GPAI Future of Work 2023

Global Partnership on AI

Future of Work Survey Report 2023 in Japan

June 2024

GPAI
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This report was written by the Japanese team of the Global Partnership on AI's Future Work. The recommendations in this report were made by the Japanese team and do not represent the views of the GPAI, the OECD, Japan's Ministry of Internal Affairs and Communications (MIC), the Ministry of Economy, Trade, and Industry (METI), or related organizations, such as companies or local governments, that were the subjects of the interviews.

Preface

It has been almost four years since the Global Partnership on AI (GPAI) was established on the initiative of France and Canada. In the meantime, the environment surrounding AI has changed significantly, and the initial awareness of the issues advocated by GPAI has become widely shared by the general public on a global scale today. In the field of AI, there has been a call for a group of experts, modeled on the Intergovernmental Panel on Climate Change (IPCC), which conducts research, analysis, and advice to address the global issue of climate change, and GPAI has been the forerunner of this. In addition, the importance of GPAI's human-centered approach, responsible development and use of AI based on respect for human rights, and “bridging the gap between theory and practice on AI” has more social implications than ever before, and more comprehensive and practical discussions are required.

Normally, when an international organization is newly established, it starts its activities, once fixed the details of the framework, such as the structure, the authority and responsibilities of the decision-making body, the arrangements regarding members and their contributions, and the roles, membership, and responsibilities of the subordinate organizations, while, in the first year at GPAI, in parallel to the establishment of the structure, its four working groups composed of experts took the lead in proposing and implementing specific activities. Subsequently, a formal process, which consists of project proposals by the WG, discussions by the Steering Committee, and approval by the Board of Directors was established, and project evaluation by a panel of experts was added to this process last year, while the GPAI's policy to keep the WGs as a key driver, has been inherited.

In addition, regarding the Multi-Stakeholder Experts Group Meeting (MEG), which was positioned under the Steering Committee, as a system, expectations for its proper activities were expressed during discussions at the GPAI Summit 2022 held in Japan. In 2023, on the initiative of the newly elected MEG Chair, town hall meetings and workshops have been held as overarching activities beyond the WG, and this year, the Safety and Assurance of Generative AI Workforce (SAFE), a project led by MEG, has started.

In the midst of these developments, one of GPAI's four working groups, Future of Work WG, launched a project “Observation Platform of AI at the Workplace” in the first year. Interviews with companies that have introduced AI are conducted, mainly by students, with the aim to collect opinions from the frontline, and to monitor the impact on workers and the working environment. Japan has been participating in this project as the Japan Students Community (Japan Team) since 2021, and this is already the third time that a report summarizing the results of the activities has been published. In the meantime, with the rise of Generative AI, the evolution of AI has far exceeded our imagination, and the situation of companies incorporating AI is changing significantly. We hope that this report allows readers to perceive these developments. We also hope that the students who participated will use their experience as a member of the Japan team to play an active role in their university and society in the future.

June 2024

Professor Emeritus, Tohoku University
GPAI “The Future of Work” 2020-2021 Co-Chairs

Yuko Harayama

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1. About the GPAI “Future of Work” working group

1-1 About the GPAI “Future of Work” working group

The Global Partnership on AI (GPAI) is an international framework that aims to develop and use “responsible AI” based on human-centered approaches and principles, such as transparency and respect for human rights 1. The GPAI comprises multiple stakeholder groups, including governments, international organizations, industry, and experts, who comply with OECD AI principles and close the gap between theory and practice of AI. Under this concept, the four main drivers of substantive activities are “Responsible AI”, “Data Governance”, “the Future of Work”, and “Innovation and Commercialization”.

One of the working groups, “Future of Work,” discusses how AI will affect workers and the working environment, that is, how the quality, inclusiveness, health, and safety of work can be protected, and how better work can be designed between workers and employers. The discussion is conducted from the perspective of designing better work in the relationship between workers and employers. Current priority projects include Observation Platform of AI at the Workplace, a project to collect case studies, and the AI Living Laboratory to experiment with use cases in the workplace.

1-2 GPAI Japan team activities

In Japan, the “Future of Work” program has been conducted since 2021. In 2023, the third year of participation, the students from the University of Tokyo, Doshisha University and Toyo University joined. These participating universities are taking the lead in collecting AI application case studies in Japan and submitting them as materials for international discussions at the GPAI.

1-3 Purpose of this report

This report presents the research activities and results of a survey conducted in 2022 by a Japanese team within the international framework of the GPAI. The “Observation Platform of AI at the Workplace” aims to continuously collect more case studies in participating countries and reflect on the situation on the ground in international discussions while considering different backgrounds such as the purpose of AI introduction and industrial structure. Furthermore, this report presents the status of AI in Japanese workplaces by emphasizing the introduction of specific cases surveyed by each university (team) in a manner that reflects the expansion of participating universities (teams) in Japan.

The activities of the GPAI are supported by companies and organizations that cooperate with us, as well as by the students who participate in our activities. We hope this report will help promote an understanding of GPAI activities among those who have been and will be involved in GPAI activities and that many people gain interest in GPAI activities.

2. Overall summary of the GPAI Japan team's study

2-1 Survey structure and method of proceeding¥

A total of 29 students from three universities (Doshisha University, Toyo University, and Tokyo University) participated in the Japan team for the "Future of Work" 2023 survey, with support from their respective faculty advisors. Two GPAI "Future of Work" committee members and a steering team from the University of Tokyo were responsible for overall supervision and coordination with the GPAI.

Each survey team selected survey sites based on their respective research subjects, and the participants took the initiative to carry out the work from the interview survey approach for implementation and reporting. Regular joint meetings were held between the management and survey teams to confirm progress and coordinate common issues.

The survey was conducted from September to December 2023.

Figure 1: Japan Team Structure and Roles (2023)

Management Team	Survey Team (Participating Universities)
Project Owner (Owner): Yuko Harayama (GPAI / Professor Emeritus, Tohoku University) **Project Manager (PM):** Arisa Ema (GPAI(FoW) / Associate Professor, The University of Tokyo) **Subject Matter Expert (SME):** The leader in Research teams Kosei Miyazaki (Professor, Hyogo University) Role: • Project management • Coordination between teams and with external stakeholders • Output management	**Doshisha University:** Masayo Fujimoto (Professor), 10 students Hirofumi Katsuno (Associate Professor), 13 students **Toyo University:** Masafumi Nakano (Professor), 4 students **Tokyo University:** Arisa Ema（Associate Professor), 2 students Role: • Management of survey teams at each university • Conducting each survey

2-2 Overview of Questions in the Interview Survey

Questions for the interview survey were selected from common GPAI items prepared from the following perspectives according to the selected research sites and interests. Additionally, questions not included in the common items of the GPAI but related to their research themes and their understanding of background industrial and social issues were added to their initiative.

