1.6.1. Both executive and regular employees are focused on increasing the productivity of the entire company.	3.11
	1.6.2. When problems occur, my company identifies the causes systematically and then looks for a solution.	3.42
	1.6.3. Employees think and act from the standpoint of the entire company as well as the position of the individual	3.00
	Sub-Sum	**3.18**
Total Sum		**3.03**

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cont. Appendix 1: Employees' Level of Awareness of Learning Organization

2. System for learning organization

Category	System for learning organization	Average
1. Leadership-CEO	2.1.1. CEO regards training expenses as investment, not costs	3.42
	2.1.2. CEO thinks that education and training is essential to improve the growth and competitiveness of the company.	3.44
	2.1.3. CEO is trying to learn new ideas and management methods.	3.71
	Sub-Sum	**3.52**
2. Leadership-team leader	2.2.1. Team leader tells how much team members get the benefit after achieving their goals clearly	2.63
	2.2.2. Team leader is aware of team's needs, helps us to achieve this.	2.89
	2.2.3. Team leader checks how team members share with other employees and utilize their knowledge and know-how.	2.82
	2.2.4. Team leader promotes and supports a team members' self-development and career development	2.72
	Sub-Sum	**2.77**
3. Information system	2.3.1. Information system, such as a corporate intranet and e-mail channels is built in my company	3.18
	2.3.2. Information system manages new information or know-how as DB	2.94
	2.3.3. Employees search and utilize needed information and knowledge in building information system	2.83
	2.3.4. There are lots of useful information in my company's information system	2.78
	2.3.5. There are lots of information to be learned in my company's information system	2.94
	Sub-Sum	**2.93**
4. Compensation system	2.4.1. When evaluating employees, new knowledge and skills are reflected in business performance.	2.95
	2.4.2. In addition to acquisition of new ideas and knowledge, it is also important to share knowledge with other employees	2.84
	2.4.3. There are competency based compensation system with incentives.	2.74
	Sub-Sum	**2.84**
5. Organizational structure	2.5.1. Tasks or roles of the team members can be changed depending on the nature of the business from time to time.	3.21
	2.5.2. In addition to a fixed department, project team, learning team, and problem-solving team can be fixed or configurated	2.89
	2.5.3. Organizational structure was established so that the individual or team can promote and support learning activities	2.89
	Sub-sum	**3.00**
Total sum		**3.01**

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cont. Appendix 1: Employees' Level of Awareness of Learning Organization

3. Learning Process

Category	Learning Process	Average
1. Knowledge creation	3.1.1. Employees are acquiring work-related information and knowledge after participating in the meetings, seminars and training out of the company.	2.95
	3.1.2. New knowledge, products, technologies, and services can be created by sharing previous acquired information, technology and know-how.	3.06
	3.1.3. The experience, skills, know-how and knowledge can be shared within the department or between departments	2.95
	Sub-sum	**2.98**
2. Knowledge storage	3.2.1. Individual employee's know-how, knowledge and information were stored systematically in a company's information systems.	2.61
	3.2.2. Departmental business know-how and business processing history were organized and updated on a regular basis	2.67
	3.2.3. Employees' systematic stored know-how, knowledge, information, and materials shall be updated periodically	2.44
	3.2.4. Even if the person acquiring the first Information and knowledge is leaving the company, the information system can preserve that information or knowledge.	2.63
	Sub-sum	**2.59**
3. Knowledge sharing	3.3.1. The unique know-how or knowledge of any employee can be shared with others	2.89
	3.3.2. There is good communication with interdepartmental, within-team and among individuals	2.78
	3.3.3. When acquiring new knowledge and know-how to strengthen the company's core competencies, it can be actively communicated and shared within the company.	2.72
	Sub-sum	**2.80**
4. Knowledge application	3.4.1. Employees acquiring knowledge and know-how can apply them in the practical work	2.94
	3.4.2. Employees can apply many knowledge and know-how from other departments in practical work	2.76
	3.4.3. Employees can apply know-how and knowledge from outside in practical work for the company's competitiveness and value creation	2.78
	Sub-Sum	**2.78**
Total sum		**2.79**

