

# Policy Challenges for the Introduction of AI and Other New Technologies: Report of MHLW's Committee on Basic Labour Policy

The technological innovation such as Artificial Intelligence (AI), IoT, big data, robotics, etc. called the Fourth Industrial Revolution will progress in an increasingly globalized world and change the ways people work. At the same time, it is anticipated that the percentage of those who work for only one organization for their entire career will fall as the nation's population shrinks with greater speed and people's working life period lengthens in an era in which the average life span is 100 years. Under such circumstances, improving the labor market's functions will become an important policy issue in Japan.

Based on this recognition, the Committee on Basic Labour Policy (hereinafter "the Committee"), chaired by Professor Motohiro Morishima of Gakushuin University, issued a report on June 27, 2019 titled "Realizing an Affluent Future with the Proactive Use of AI and Other New Technologies by Working People." Concerning new technical trends represented by AI and their impacts on labor, the Report organizes medium-to-long-term labor policy challenges presenting necessary measures to three issues: 1) Use of new technologies such as AI to realize high-quality labor; 2) Changes in the ways people work brought by the diffusion of these new technologies; and 3) Challenges concerning the appropriate application of innovative technologies in the workplace. The Committee discussed this theme over the course of eight sessions between December 2018 and June 2019.

The structure of the Committee is not tripartite composition with the equal numbers of three parties (i.e. members representing the public

interest, the workers, and the employers) in order to discuss medium-to-long-term challenges across the boundaries of individual subcommittees and working groups as well as issues that do not fit into the conventional labor-management framework.

## Correspondence to population decline and changing employment structure

The Report begins by stating that, as Japan's population shrinks, the proactive introduction of innovative technologies will be essential in order to 1) maintain and improve socioeconomic vitality on the way to 2040, when the so-called "baby boomer junior" generation will be at least 65 years old; 2) create large added value through the social implementation of AI, etc.; 3) provide opportunities for active participation to diverse human resources having restriction on work; and 4) improve working conditions and realize fruitful careers and decent work in all segments of society.

The Committee observes the recent trend in employment structure. There is an increase in the numbers of people working in medical care and welfare when examined by industry, and in specialized and technical vocations when examined by occupation. When looking at form of employment, large number of people are non-regular workers in services, sales, and clerical work, and many of them are women. It is forecasted that there will be a surplus in personnel in clerical occupations due to increased efficiency of work provided by such technologies as Robotic Process Automation (RPA) while a shortage in specialized occupations. Manpower shortages and physical and mental

burden are becoming problematic among nursing care workers, motor vehicle operators, and other occupations. In light of these, the Report points out the necessity of the introduction of innovative technologies that address trends in the employment structure and circumstances by occupation.

Nonetheless, the Report shows a view that the implementation of innovative technologies may not necessarily move forward in the fields that require a societal attention, as the introduction or utilization state of these technologies differ depending on the type of business and size of enterprise. As possible reasons for slow progress in implementing, the Report mentions inadequate know-how for their introduction as well as financial limitations and insufficient clarity in post-introduction business models. The Report states that there is a need to identify which industries or fields require solutions to manpower shortages and other problems and then take policy measures for the active development and implementation of AI, etc.

On top of this, it is possible that the industrial structure will change the nature of existing industries significantly and may create new industries from innovation generated by AI, etc. Accordingly, the Report expects necessary discussion among those concerned on the effects that such changes will have on employment and labor in each industry or field.