Detailed questions for the common GPAI items are presented in the appendix of this report. The major items are as follows:

- AI system definition
- The ethical factors/Fairness/Equity/Bias of the organization
- Process of planning
- Employees' personal data
- Human Machine Interaction
- The ethical factors considered while designing the AI system
- Impact assessment: Ex Ante Analysis
- Implementation
- Reviews and adjustments (Ex Post Evaluation)

2-3 Summary of Survey Results

The 2023 survey examined 28 AI applications in 12 industrial sectors, including IT, auditing, consulting, information /telecommunications, finance/insurance, liquor/beverages, manufacturing, logistics, real estate, entertainment, education, and local government.

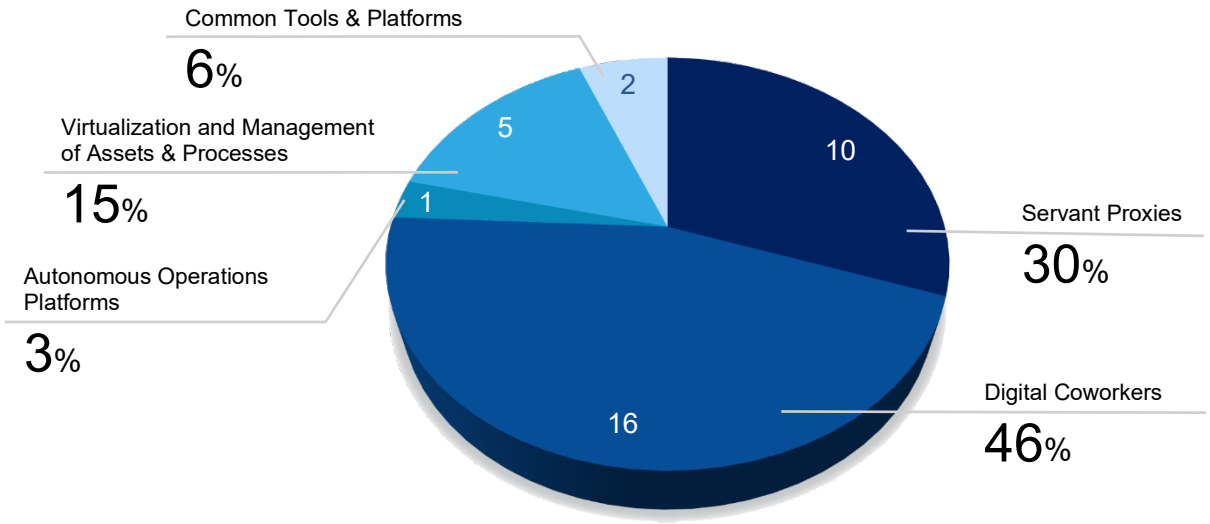
When these use cases are divided by the analysis axes set by the GPAI: “human replacement,” “digital co-workers (in conjunction with workers),” “autonomous services,” “simulation visualization,” and “standard development tools/platforms,” the majority of the cases fall into the “human replacement” and “digital co-workers (in conjunction with workers)” categories. Most AI services are "digital co-workers," but they were grouped into five categories of AI services, including services that span multiple categories.

Specific case studies and discussions by each team will be reported in Section 3.

Table 1: Categories of AI systems in the GPAI survey

Servant Proxies	Solutions that replace the cognitive work of people in service relationships with other people, machines, or infrastructure (for instance: smart home hubs, autonomous vehicles, and digital assistants in the areas of sales and customer service, care robots, and concierge robots).
Digital Coworkers	Solutions that expand/support people’s cognitive work by providing knowledge and information supporting decision-making, solving non-trivial problems, etc.
Autonomous Operations Platforms	Autonomous cyber-physical platforms offering technological and business services (automated factories and warehouses, and autonomous transport systems).
Virtualization and Management of Assets and Processes	Solutions that create a visualization and simulation environment (digital twin) for various assets (tangible assets such as buildings, machines, cities, etc./intangible assets such as processes, systems, etc.) and perform various operations (event prediction, configuration optimization, etc.)
Common Tools and Platforms	Horizontal tools and platforms facilitating the creation of solutions from other application classes (machine learning components, low-code environments focused AI solutions, etc.).

Figure 2: Percentage of each category of cases studied



3. Case Studies and Discussion

Although there were common questions regarding the GPAI survey, the academic backgrounds and grades of the participating students, as well as the purpose of their participation in the survey varied for each team. Therefore, this report introduces each of the 27 case studies identified in 12 industry sectors by faculty advisors from each university that participated in the survey. In their introductions, they were asked to describe the following seven items:

1. What field/industry use cases did you research, and why did you choose that field/industry?
2. What AI systems are used in that field/industry?
3. Who is involved in the implementation and use of the system?
4. What ethical perspectives are being discussed and what concerns arise when designing AI systems?
5. How can future work change with the introduction of these AI systems?
6. Is there any training or user follow-up at the workplace when implementing an AI system?
7. Is there anything else of note, especially in the field?

3-1 Prof. Masayo Fujimoto, Department of Sociology, Faculty of Social Studies, Doshisha University

[1] What field/industry use cases did you research, and why did you choose that field/industry?

Use cases by field and industry include local governments, beer and other liquor brewing industries, Japanese sake manufacturing industry, brewing equipment manufacturing industry, logistics industry, education support industry, insurance industry, real estate industry, content service industry (VR), SNS-related service industry, and HR service industry conducted on-site surveys to collect information. The reasons for selecting this field and industry are as follows: (1) The field in which the students are actively interested was selected based on the Japan Standard Industrial Major Classification and the Middle Classification. (2) After studying the 2021~2022 survey conducted by Fujimoto Seminar, students selected fields in which they wanted to deepen their research in the same field, or fields that they had not been able to investigate before.

[2] What AI systems are used in that field/industry?

Examples in municipalities were: (1) use for transportation services (adjustment of bus operating hours) and (2) use for administrative processing within municipalities. Examples in the Beer/Japanese sake brewing industry include (1) use for store inventory management and demand forecasting, (2) use in manufacturing to improve the quality of Japanese sake (not in the sense of replacing labor shortages with automation technology), and (3) use of automation technology in the brewing process by brewing equipment manufacturers. Examples in the logistics industry include (1) the use of AI as a response to labor shortages and the introduction of automation technology to perform operations accurately and quickly, and (2) the use of AI to prepare internal documents. In the educational support industry, there was an alternative to a system that uses AI to provide learning support that was originally performed by instructors. An example in the insurance industry used AI to detect consumers making fraudulent claims for insurance and to avoid the risk of being deceived by consumers. Examples in the real estate industry were used to generate in-house materials and ideas. An example in the content service industry was providing VR-based AI applications to customers. SNS service companies were providing SaaS-type AI applications. An example in the HR service industry was the provision of an AI interview application.

[3] Who is involved in the implementation and use of the system?

Mainly among the employees, a team of highly specialized people about AI formed a team, and people who were working to spread AI within the company, people who were instructed how to use it and used AI for the first time, and people who were engaged in AI application development projects were involved. The occupations of those who were engaged in the development and dissemination of AI were mainly engineers, and the people who were involved as users

were office workers and civil servants. Perhaps because the AI development team is in the trial phase with a small number of people, there were not many places where the feedback system could be done by all users.

