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Application of Artificial Intelligence (AI) and its IP Law Aspects in Japan Part II: Patents

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1. AI-related Technologies and Patents

(1) Overview

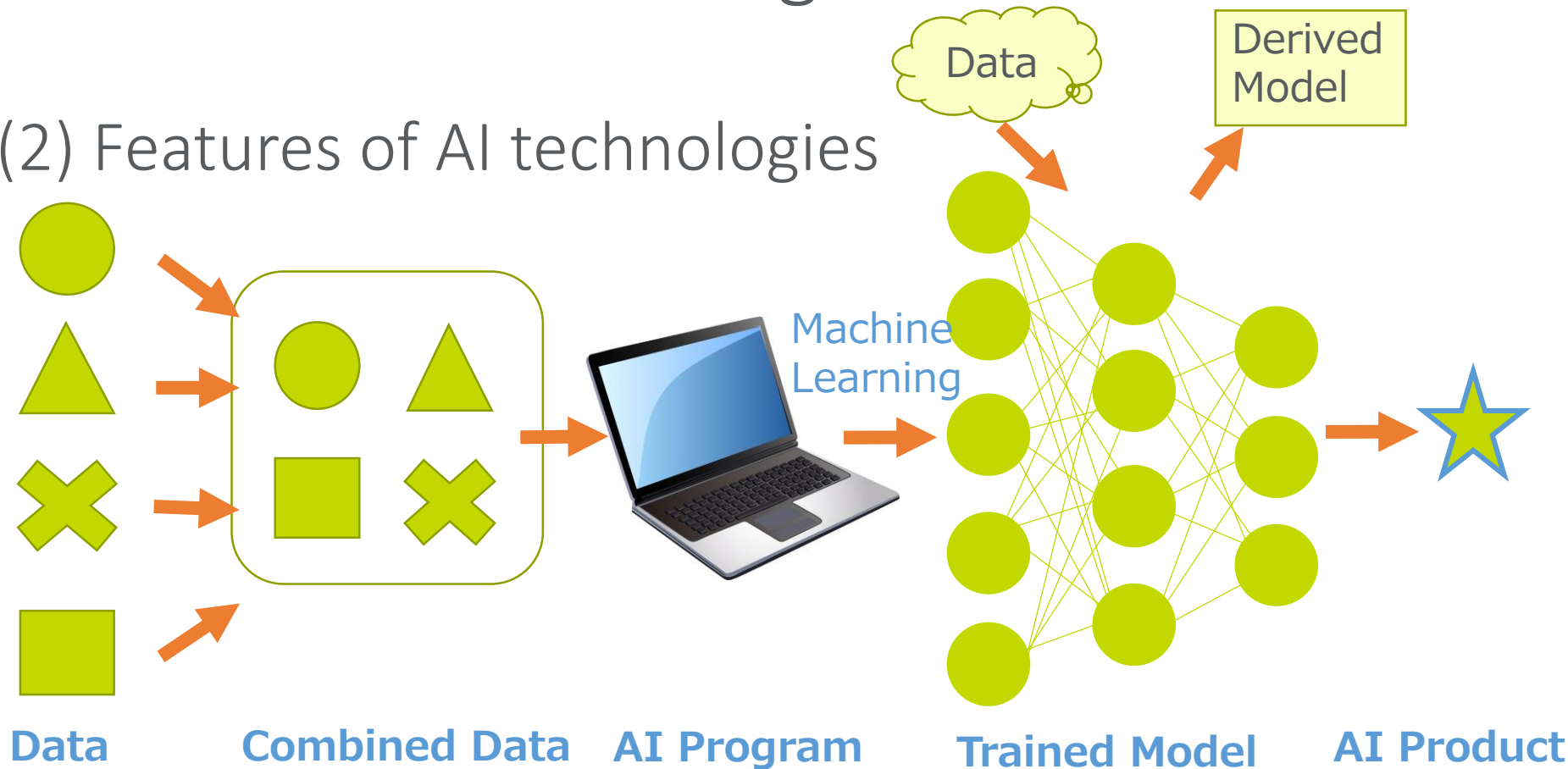
Legal exercise of AI-related technologies is the most important task (Intellectual Property Strategic Program 2016, 2017)

However, AI-related technologies include issues which the current patent system was not designed to handle. Therefore there are fields the current patent system cannot handle and fields for which new legal framework is required.

AI-related technologies might strike at the centre of the patent system.

1. AI-related Technologies and Patents

(2) Features of AI technologies



A multitude of people get involved in different stages. As a result, many IP rights are likely to emerge in each stage.