### **Suggesting deepening discussion on labor-management communication**

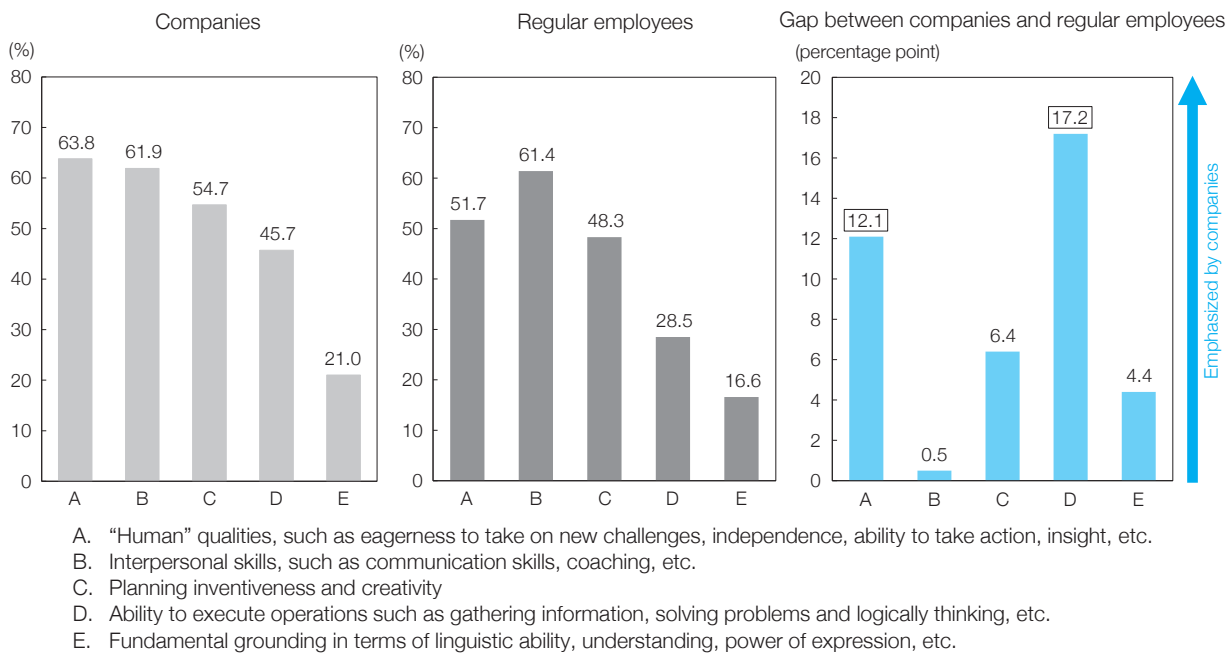
When new technologies were introduced in Japan as part of past shifts toward microelectronics and information technology, labor and management addressed the issues under the collective employer-employee relationship. The two sides reconciled differences in their cognizance of the issues in the workplaces and gained mutual understanding with regard to postings, changes of occupation, reexamination of treatment, and other matters. However, with the technical innovation that is now taking place, the work of a broad range of occupations and posts—including management—may possibly be replaced. What is more, the labor union organization rate has fallen compared to when

microelectronics were coming onto the scene. The Report states that there is a need to deepen discussions on measures to enhance the bargaining power of the workers in workplaces with no labor unions and on the way labor-management communication should be amid advancing technical innovation. There is a difference between the workers and companies in the recognition of what kind of skill is required to cope with the innovation (Figure 1). Therefore, when determining policies for introducing AI, etc., the Report emphasizes the importance to reconcile differences in their cognizance based on past experiences and advance initiatives that are essential to workers—such as improving labor conditions and work environments and providing education and training—while engaging in labor-management communication. These measures must be predicated on executives' improving their knowledge of AI, etc.

When the actual introduction of these technologies moves forward, human resources management (HRM) departments should be involved. Moreover, it is anticipated that HRTech (a word coined by combining “human resources” with “technology”) using AI will become increasingly prevalent in the HRM affairs. The Report points out that workers in HRM departments must also improve their AI literacy.

### **The skills needed to work with AI**

It has been noted that Japanese workers appear to be behind their counterparts in other countries in terms of their understanding of the necessity of acquiring skills for working with AI and their efforts toward acquiring concrete skills. The results of a survey also indicate a tendency in Japan to take lightly the impact of AI on operations when they are introduced (MHLW's white paper *Analysis of Japan's Labor Economy 2017*). The Report asserts that prerequisites here are the acquirement of basic IT literacy by those who engage in operations that will be reexamined or redesigned with the introduction of new technologies as well as digitizing and arranging information possessed. More sophisticated skills will become necessary at workplaces planning to expand their use of innovative technologies so as to make



Source: Prepared by the Office of the Counsellor for Labour Policy Planning, MHLW, based on the Japan Institute for Labour Policy and Training's *Survey of responses to innovation and Survey on of working styles in response to innovation*, JILPT Research Series No. 176, 2017, <https://www.jil.go.jp/press/documents/20170710.pdf> (available only in Japanese).

Notes: 1. The results of multiple responses are totaled.

2. Results obtained by subtracting "skills thought important by regular employees" from "skills thought important by companies" are shown.

Figure 1. Skills that labor and management think will be necessary when the use of AI becomes commonplace

actual incorporation into their operations possible. The Report also stresses the need to recruit and train personnel to develop the latest technologies, personnel to apply them to the industries, and to prepare an environmental for such personnel to be active in, with the aim of creating innovation in manufacturing, medical care, and other various fields.