[4] What ethical perspectives are being discussed and what concerns arise when designing AI systems?

In the case of local governments, subsidies from the government are the motivation for starting to use the system, but there are concerns that maintenance costs after the subsidy end will be high. In addition, there were places where I got the impression that the use of AI is being promoted even for technologies that do not need to be AI. Regarding the use of AI, guidance on how to use Generative AI is given, but there is not much talk about plagiarism and consideration for the use of other people's information.

[5] How can future work change with the introduction of these AI systems?

It seems that there will be occupations that will be eliminated and new occupations that will be added. In addition, since not only automation technology and unskilled labor have been substituted in the past, but also substitution and subsidization of semi-professional and professional jobs, it seems that unskilled workers are not the only occupations whose employment is expected to shrink in the future. In addition, there are high expectations for supplementing the labor shortage in small and medium-sized enterprises with automation technologies including AI, and many industries that do not have labor shortages are trying to introduce them for the purpose of improving efficiency. However, there is little information on the impact on work styles, the establishment of feedback systems, responses to problems, and regional and educational issues for workers.

[6] Is there any training or user follow-up at the workplace when implementing an AI system?

Many companies provided training and follow-up with users, but due to the small number of people in charge and the fact that it was in a transitional period, it cannot be said that sufficient follow-up was provided.

[7] Is there anything else of note, especially in the field?

There is a great deal of variation between industries regarding the use and development of AI. In the manufacturing and wholesale industries, where there are many workers, it seems that there are many engineers who are not experts in AI but are interested in developing it. There are many places where the government is taking the initiative to introduce it to local governments. However, it is expected that there are few engineers who have the ability to build a system that takes into account various social factors.

Column: Surveyed Case **Yuko KAMAKURA** (Doshisha University)

Industry / type of work	Human Resources Consulting Business
Eligible departments and services	HR Department : AI Interview Application
Interviewee sector	President & CEO
Purpose of AI implementation	- Correction of the interviewer's judgment criteria
Functions of AI systems and products	- Correcting the criteria of low-skill interviewers - A system in which AI imitates a human interviewer to interview candidates, analyzes them, and creates a report based on the analysis
Main users	-Job seekers -Application settings and use of results are handled by HR personnel
Features and initiatives that are considered important concerning the GPAI questionnaire items	The features of this application are the following two points -The idea is that transparency is ensured because the company's long-standing know-how is used as the data necessary for machine learning. -Implementing a hybrid of AI judgment and human judgment
Other impressive features and challenges perceived	The recruitment process of companies is "labor-intensive", and it is physically impossible to read through the resumes of all applicants and conduct interviews, resulting in a current situation where hiring criteria are set based on obvious facts such as educational background

3-2 Associate Prof. Hirofumi Katsuno, Department of Media Studies, Faculty of Social Studies, Doshisha University

[1] What field/industry use cases did you research and why did you choose that field/industry?

Use cases in the fields of services, entertainment, information and communication were investigated. The main reason for choosing these sectors was that the participating students belong to the Department of Media Studies, and by dealing with cases that are directly related to their majors, we intended to make it easier for the students to connect what they are learning with real-life implementations.

[2] In that field/industry, what kind of AI systems are being used?

In the service and entertainment sector, chat dialogue services with AI characters and support services for the formation of male-female couples. In the telecommunications sector, automatic 9osaicking software for video editing. In the information sector, AI to judge inappropriate comments on news websites.

[3] Who is involved in the implementation and use of the system?

AI system development, implementation and solution providers, as well as general users are involved.

[4] What ethical perspectives are being discussed or concerns are being raised when designing AI systems?

(i) In chat dialogue services with AI characters, the companies concerned have also collaborated with existing characters and intellectual property (IP), and have closely communicated with the copyright holders for supervision. In particular, if the collaborated character differs from the original, there are concerns about how users will perceive it, so this is clearly stated in the terms of use and on the service page to clarify the distinction. In addition, although the content of

conversations with AI characters can be viewed, information identifying individual users is hidden. Each user is identified by a unique ID and can view the content of conversations linked to that ID. It is usually the policy not to disclose details of what kind of conversations are taking place.
(ii) The support service for the formation of male and female couples is provided as part of the welfare programme of the partner companies, ensuring safety and reliability. With regard to the handling of personal information, it is not necessary to provide names or company names, and the only information that is made public is the industry, type of business and the person's photograph. Privacy is taken very seriously and measures are taken to ensure that people are not introduced to employees of the same company. The company also ensures that the identity of the user is not known to the company.
(iii) In the comment-editing AI on news websites, in order to suppress bias in the learning data itself, the system takes the form of human judgement under predefined guidelines, and the results are used as correct data. It is also envisaged that the AI that makes inappropriate judgements will continue to be updated in the future, in the form of releasing models that incorporate the latest data. Furthermore, it is important to keep the roles of the engineers who develop the system and the staff who make the judgments separate, and the company has taken the stance that the system will continue to be managed by human hands.

[5] How the future of work may or may not change with the introduction of these AI systems

The introduction of AI systems specializing in technical tasks such as automatic mosaic editing of videos is expected to expand in various areas in the future, thereby significantly reducing working hours and significantly changing the structure of the division of labor in the industry. On the other hand, it is becoming clear that in order to improve the quality of services in communication areas where people's emotions are involved, such as support services for the formation of male-female couples and AI chat services, it is important to get direct feedback from users and have AI learn and analyze on that basis. Rather than increasing the weight of AI predictions and analysis, it is becoming very important to design the division of roles: which parts of the system should use AI and which parts should be handled by humans.

[6] Is there training and user follow-up in the workplace when implementing an AI system?

All companies are cautious about the handling of personal information. Feedback from users is also actively taken into account (rather, common to the cases handled, development with feedback has become the norm).

[7] Is there anything else of note, especially in the field?

I got the impression that both developers and users are gradually learning how to deal with AI. The developers are trying to design higher quality services by identifying what AI can do (and its limitations), incorporating feedback from users as appropriate, and clarifying the sections that should be handled by the human side. In the interviews regarding the AI chat service, it was also possible to confirm, albeit to a limited extent, the users' perceptions of their relationship with the character AI. In the course of developing their services, users did not expect AI to have the same communication skills as humans (or a faithful reproduction of the original if the model is an existing character), but rather to develop a unique form of communication based on an understanding of what AI can do at the moment. The users are developing a unique style of communication based on their understanding of what AI can do at the present time. For example, at present, users are not necessarily looking for voice conversations when communicating with AI characters, but are rather looking to enhance their relationship through a chat-style UI. However, this does not mean that this type of UI and UX is the correct answer, and developers are aware that new communication styles may emerge in the feedback loop between technological development and UX. In this area, it is becoming increasingly important to adopt an agile development system, always keeping such fluid changes in mind.

