Chapter 33

Skills Development Driven by Labor Market Demand

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In 2017, I visited the Samsung Electronics Bac Ninh near Ha Noi to provide consultation services to design the labor market information system for Viet Nam's Ministry of Labour, Invalids and Social Affairs. At the time, Samsung Electronics Bac Ninh was a mega factory with 110,000 employees. The inside of the factory was quite surreal to me. Thousands of young ladies were lined up in rows, wearing the same pink uniform, knotted hairstyle, and sandals. The factory was so huge that you could even see vanishing points. I had been in many mega-factories such as Pohang Iron and Steel Company or POSCO (the largest steel processing company in the Republic of Korea), Hyundai Heavy Industries, and LG Chem in the Republic of Korea (ROK). However, this branch of Samsung Electronics was really different in that it was extremely clean, quiet, and labor-intensive.

The building at Samsung Electronics Bac Ninh that I visited was where smart-phones were assembled. One unit of the assembly line consisted of around six steps. The sixth step resulted in a completely assembled smartphone. The HR manager who showed me around the factory proudly told me that they had replaced one step of the assembly line with a robot. One out of six workers had replaced with a robot. One out of six jobs—gone. The Fourth Industrial Revolution, or Industry 4.0, was underway at Samsung Electronics Bac Ninh.

With the introduction of Industry 4.0, technology is changing at an unprecedented rate. What's worse is that technological development is speeding up and affecting other fields. With all of these technological changes, labor market dynamism is growing faster than ever, and the mismatch between workers' skills and the skills required by available jobs has become a high-priority policy concern. Many employers report difficulties finding suitably skilled workers, even though the unemployment rate is high (OECD 2019).

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271

Skills are an essential asset for individuals, businesses, and societies. To challenge the rapidly changing labor market, it is necessary for workers to receive lifelong learning and career development, as well as employment services for career transition. Training institutes must adopt a more agile and resilient approach to planning, implementing, and evaluating courses and curriculum based on rapidly changing labor market demands and emerging industries. Training programs must close skill gaps and address the mismatch between supply and demand to address labor market dynamism (OECD 2017).

However, many countries in which I have provided consultations, especially those with limited resources for skills development, have not been able to achieve successful results with their skill development programs. Skill development is an important major investment in social and individual assets. However, many skill development programs perform poorly and do not translate into employment. These poor returns of investment are mainly caused by programs' lack of relevance with labor market demand and weak link to employment services. The ultimate goal of skill development is not a graduation or the completion of the training course. The ultimate outcome of skill development is matching trainees to jobs. To make a wiser and more productive investment in skill development, skill development should be linked to labor market demand and public employment services.

Sources of Labor Market Information

Accurate, relevant, timely, and accessible labor market information is critical to the nation's economy. Labor market information is essential for building a skilled workforce, supporting career choice and development, and understanding the rapidly changing world of work. It is important to develop evidence-based skill development and career counseling using labor market data. Labor market information includes all quantitative or qualitative data related to supply and demand in the labor market, such as the size of the workforce, unemployment, wages, working hours, worker statuses, skills, training and education requirements, and job descriptions (Woods and O'Leary 2006).

Skill development policymakers and training institutions are required to plan, implement, and evaluate programs, and to develop curricula that meet the needs of both jobseekers and employers. Labor market data, based on the skill sets in demand in each regional area, can be used to design the curriculum. Training policymakers can also use this data to determine the scale of training programs. Career counselors can help training candidates make decisions that will give them a higher chance of employment, based on labor market demands.

There are several ways to identify labor market demands and to close the gap between supply and demand. Some of these methods include labor demand surveys, employment projections, future job research, and real-time labor market information systems.

First, labor demand surveys are widely used and collected by governments to verify and analyze skill development needs. Labor demand surveys are conducted to find out about businesses' labor demands, such as the current number of employees, the number of job vacancies, the number of employees to be hired, the number of job openings, and the number of filled job openings, by industry, occupation, and establishment size.

Most countries conduct Labor Force Surveys (LFS) related to labor market data. Since LFS cover a limited number of occupational categories, they are useful for policy development; however, it is hard to use these surveys for skill development at the training course level.

In the ROK, the Ministry of Employment and Labor (MOEL) surveys a sample of 32,990 workplaces with five or more permanent employees. This survey is conducted twice every year, on April 1 and October 1. Survey items cover the current number of employees, number of job openings, number of filled job openings, number of unfilled job openings, number of job vacancies, number of employees to be hired, and reasons for unfilled job openings of 423 different occupations (4 digits level of Korean Employment Classification of Occupations). The government uses the survey results to develop various policies for the effective adjustment of labor demand. Training is one of these policy areas. Training authorities and institutes review the results of the labor demand survey and develop reasonable training courses (MOEL 2019).

However, the conventional way of collecting labor demand data through surveys is becoming costly and complicated. The biggest challenge of the labor demand survey is that it identifies demands in 423 occupations, but does not pinpoint any specific skills. To develop curricula, training institutes must take the survey results and conduct further research on the skill sets needed. The industrial sector, for example, uses labor demand survey data and develops curricula through the National Skill Standards.

Second, long-term labor market projection is critical for the preparation of skill development programs and policies. A labor market projection gives important information regarding supply and demand in the labor force. If we predict in advance that mismatching is likely to occur due to imbalances between the education and skills developed by employees and the demands of employers, it is possible to reset and provide additional education and skill development as needed.