Even if AI and other technologies progress, operations that make the most of humanity or that only humans can do, will remain. If we can raise the skills of those who handle such operation (that requires task setting, interactive responses, new conceptualization, final value judgment, etc.), it should lead to the availability of higher value-added products and services even as the population shrinks, and by extension, can be a source of economic growth. With such an expectation, the Report adds that enhancing the human qualities of workers (eagerness to take on new challenges, independence,

ability to take action, insight, etc.) and interpersonal skills (communication skills, coaching, etc.) will be a prerequisite for this. The Report emphasizes the importance of the appropriate evaluation of such skills by companies and society as well as the achievement of higher productivity and better working conditions including higher wages and shorter working hours with the introduction of AI and other technologies.

### Support for skill improvement and career changes

Regarding changes in tasks brought by the application of new technologies and gaps in skills and aptitudes that workers currently possess and that they will need, the Report states that workers will need to recognize these factors on their own and voluntarily aim to improve their skills or make career changes. For this purpose, information on vocations, skills, education and training, and other

matters must be made “visual.” The Report states that the government are required to develop the information systems that will provide the basis for this. Specifically, the government should ascertain education and training needs accurately and enhance the content of education and training by utilizing private-sector education and training institutions, universities, and vocational schools and colleges.

The Report points out that companies must also study how they will provide education and training aimed at developing workers’ medium-to-long-term career. It mentions the possibility that people will have more opportunities to make career changes as they work for more years in an era of the “100-year life.” Accordingly, it will be necessary to allow everyone who desires support for skill improvement or a career change to receive it, regardless of their age. Additionally, the Report states that students should receive education at school to acquire basic literacy in new technologies including AI and have opportunity to think about how they will learn and work as preparation for working in the coming society.

The Report also notes the need for attention to ensure that workers who cannot cope with new technologies are included in society, not excluded from the labor market. Specifically, the government will be required to provide workers with education and training opportunities and support for their career development, and strengthen company-led measures to support workers’ skills development. Workers will be required to proceed with skill improvement or career change based on the objective view of the direction and necessity of their own skills acquirement. The Report states that it is expected to deepen discussion on how safety nets—namely, independence support such as employment support and life security—will take shape in response to future technological developments so as to provide society-wide support at all life stages for those who have difficulty coping with new technologies.

### **Challenges in the proper application of AI**

As challenges concerning the proper application of AI and other technologies, the Report presents

privacy protection, corporate responsibility and ethics, support for labor mobility, and government-labor-management communication. There must be an environment which protects workers’ privacy and guarantees the security of their personal information, and in which workers can provide required personal information with peace of mind and effectively receive benefits. At the same time, a sense of ethics among the people who handle personal information will be indispensable. The Report calls on companies to develop environments that allow them to respond appropriately to decisions made by AI, stating that doing so is a responsibility and ethical duty that companies must fulfill vis-à-vis those decisions. This is because it was pointed out in the Committee’s discussions that the data and algorithms serving as AI’s information resources may include bias; for example, there are concerns that workers or others will be unfairly disadvantaged if there is bias in the resource data for HRTech. On the other hand, using AI and other technologies makes it possible to analyze whether or not bias is included in operational decisions by human beings, and therefore technical innovation can help eliminate human bias. The Report thus noted expectations for the use of AI, etc. with regard to this point.

New technological advancements will replace and create operations, and change the industrial structure. Workers’ needs will grow with respect to changes of jobs, and companies will need to secure necessary human resources. In anticipation of these, the Report notes the necessity of considering the system which does not make changing jobs disadvantageous and of achieving smooth labor mobility. Additionally, new ways of working are expanding in such areas as crowdsourcing and sharing businesses. Addressing protections for those in employment-like work styles, the Report suggests that studies of issues demanding particularly high priority should take place with urgency, taking into account aspects as self-employed workers and similarities with employees.

Amid expectations that the development of technological innovation will have a major impact on working styles and employment, securing high-

quality employment opportunities will become a critical challenge. However, this challenge is not something that can be tackled within individual companies. It requires the clarification of a vision at the business, industrial, and regional levels, as well as throughout society as a whole, before the impending change to a new age occurs. Thus, the Report urges

continual dialogue among government, labor, and management at the business/industrial, regional, and national levels with focus on the changing times. Moreover, it calls for the study of measures from a medium-to-long-term perspective on the topic of how AI and other innovative technologies will impact employment and labor.