Column: Surveyed Case **Jingyu Wang** （Doshisha University）

Industry / type of work	Service Industry, Entertainment
Eligible departments and services	AI-Chat Service
Interviewee sector	AI system development, implementation, and solution provider (company)
Purpose of AI implementation	・Conversation with AI ・Leveraging Generative AI in the Entertainment Industry
Functions of AI systems and products	conversation, chat, image generation and recognition, audio generation
Main users	All general users
Features and initiatives that are considered important concerning the GPAI questionnaire items	・When collaborating with existing IPs, projects are developed under the supervision of the copyright holder from the project planning stage. ・Product development was conducted with sufficient consideration given to personal information from the design stage.
Other impressive features and challenges perceived	・Rather than referring to academic models and communication theories in the design of chatbot services, the development process is proceeding exploratively mainly according to real-time user feedback. ・The possibility of emotional support that can only be obtained through conversations with AI showed the potential for AI to develop into an entity that can give humans new ideas and perspectives, rather than simply replacing human labor.

3-3 Prof. Masafumi Nakano, Faculty of Information Sciences and Arts, Toyo University

[1] What field/industry use cases did you research and why did you choose that field/industry?

The Toyo University team conducted surveys targeting the audit industry (small and medium-sized audit firms) and the IT industry. In particular, the audit industry surveyed the four largest audit firms (Big 4) in Japan in the previous fiscal year, and the need for a survey of small and medium-sized audit firms was one of the issues.

The reason for surveying the audit industry is that innovations in digital technology, including AI, are disrupting the accounting profession and accounting education, and this disruption is expected to continue, making it essential to survey the audit industry to understand the actual situation.

In particular, the possibility of the accounting profession being affected by computer automation and being replaced by computers has been reported to be 99.8% for accounting clerks in the Japanese labor market. In Japan, where sensationalistic figures tend to be covered more widely by the media, the report was reportedly widely covered by newspapers and news organizations.

The IT industry was chosen because it is a key player in paving the way for the future of AI and work, and is in a position to promote the introduction of AI not only to companies but also to other companies and local governments.

[2] What AI systems are used in that field/industry?

In the auditing industry, AI was used in the Big 4's auditing operations in the previous fiscal year for accounting journal validation systems and anomaly detection systems in financial analysis. However, we could not find any cases of AI systems other than AI OCR. Only Robotic Process Automation (RPA) was found.

On the other hand, in the IT industry, AI services (e.g., virus countermeasures using deep learning by AI) are provided for pest and weed diagnosis, paddy rice growth diagnosis, and information retrieval services in the form of chatbots.

[3] Who is involved in the implementation and use of the system?

Small and medium-sized audit firms do not have room to be involved in the implementation of AI systems due to their tight human resources. There have been cases where small and medium-sized IT firms have done so as outsourcing. On the other hand, in the case of IT firms, it would be the employees themselves, such as chatbots, and departments related to the provision of AI services.

[4] What ethical perspectives are being discussed or concerns are being raised when designing AI systems?

The small and medium-sized audit firms were mainly using machine learning even though they were using AI systems, and there were no problems related to ethics, bias, or impartiality. Also, no IT firms handled learning data related to ethics, bias, or impartiality in the surveyed cases, and the departments surveyed had no choice but to follow company-wide rules and regulations.

[5] How the future of work may or may not change with the introduction of these AI systems

Most of the surveyed small- and medium-sized audit firms have not introduced AI systems that will affect the future of work in the first place. It is expected to take some time for AI to make a difference in the future of work, starting with the introduction of AI systems after clearing human resources and financial problems. As in the previous year's survey by the Big 4, this year's survey by small- and medium-sized audit firms also shows that AI is a supplementary tool mainly intended to improve the efficiency of auditing work performed by humans, and that ultimately, the output produced by AI must be checked by humans, and judgment and decision-making must be made by humans. In other words, the output from AI alone cannot constitute audit evidence, and human intervention is always required.

On the other hand, the survey revealed that some companies in the IT industry are feeling a sense of crisis, anticipating that their clients will request cost-reduction efforts to reduce man-hours through AI and that they will be required to reduce system prices. However, while change is underway, it varies from company to company. In addition, while there are some business areas and departments that may be replaced by AI, there are also some business areas and departments that are not suitable for AI implementation. In addition, the elements required for AI literacy in a broad sense, such as the ability to analyze AI output results, which will be an important part of the future of AI-based work, vary depending on the business domain or department to which the company belongs, as well as the company itself. Therefore, it is impossible to state in general how the future of work will change with the introduction of AI systems in the IT industry.

Currently, the market for Generative AI is expanding rapidly. The development of Generative AI is expected to create new business opportunities and change the future of work.

[6] Is there training and user follow-up in the workplace when implementing an AI system?

The small and medium-sized audit firms in the survey case study had only a study session on AI in general, but in the IT industry, some kind of workplace training and follow-up for users are conducted, although the degree varies from company to company.

[7] Is there anything else of note, especially in the field?

None in particular.

Column: Surveyed Case

Yu Nagasawa （Toyo University）

Industry / type of work	IT
Eligible departments and services	Services used to improve the efficiency of various verification tasks
Interviewee sector	AI system provider
Purpose of AI implementation	Reduce administrative workload
Functions of AI systems and products	Automate and make efficient reconciliation/entry work
Main users	Auditing firms (some examples include retail and manufacturing)
Features and initiatives that are considered important concerning the GPAI questionnaire items	・AI will be used based on the assumption that mistakes will be made. ・It is difficult to imagine that the business of audit firms will disappear due to excess demand.
Other impressive features and challenges perceived	There are two barriers to the use of AI in smaller audit firms. 1: Lack of understanding of AI itself 2: Amount of money, information security, IT literacy of accountants -> fundamental IT aversion

3-4 Associate Prof. Arisa Ema, Tokyo College, The University of Tokyo

[1] What field/industry use cases did you research and why did you choose that field/industry?

From the perspective of human-AI interaction, use cases in the field of utilization of AI-equipped communication robots were investigated. For the selection of the survey areas, we chose industries in which the students have an interest.

[2] What AI systems are used in that field/industry?

Although the definition of a communication robot varies widely, robots that communicate with humans for the purpose or as a means of communication, whether verbal or non-verbal, are currently used in a variety of areas, including medical and nursing care, education, and customer service (hotels and food service industry). Because they are developed and used for the purpose of communicating with humans, some robots are equipped with language functions such as speech understanding, while others are capable of estimating emotions such as reading the emotions of others, or even generating emotions.

[3] Who is involved in the implementation and use of the system?

The development, introduction, and use of communication robots are carried out while exchanging information with the people who will actually be communicating with robots, the people at the facilities where the communication robots will be introduced, and experts.

[4] What ethical perspectives are being discussed or concerns are being raised when designing AI systems?

During communication, personal information, including privacy information, may be exchanged. Therefore, the handling of personal information and security measures are very important issues. In cases where it is difficult to obtain the consent of the user, such as when the user is elderly or a child, it is necessary to explain the situation not only to the user himself/herself but also to his/her guardian and obtain their consent as well. In addition, when people who have obtained consent and people who have not obtained consent exist in the same environment, it is necessary for the person in charge at the site to take action on how to utilize the communication robot and how to prevent risks.