In 2006, the ROK established the Labor Market Projection Center inside of Korea Employment Information Service and developed a long-term projection model for labor market forecasting. Ever since 2006, the Labor Market Projection Center, every 2 years, has developed 10-year projections using data from the Labor Force Survey, Local Labor Force Survey, National Income, Real Value Added by Industries, and Korea Labor Income Panel Study. Using this information, the center has been able to make long-term projections identifying the fastest growing and fastest declining jobs among 300 occupations (3 digits level of Korean Employment Classification of Occupations). By making projections about changing trends in the labor market by industry and occupation, the center has provided policymakers with the information needed to build a more efficient market mechanism for the development and allocation of national resources for skill development (KEIS 2012).

Third, IT technology and data have been developed for government services and policy decisions and are strong alternatives to the traditional survey method. Large volumes of government job-matching data may soon become the basis for people to find new solutions and may even give us insight into skill development programs that were previously not feasible. Job-matching data are real time-based and reflects current labor market supply and demand at the very detailed level of job descriptions, skills, qualifications, education, training requirements, working hours, wages, occupation, industry, and location (down to the street address).

The type of detailed information provided in Figure 33.1 cannot be collected using conventional methods, such as the survey program. Huge amounts of detailed information on jobseekers, job openings, and job placement are provided here, all in one place at a location called ‘WorkNet.’ WorkNet is an online and mobile job matching system that is used as a real-time labor market information system (LMIS) in the ROK. In 2018, WorkNet placed 1.8 million people among 4 million jobseekers to 2.4 million job openings. It also contains millions of data for big data analysis related to skill development.

Further, real-time LMI, with new technologies such as big data and artificial intelligence, may provide us with the new tools we need to solve many of our current issues in the labor market. For example, the ROK developed ‘The WORK’ system, which uses big data analysis on millions of clients who have successfully found jobs. Through ‘The WORK’ system, clients are able to receive personalized recommendations based on big data analysis using integrated information on jobseeker types and user characteristics, education, and training. Clients automatically receive a variety

Figure 33.1 Aspects of LMIS the WorkNet

of individualized employment-related information, including information on vocational training, job openings, and government employment programs, all based on the stages-of-life analysis and answers provided by the individual user (Lee 2017a, b).

The WORK system is a smart matching service for individuals that uses big data. If we take a deeper look at big data, we may find company-specific skill sets, and even develop AI recommendations for training institutes based on the skill sets needed in the same city as the individual user. Skill development authorities and training institutes may also use this information to make decisions on training course size and/or curriculum. In the future, if we look deeper into big data in terms of real-time labor market information, we may gain a better understanding of real skill development mechanisms.

Collaboration Between Skill Development and Public Employment Services

PES (Public Employment Services) is an institute for unemployment insurance, the collection and provision of labor market information, career and skill development counseling, and job placement services. PES has the potential to play a key role in ensuring skill matches and investing in training. PES should reinforce the necessity of skill development as an important component of Active Labor Market Programs (ALMP).

Collaborating and connecting skill development with PES is critical for solving mismatching in the labor market. In order to promote collaboration between skill development and PES, in some countries such as the ROK, Japan, Germany, and the US, job centers provide individual counseling services for clients who want to participate in job center training. Clients must go through career counseling at job centers before they can join skill development programs. By undergoing career counseling, clients have a clearer understanding of labor market demands and training courses, including the job placement rate after course completion. They also have a clearer understanding of training purposes and career goals. After the training, participants are able to receive continued support from the career counselors at job centers for job placement. Job centers stay in constant communication with jobseekers, employers in the industry, and regional skill development institutes. In these and other ways, PES can help develop an ecosystem of employment and increase the performance of skill development programs.

Skill development programs and PES should communicate or collaborate to achieve better results and return the investment put into training. However, in Asia and the Pacific, PES and skill development institutes are often located under different Ministries; many of these ministries are very weak in terms of their communication with one another and their promotion of collaboration between job centers and training institutes. In many cases, public employment services in Asia and the Pacific have very limited functions except some developed countries.

For countries with weak PES, online and mobile job matching systems may be a very helpful alternative for physical job centers, since they are able to provide real-time labor market information with relatively low investments. I initiated official development assistance (ODA) programs for building job matching systems and mobile-based smart job centers with Viet Nam, Cambodia, and Mongolia.

Conclusion

The world of work is changing at a speed that we've never experienced before. People today must change their careers more often than in the past to meet the demands of the labor market. The key concept of career development has also changed from the personality of the individual to the social construct of a career. People keep adjusting their career goals based on their identity rather than interest, instead of staying at their workplace and maturing into a single career. Lifelong learning and lifelong career design are needed in order for people to increase their ability to adapt to a new job and workplace.

For lifelong learning and lifelong career design, skill development has become more important than ever before. Skill development represents a large time investment by the government, which theoretically translates into earning opportunities for participating trainees. To increase the cost-benefit of training investments, training decisions should be made based on clear evidence of labor market demand. In order to make informed decisions, governments must develop strong data on labor market demands in different areas and provide analytical research on LMI, occupational information, and employment forecasting.

However, even the LMI that do exist are not used fully by training institutes or local PES. In most cases, skill developers are not specialists in labor market statistics. Career counselors are sometimes inadequately prepared to deal with labor market information while providing skill development counseling for the purpose of publishing training vouchers or individual training cards. We need to increase the competencies and knowledge of LMI for skill developers and career counselors so that these programs can be better understood and used.

Skill development should not be isolated or located someplace far away from the labor market. It should be strongly and closely linked with the world of work. We need to look again at the roles of PES in skill development.

Link to the presentation material: <https://events.development.asia/materials/20190828/labor-market-demand-driven-skill-development>.

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