cont. Appendix 1: Employees' Level of Awareness of Learning Organization

4. Learning Level

Category	Learning Level	Average
1. Individual learning	4.1.1. Employees know the knowledge and technique from other departments	2.83
	4.1.2. Employees have annual, semi-annual, quarterly or monthly goals for their own learning goals	2.63
	4.1.3. Employees are involved in self-development to become a leading expert in their field	2.94
	4.1.4. Employees are improving staff knowledge or information gained through reading, training programs, seminars, etc., to improve problem-solving skills.	2.50
	Sub-Sum	**2.72**
2. Team learning	4.2.1. There is more emphasis on the team rather than individuals; puts more emphasis on cooperation among team members.	2.88
	4.2.2. It is important for employees to be helped through the exchanges and cooperation between the departments.	2.69
	4.2.3. There is collective learning through meeting of common topic or interest and research	2.25
	Sub-Sum	**2.61**
3. Organization learning	4.3.1. Employees are learning together new skills and knowledge which is difficult to learn individually	2.41
	4.3.2. There is a system for creating and sharing company-needed knowledge and information	2.65
	4.3.3. There are various learning activities for solving problems such as the new product development and quality improvement	2.88
	Sub-Sum	**2.65**
4. Trends learning	4.4.1. The company is taking advantage of making learning opportunities and competitive strategy after analyzing trends and competitors' strategies on a regular basis	2.76
	4.4.2. Employees learn the best practices of other companies.	2.65
	4.4.3. My company is sharing necessary information and knowledge with affiliates or partners	2.53
	Sub-Sum	**2.65**
5. Customer learning	4.5.1. My company is analyzing the actual requirements of the customer as well as potential requirements periodically	2.76
	4.5.2. Customer suggestions or complaints can be used to improve my business as it is.	2.82
	4.5.3. My company provides a variety of learning opportunities for our customers.	2.50
	Sub-Sum	**2.70**
6. Environment learning	4.6.1. Employees are collecting important external information and sharing these with the company.	2.69
	4.6.2. Management strategy is developed by analyzing the domestic political, economic, and social trends	2.56
	4.6.3. Management strategy is developed by analyzing the global political, economic, and social trends	2.69
	Sub-Sum	**2.65**
Total sum		**2.66**

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cont. Appendix 1: Employees' Level of Awareness of Learning Organization

5. Education & Training

Category	Education& training	Average
1. System	5.1.1. Education & training is carried out mainly by the position in my company	2.47
	5.1.2. My company puts the focus on nurturing the company's core competencies	2.67
	5.1.3. My company encourages informal learning activities, such as learning groups and study groups	2.33
	5.1.4. Employees are selecting their own job-related training programs	2.33
	Sub-sum	**2.45**
2. Curriculum	5.2.1. Many training courses are associated with regular jobs of the company.	2.88
	5.2.2. My company provides a variety of self-learning materials that will continue to provide to develop their own competency	2.65
	5.2.3. The curriculum of the company is being modified quickly to meet technological changes	2.82
	5.2.4. Education & training is carried out mainly by the job level in my company	2.59
	Sub-sum	**2.74**
3. Methods	5.3.1. Informal training is increasing rather than formal education in the classroom	2.47
	5.3.2. Team learning is increasing	2.82
	5.3.3. S-OJT is carried out in the work area	2.67
	5.3.4. There are education & training systems to provide the necessary training or knowledge in the field	2.59
	5.3.5. Online learning system is built through internet and new information technology	2.41
	Sub-sum	**2.59**
4. Performance	5.4.1. I think I am getting the satisfactory treatment in my current work	2.74
	5.4.2. I think I am getting a fair promotion according to ability and performance management.	2.83
	5.4.3. I am satisfied with the current job and rewards	3.00
	5.4.4. I am trying to get involved at work with the vision for the future	3.17
	5.4.5. I am satisfied with the work-life balance in this company as a whole	3.06
	5.4.6. I am sympathetic to the company's management philosophy and corporate goals	3.11
	5.4.7. I have self-esteem and pride in the company's good image	3.06
	5.4.8. I am proud that I am a member of the company	3.32
	5.4.9. I don't spare any effort, if it helps in the development of the company's departments.	3.42
	5.4.10. I think that the problems of the company or department are like my own problems	3.37
	5.4.11. I make every effort on my own as well as the company	3.74
	5.4.12. I think this company will forever be my company	3.61
	Sub-sum	**3.20**
	Total sum	**2.75**