In addition, when introducing robots, consideration must be given to those who have resistance to robots. Therefore, approaches such as setting up opportunities for users to interact with the robot at the time of introduction to reduce their resistance, and conducting qualitative and quantitative evaluations in advance to avoid increasing the burden on the site where the robot will be introduced, are being taken.

[5] How the future of work may or may not change with the introduction of these AI systems

By having robots take on some of the responsibility for communication, it is expected to reduce the workload of frontline staff and lower turnover rates. On the other hand, there are many organizations that are not willing to introduce communication robots, and there is also the issue of communication robots not being introduced. It is important for the communication robot industry to promote understanding that robots are not meant to replace staff, but to support them, and to share specific examples.

[6] Is there training and user follow-up in the workplace when implementing an AI system?

Because of the physical size of the robot, it is also important to consider where to place the robot so that users will not be injured in case fallen, and feedback on its use is required on a regular basis.

[7] Is there anything else of note, especially in the field?

Communication robots that are not purchased by individuals but installed in facilities are often offered as a rental service to promote their use. The rental service is a useful business model in terms of technology updates, robot repair, and feedback from the field.

In addition, many communication robots are subsidized by the government and other organizations on the condition that they are rental services. It is undeniable that some of these robots are used because of the subsidies, and without subsidies, the introduction of these robots would not spread.

Column: Surveyed Case **Shiro Sakurai** （The University of Tokyo）

Industry / type of work	Robot Development Company
Eligible departments and services	Communication Robot for Nursing Homes
Interviewee sector	Robot developer
Purpose of AI implementation	Improving the quality of life of nursing home patients through communication Reduce the burden on caregivers
Functions of AI systems and products	Communicate with residents through conversation. The event will feature dances and gymnastics using human-shaped bodies.
Main users	Nursing staff
Features and initiatives that are considered important concerning the GPAI questionnaire items	Communication robots are developed and operated to "support" rather than "replace" caregivers. Currently, the risk of dependency is low, but there is concern that the risk will increase as the development of Generative AI makes conversations more human-like.
Other impressive features and challenges perceived	The most impressive point was that in order to gain acceptance of robots, it is not enough to emphasize convenience; it is also important to pay attention to the user's emotions. Although the robot was not assigned a gender, it was impressive that the first person was male.

4. Participation in the GPAI Survey
- Perspectives from Faculty Advisors at Participating Universities

The following is a list of opinions received from faculty advisors from each university that participated in this year's survey regarding (1) what they actually learned and the issues they faced as a result of their participation, and (2) what they wanted to do in their future GPAI activities.
Professor Kosei Miyazaki, who participated in the survey as a Subject Matter Expert, also provided input.

4-1 Prof. Masayo Fujimoto, Department of Sociology, Faculty of Social Studies, Doshisha University

[1] Gains and challenges of participating in the GPAI survey

It seems that the number of companies that are full-fledged commercialization has increased, and the number of companies that do not receive a reply no matter how many times the student requests has increased, and it seems that it has become more difficult than last year to cooperate with the interview. Nevertheless, many of the municipalities and companies that cooperated with us explained the current situation of using AI for student education, and what kind of busyness, labor shortage, and quality improvement were behind it. In addition, we were able to investigate an organization that had almost given up on the investigation, thanks to the efforts of Prof. Miyazaki, a member of the management staff, and all of us were able to experience the actual inspection. Even though the research would not have been accepted as a project by one student or one university, the GPAI research was trusted, and the students were able to gain valuable experience.

[2] What we would like to do in the future with GPAI activities

In the next fiscal year, in the sense of aligning the survey units, we would like to ask municipalities to conduct surveys mainly and conduct in-depth surveys that will lead to research. In addition, since students are interested in a variety of organizations, we plan to proceed with a two-pronged approach in which students conduct surveys of companies and industries in which they are additionally interested based on in-depth surveys.

4-2 Associate Prof. Hirofumi Katsuno, Department of Media Studies, Faculty of Social Studies, Doshisha University

[1] Gains and challenges of participating in the GPAI survey

From this year's GPAI survey, it was felt that the social implementation of AI is more extensive than in the previous year. In addition, with regard to the companies interviewed, the impression was that they have a clear understanding of the clear challenges they are currently facing and their vision for the future. However, the hurdles for gaining approval for interviews had increased since last year, and some groups were not able to reach the interview stage. It is feared that the students may have felt an emotional strain at times, as they were unable to contact the target companies or were continually turned down. In addition, the increased burden of the approach to reaching interviews should only be avoided if negative feelings such as being 'mobilised' to collect data are created among students.

[2] What we would like to do in the future with GPAI activities

We would like to focus on more specific themes, and hold joint workshops with companies that are willing to cooperate with us. If we could also hold camp-style meetings across the boundaries of each team, it would be an extremely valuable experience for the students.

4-3 Prof. Masafumi Nakano, Faculty of Information Sciences and Arts, Toyo University

[1] Gains and challenges of participating in the GPAI survey

Toyo University has the educational philosophy of "proactively tackling social issues," and the activities of the GPAI survey project were able to put into practice this philosophy of "fostering people who can tackle social issues independently and proactively and build good human relations. In addition, the title of the GPAI survey made it possible to survey companies that would not normally be willing to be interviewed, thereby promoting the research.

The GPAI survey is a process that encourages students to grow from students to working adults through the process of the GPAI survey project, in which companies and themselves are surveyed about the future of work through AI, with a view to the future digital society that will develop globally, and the results are compiled into a report. Specifically, students learned business manners and attitudes toward work as a member of society by contacting companies and local governments, managing schedules, conducting actual survey interviews, and reporting the results while building good relationships with the counterparties and faculty members (In particular, since fewer firms were willing to survey than initially planned, all the members split up and spent the summer vacation sending out more than 100 survey requests by e-mail and phone calls more than twice, and the students learned how to persevere in the face of adversity by establishing a system and working persistently.)

In addition, by having the opportunity to participate in meetings in progress management with students from other universities, rather than closing to each university, the students are representing their respective universities and achieving greater growth. Future challenges include the realization of the GPAI survey project's consideration of a network of alumni connections and the evolution of the project into one that can promote lifelong growth.

[2] What we would like to do in the future with GPAI activities

Through the GPAI research project, we would like to contribute to the development of human resources and their networks that will contribute to the international community and Japan.

4-4 Associate Prof. Arisa Ema, Tokyo College, The University of Tokyo

[1] Gains and challenges of participating in the GPAI survey

Utilization of Generative AI is accelerating. On the other hand, in some industries, AI has not yet penetrated the market to a great extent, and the expectations of both developers and users of AI have not yet been met. Since no single company in the industry can universalize the use of AI, we reaffirmed the importance of conducting interviews with a number of companies while conducting preliminary research on the industry as a whole and on the technology.

[2] What we would like to do in the future with GPAI activities

I felt the need to design what we wanted to do with the survey as "GPAI." In this, the third year of the survey, the survey is being conducted online, which in itself is convenient, but it dilutes the relationship with the interviewees. We also need to consider how the survey results can be positioned in relation to the GPAI as a whole, and to design the survey as to provide more opportunities for interaction with students from other countries.

4-5 Prof. Kosei Miyazaki, Faculty of Contemporary Economic Studies, Hyogo University

[1] Gains and challenges of participating in the GPAI survey

Based on the preliminary discussions with the survey candidates and the response to the survey request, I felt that the position of "AI utilization" in the thinking of companies and local government organizations is changing significantly. Until last fiscal year, it was positioned as a small-scale demonstration experiment by some department in charge of data science, but DX has progressed in response to labor shortages, and with the emergence of Generative AI and Large Language Models, we are getting to glimpse a situation in which the AI application to business is being considered more widely. The challenge is how to respond to these changes.

In this survey, many students approach many companies motivated by their own desire to know the actual state of AI utilization in some industry. I was involved in some of them, but this year I felt a change in the reaction of companies from the beginning. Many companies agree with the purpose of the GPAI and are interested in the survey. However, it is difficult to get a response.

When I asked the persons in charge about the situation, they said that in the past, they could handle it by calling out to a few people at their discretion, but that is no longer the case. In the midst of a change in which DX is in full swing and the use of AI has become an important theme, Generative AI has become a new subject of consideration, and many departments are considering initiatives, it seems difficult to judge how to give answers. In some company we had to go through new approval process checking the responses. In other words, there are more and more points where the preparation of answers can be derailed because AI related issues are now important. Therefore, in order to get responses, it was necessary to repeatedly make adjustments, such as asking the students to review the questions to clarify the subject of their interests.

From the students' point of view, this year's efforts were difficult. When they didn't get a response to their requests for an investigation, or when they had finally received a response, they were asked to reconsider the questions, and had to wait a long time for the next response. However, by persisting and continuing to make requests, we were able to reveal changes (including the lack of response). The efforts of the students should be highly evaluated.

The challenge for the future will be how to tune the framework of the survey in response to these changing situations. With the emergence of Generative AI and Large Language Models, the range of applications of AI has greatly expanded. Moreover, they are provided in a form that is easy for anyone to use, such as web services, APIs, and functions of Office software. Now there are lots of trial and error going on here and there. As a result, it will be increasingly difficult for respondents to comprehensively summarize the use of AI. To understand this situation, we need to find a target who is willing to help us investigate more deeply and increase the amount of dialogue.

[2] What we would like to do in the future with GPAI activities

I would like to realize deeper dialogues with the research recipients, cover AI with a higher versatility in doing so, and increase the educational effectiveness by sharing experiences among students across universities and academic years.

Deeper dialogues mean face-to-face and in-depth interviews with frontline personnel from multiple departments. In addition to e-mailing to the person in charge of the survey, students can visit workplaces and interview various departments to obtain a wide range of information. In doing so, I would like to include not only business-specific AI but also highly versatile AI tools such as in-house AI using RAG (Search Expansion Generation) that combines a large language model with an in-house knowledge base. If it clarifies how each department uses AI and how they evaluates it, it will be useful for the company.

With regard to the sharing of experiences among students, I believe that by sharing experiences in each field of each academic year, difficulties and surprises in the survey, students' understanding will be enriched, hints for the next survey, and motivation for the future will increase.

5. Feedback from participating students

Students who participated in the survey were asked to complete the questionnaire. The main feedback obtained from the students was as follows:

What is your takeaway from participating in the GPAI activities?

Many respondents commented that they were able to obtain useful knowledge according to their interests and research topics through interviews and preliminary research. Some of them particularly stated the value of having the opportunity to interview companies that are difficult for individuals to access.

Regarding the fact that the survey was conducted as a team, the following comments were made: "Through coordinating schedules and opinions, I was able to improve my coordination skills and my ability to work in a team" and "As a student leader, I also learned the ability to teach students various things and communicate with them." Regarding interacting with working people outside the universities through the survey, respondents made comments such as "I was able to learn about business etiquette," "I acquired interpersonal skills," and "I was able to realistically feel something that is somewhat unclear about 'working.'"

In addition, one expressed the significance of being able to participate in a large-scale global project.

Any issues or areas to be improved in terms of the interview method or questionnaires?

Many respondents expressed the difficulty of creating a set of questions based on the long GPAI common questionnaire and depending on the interviewee. There was also an opinion that "it was difficult to create questions, especially when interviewing developers," and that "the assumed interviewees and the assumed status of AI implementation may be a little narrow [in the GPAI common questionnaire]."

In addition, there were comments such as "It was very difficult to extract information from the interviewee in a short time of one hour" and "I felt that it was difficult to allocate time." One said, "I felt that it would be good to have model examples from past interviews."

Furthermore, another respondent commented on the difficulties of conducting interviews online.

Any issues or areas to be improved in terms of operations? (Scheduling, group structures, communications, etc.)

Regarding the fact that students individually sent out research requests and conducted interviews, several comments were made stating that it was difficult to obtain consent from companies, local governments, etc. One said, "Some companies did not reply, so I felt that I needed to carefully explain why I wanted to conduct an interview in order to get consent for the interview." Another commented, "I personally had difficulty preparing a set of questions in the short time between the appointment and the interview due to the way the survey was conducted." There were also opinions requesting that students be allowed to attend interviews conducted by other universities and that they should be introduced to companies by other universities.

Regarding the organizational structure of the entire Japan team, there were opinions such as "It was difficult to see the organizational structure" and "I don't think there were any major problems this year (because of the legacy of last year), but I think it is important to build an organization [for the next year and beyond]."

Other comments included "It is burdensome that the time for submitting the deliverables falls on the peak of the job hunting season" and "A Q&A guidance to resolve questions and concerns about the survey would save us the trouble of asking the professor each time."

What are your expectations or suggestions for future GPAI and student communities?

As in the previous year, there were many opinions that they would like to have learning opportunities through interaction and exchange of opinions with students from other universities. In addition, one pointed out the significance of the survey for society and participating students and expressed hope for a broader survey by a more diverse range of students. Another expressed hope that the survey would raise its profile.

6. Future Development

The year 2023 marks a very important turning point in terms of AI surveys.

How to successfully share what kind of survey has been done in each country with the teams conducting GPAI investigations will also be a challenge for the future. Currently, the Japanese team is providing 11 case studies in 2021, 45 in 2022, and 27 in 2023. We try to use as many common question items as possible, as noted at the end of this report, but as the field of application expands, so do the number of unique questions. We believe that we are now at the stage where we should review the survey methods and targets once again, including revising the framing of the questions in 2024 and beyond.

Another feature of 2023 will be the spread of Generative AI use. Generative AI was featured in several of this year's use cases, and its use in various situations will continue to be promoted. In particular, as for Generative AI, since the generation of text, images, video, audio are rooted in the culture of each country and region, analysis and discussion based on the characteristics of Japanese institutions and culture as well as the industrial field will become even more important.

Finally, as the number of face-to-face events has been increasing, we would like to strengthen building a community among students, faculty members, and organizations that will cooperate with the survey.

Event report

Prior to the publication of this report, a webinar event (organized by Tokyo College, The University of Tokyo) was held on March 6, 2024, where students and professors who participated in the 2023 Japan team took the stage to report on the team's activities.

The event began with the opening remarks by Dr. Arisa Ema (Associate Professor, The University of Tokyo), followed by Dr. Yuko Harayama (Professor Emeritus, Tohoku University) and Dr. Ema introducing the GPAI Future of Work and giving an overview of the 2023 survey in Japan. This was followed by a student panel discussion and a professor panel discussion.

In the student panel discussion moderated by Dr. Ema, four students took the stage and discussed the findings gained through the survey. The discussion focused on the current states and future prospects of the industries they surveyed, while also touching on how to think about and investigate AI in the workplace in the future.

In the professor panel discussion moderated by Dr. Harayama, four professors, who are also the authors of Section 4-1 to 4-3 and 4-5 of this report, took the stage to discuss the significance and challenges of the survey, as well as the findings obtained through the guidance of the survey. Many of the points in the discussion are reflected in this report. At the end of the session, there was also a discussion stemming from a question posed by a webinar participant.

At the conclusion of the event, Mr. Yoichi Iida (Ministry of Internal Affairs and Communications) gave the closing remarks. Mr. Iida stated that Japan has been leading international discussions on AI in the G7, OECD, and other forums since around 2016 and emphasized the importance of the GPAI's efforts and the significance of the upcoming establishment of the GPAI Tokyo Center. He concluded his remarks by expressing his gratitude for the fact that amid the need for discussion by diverse stakeholders, the Future of Work survey in Japan has been conducted with the cooperation of many interviewees while educating students, and that the event introducing such a survey was held with many participants.

Top left: Dr. Harayama, Dr. Ema, Mr. Iida
Middle left: Prof. Miyazaki, Prof. Fujimoto, Prof. Katsuno, Prof. Nakano
Bottom left: Mr. Ushioda, Ms. Mori, Mr. Kuribayashi, Mr. Nagasawa

Special thanks

This report has been compiled and made publicly available thanks to the thought-provoking input and opinions of the companies, organizations, and municipalities that graciously agreed to be interviewed. Because of the nature of the GPAI survey, we were unable to specifically name the companies and organizations that responded to our survey, but we would like to thank those who did so. The Ministry of Internal Affairs and Communications (MIC) and the Ministry of Economy, Trade and Industry (METI) also provided support for the debriefing session held in March 2024. We also would also like to thank GPAI staff overseas for their support in the survey.

Additionally, we received organizational support from the University of Tokyo's Institute for Future Initiatives and Tokyo college, Doshisha University's Work Environment and Science/Technology Research Center. The Toyota Foundation D18-ST0008, “Formation of a Platform for Ethics and Governance of Artificial Intelligence,” also provided support for conducting this survey.

We hope that this report will serve as a starting point for discussions with companies and organizations that have been and will be involved in GPAI activities, as well as with the next generation of young people, including students.

GPAI “Future of Work” Japan Team Member List (2023)

Management Team

Yuko Harayama	GPAI Future of Work Committee 2020-2021 Co-Chair / Professor Emeritus, Tohoku University
Arisa Ema	GPAI Future of Work Committee Member / Associate Professor, Tokyo College, The University of Tokyo
Kosei Miyazaki	Professor, Faculty of Contemporary Economic Studies, Hyogo University

Research Team

Masayo Fujimoto	Professor, Faculty of Social Studies, Doshisha University
Rieko Ikeda	Associate Researcher, Work Environment & Science/ Technology Research Center, Doshisha University
Hirofumi Katsuno	Associate Professor, Faculty of Social Studies, Doshisha University
Masafumi Nakano	Professor, Faculty of Information Sciences and Arts, Toyo University
Arisa Ema	Associate Professor, Tokyo College, The University of Tokyo

Participating Students ※Affiliation is at the time of the 2023 survey

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Shinnosuke Ushioda	Undergraduate Student, Faculty of Social Studies, Doshisha University
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Jun Kuribayashi	Master's Student, Graduate School of Public Policy, The University of Tokyo
Shiro Sakurai	Master's Student, Graduate School of Public Policy, The University of Tokyo

Appendix: Questionnaire

AI system definition:

1. (All) What sort of AI system is used? (if you don't know, please write "Unknown")

2. (All) According to the taxonomy of use cases (see at the end of the document for an explanation1): in which category the AI system could be categorized:
   - Servant Proxies
   - Digital Coworkers
   - Autonomous Operation Platform
   - Virtualization and Management of Assets and Processes
   - Common Tools and Platforms

The ethical factors/Fairness/Equity/Bias of the organization:

3. (All) Does your organization has a working definition of fairness and, if so, what is it?

4. (All) Does your organization has a working definition of bias and, if so, what is it?

   Potential follow-up questions:

   a. (Management, Social Partner) If the answer to either is yes:Was it used in the evaluation of the AI system?

   b. (Management, Social Partner) If the answer to either is no:Does the development/implementation of the IA system brings out such a need?

Process of planning:

Process of planning existence (yes/no)? If yes:

5. (Management, Developer, User) What are the purpose and goals of an AI application in the company? (Process or product optimization, new business model, automation, substitution of jobs?)

   Potential follow-up questions:

   a. (Management) If the answer includes anything related to training:What is your approach on training related to the application of AI?
   b. (Management, Social Partner, User) If the answer discusses automation:What potential risks lie ahead? Which opportunities came from this use of AI?
   c. (Management, Social Partner, User) If answer discusses substitution:Are you sure that there was no bias, inequality, discrimination coming from this use of AI.
   d. (Management, Social Partner) Are there general agreements on AI usage in the company (ethic boards, codes of conduct etc.)?

6. (User, Social Partner) Are workers/representative bodies involved in setting goals of the AI application?

Potential follow-up questions:

a. (Management, Social Partner) If the social partners are not included, why? (Skip similar questions on Social Partners afterwards)
b. (Management, Social Partner) Are there Social Partners' guidance – on what level?
c. (Management, Social Partner) Are there approaches regarding collective agreements (Co-government) on goals and possibly conflicting objectives? What is the starting point of information and bargaining? Are there regulations on co-determination and if so, in what respect?
d. (Management, Social Partner) Are there general agreements on AI usage in the company (ethic boards, codes of conduct etc.)?

7. (Management, User, Developer) Is cooperation with researchers / developers and external experts given?

Potential follow-up questions:

a. (Management, User, Developer) If not, why?
b. (Management, User, Developer) What skills are involved?
c. (Management, User, Developer) What part is delegated?
d. (Management, User, Developer) What are the risks and opportunities encountered?

Employees' personal data:

8. (Management, Developer, User) Are employees' personal data required for operational use or affected by operational use? (if yes, what kind of data…)

Potential follow-up questions:

a. (Management, Developer) If not, why?
b. (User) Are you aware of the use of your personal data?
c. (User) Have you experienced an event related to your personal data?
d. (Management, Developer) What kind of data?
e. (Management, Developer) How does the technology track the user?
f. (Management, Developer) What are the purposes and uses of this data?
g. (Management, Developer) When is traceability used to define a responsibility?

Human Machine Interaction:

9. (All) Is HMI currently involved in your work?

Potential follow-up questions:

a. (Management) If the HMI technology is not yet implemented, is it intended to be applied in the company? In what respect: empowerment of employees, traceability, explainability, etc.
b. (User, Social Partner) What kind of HMI technologies do you use? (Bot, chatbot, social robot, cobot or other kind?) (One to one or in group?)
c. (User, Social Partner) What kind of interactions do you have with these technologies? (In face-to-face, by phone, by internet?) (Language interaction [spoken, written], physical interaction [facial, gestural,

touch, multimodal] or both language and physical interaction?)

d. (User, Social Partner) Are HMI technologies useful for your work? How much of your time is spent interacting? (100% 75% 50% 25%)
e. (Management, User, Developer, Social Partner) What is your assessment about the following issues of the work with human-like cobots and chatbots? (Autonomy v. obedience, replacement v. augmentation, creativity v. dependency)
f. (Management, User, Developer, Social Partner) If the HMI technologies do not fully meet the expected work or present some errors, do you have procedures for reporting the anomaly to management?
g. (Management, User, Social Partner) Does the system help in making decisions? Which opportunities resulted from it? (Work done easier, quicker or better)
h. (Management, User, Developer, Social Partner) Do you like to interact with HMI technologies?
i. (Management, User, Developer, Social Partner) Which risks are you expecting from HMI technologies? (High, medium, low or no risk) (User, Social Partner) What are the most important social values (positive and/or negative) of working with human-like cobots and chatbots?
j. (Trust, transparency, explainability, tolerance, fun, traceability, scalability, empowerment, integration, security, or others)

The ethical factors considered while designing the AI system:

10. (All) Is the transparency of the AI system for the company (and for the user in the company) required and given?

    a. (All) At what stage of the design?
    b. (All) Does the system communicate? Or is it a black box AI?
    c. (All) How does the system communicate its motives and states?
    d. (Management, Social Partner) Who in the company is involved in the interface design – workers and representatives?
    e. (Management, Developer) Which information is logged?
    f. (Management, Developer) Who has got access to that logged information?

11. (All) How is Data quality addressed?

    a. (Management, Developer, User) Is the data adapted to your needs?
    b. (Developer, User) Are there any ethical risks involved in processing the data?
    c. (Developer, User) What are used technics and methods to reach this data quality?
    d. (Developer, User) What potential functions and opportunities does this data quality allow you?

12. (Management, Social Partner) How is the issue of accountability addressed?

    Potential follow-up questions:

    a. (Management, Social Partner) How are responsibilities distributed in the company?
    b. (Developer, User) For each stakeholder, what are their means of action on the data? What are its limits?

13.(Management, Developer) Is the system auditable?

Potential follow-up question:

a. (Management, Developer) Is there audit process in place?

Impact assessment: Ex Ante Analysis:

(Recall that these questions deal with the front end of the implementation)

14.(Management, Social Partner) What working areas / working groups were affected in respect of the number and quality of jobs (reorganizations etc.)?

15.(Management, User, Social Partner) Which impact (bias)?

16.(All) Were there Impacts on qualification demands and skill management?

17.(Management, Social Partner) Were there impacts on the workload, working conditions and health management?

18.(Management, Developer, Social Partner) Were there impacts regarding the use of personal data of workers (privacy, data protection and trade-offs; realize benefits to employees)?

(skip if already covered)

19.(Management, Developer, Social Partner) Were there regulations on using personal data and if so, in what regard?

(skip if already covered)

Implementation:

(Please prepare further questions for the interview with committee 2 if there are specific cases of training or learning at work)

20. (All) What are the required skills? What are the measures put in place for training?

Potential follow-up questions:

a. (All) What are the measures put in place for safety?
b. (All) What are the measures put in place for responsibilities in HMI?
c. (All) What are all others measures put in place when implementing the AI application?
d. (User, Developer) How is the assimilation of an AI skill different from another technology?
e. (Management, User, Social Partner) Were employees involved in developing these measures?
f. (User, Social Partner) Is the pedagogy limited to the use of the system or does it also lead to the understanding of the system?
g. (Management, Social Partner) Are there Social Partners' guidance – on what level

Reviews and adjustments (Ex Post Evaluation):

(Recall that these questions deal with the aftermath of the implementation)

21.(Management, User, Social Partner) Do you find that the system makes mistakes? (many, moderately, not at all)? Can it be trusted? (totally, moderately, not at all)?

22.(All) Are there experiences, reviews and adjustments (Ex Post Evaluation)?

23.(Management, Developer) How is success for this use case measured?

24.(Management, Developer) What worked less well in the use case?

25.(All) Describe the effects on number of jobs, quality of jobs, job satisfaction, workload, skills? (AI replacing or complementing experts)

Potential follow-up question:

a. (All) What were the reactions of workers to these effects?
b. (All) Why?

26.(All) How much the workers need to know to manage the AI application?

Potential follow-up question:

a. (All) How much time do you think it should take to be accustomed to this AI application?

27.(Management, Social Partner) Has your organization ever used AI-enabled processes for human resources applications, including screening job candidates, making hiring decisions, evaluating worker performance, or promoting workers?

Potential follow-up questions:

a. (Management, Social Partner) If yes, does your organization currently use AI-enabled processes for human resources applications? If the process was abandoned, why?
b. (Management, Social Partner) If yes, does the organization assess the fairness of the systems used in those human resources applications? If so, how?
c. (Management, Social Partner) If yes, does the organization test for bias in the systems used in human resources applications? If so, how?
d. (Management, Social Partner) If not, what is holding the organization back from adopting AI applications for human resources applications?

28.(Management, Social Partner) Does your organization assess the transparency of the AI system for workers?

a. (Management, Social Partner) Does your organization assess the fairness of the AI system for workers?
b. (Management, Social Partner) Does your organization assess potential bias impacting workers by the AI-systems?

29. (All) Are there unintended outcomes for workers situation and prospects?

30. (All) Are there opportunities and ways to redesign the AI system and work organization?

Potential follow-up questions:

a. (All) Are there feedback and participation opportunities for the employees?
b. (Management, Developer, Social Partner) Has the use of the solution raised new issues around the transparency of the system?
c. (Management, Developer, Social Partner) Usage of employees' personal data (Surveillance)
d. (Management, Developer) Opportunity to do predictive analysis (Data) that was not initially thought of?

31. (Developer) Can you provide a usecase of your AI-System at the workplace?

Other comments?

(Message to be sent to the GPAI, Question from the respondent)

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