1. AI-related Technologies and Patents

(3) Fields which can be handled in accordance with the current patent system

- AI Programs: As long as patentability (inventive step etc.) requirements are met, protection as an invention of a product (such as program) is possible.

(Patent Law Article 2, Paragraph 3, Item 1; Article 2, Paragraph 4)

1. AI-related Technologies and Patents

(3) Fields which can be handled in accordance with the current patent system (continued)

- Trained Model: Methods of mechanical learning can be protected as an invention of a method as long as patentability requirements (inventive step etc.) are met. (Patent Law Article 2, Paragraph 3, Item 2; perhaps also Item 3)
- AI Product: A combination of an AI program and the parameters can be protected as an invention of a product (such as a program) as long as patentability requirements (inventive step etc.) are met. (Patent Law Article 2, Paragraph 3, Item 1; Article 2, Paragraph 4)

1. AI-related Technologies and Patents

(3) Fields which can be handled in accordance with the current patent system (continued)

Examination Handbook for Patent and Utility Models: added on March 22, 2017; introduces case examples pertinent to AI-related technologies

(Cases pertinent to patent eligibility)

- Annex A Case 3-2: Sugar Content Data of Apples and a Method for Predicting Sugar Content Data of Apples
- Annex B Case 2-13: Data Structure of Dialogue Scenarios in Voice Interactive System
- Annex B Case 2-14: Trained Model for Analyzing Reputations of Accommodations

1. AI-related Technologies and Patents

(3) Fields which can be handled in accordance with the current patent system (continued)

(Cases pertinent to inventive step)

- Annex A Case 31: Learning System Comprising On-vehicle Devices and a Server
- Annex A Case 32: Quality management program of manufacturing lines

Source: https://www.jpo.go.jp/tetuzuki_e/t_tokkyo_e/files_handbook_sinsa_e/app_z_e.pdf

1. AI-related Technologies and Patents

(3) Fields which can be handled in accordance with the current patent system (continued)

AI Product: As long as it can be considered that a human being made a contribution to the invention and utilized AI as a tool, a patent can be granted on, for example, a method for providing services using AI products.



If the product in question was created by AI and is not at the immediate service of a human being, but is autonomous, whether to protect it and/or how to protect it will be in question. Other cases can be dealt with using the current law.

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products

- According to the current law, AI inventions do not fall under the subject matter of patents (AI is not “any person who has made an industrially applicable invention” according to Patent Law Article 29)?
- It is questionable whether AI can make an invention autonomously under current conditions. In reality, it is uncertain whether a human being is making a contribution to creativity in all cases (AI is merely used as a tool)
- Harmonization with the patent systems in other countries

Source: Intellectual Property Strategy Headquarters,
“Intellectual Property Strategic Program 2017”, May 2017, p. 12

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products (continued)

① Patent will not be granted



Contrary to the purpose of Patent Law (Article 1), which is to make a contribution to the development of industry by accumulative advancement of technologies.

Also meaningless, because nobody can tell whether the invention is made by AI if the specification of a patent application is described as if a natural person had created the invention.

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products (continued)

② Grant of patent(s) as an invention made by an entity or accepting AI as an inventor



Current law would be changed fundamentally and problems which could result from this change would be inestimable

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products (continued)

③ Consideration of the person who evaluates and selects the invention as the inventor



The premise of the current concept of “an invention” is that the inventor recognizes certain effects by specific measures. In other words, a subjective requirement (recognition by the inventor) is needed in addition to an objective requirement which is the creation of original output. i.e., when AI makes a creation but nobody is aware of it, an invention is not yet completed at this stage.

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products (continued)

③ Consideration of the person who evaluates and selects the invention as the inventor (continued)

The person who first comes into contact with the means to solve a problem proposed by AI is someone who evaluates and selects the creation by AI.

Thus, the person who evaluated the means to solve a problem and concluded that protection by a patent is possible is the inventor.

Evaluation and selection of a creation has its value in terms of said creation, and such a person falls under the definition of “any person who has made an industrially applicable invention” according to Article 29, Clause 1.

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products (continued)

③ Consideration of the person who evaluates and selects the invention as the inventor (continued)

Advantages:

- Risk of pretention that a human being made an invention which is actually an AI product will be minimized.
- Can be treated as an ordinary employee invention, because no issue will arise as to who the invention belongs to in a case of, for example, AI borrowed from an entity that made a creation (Whether the right should belong to the owner of the AI or the programmer etc.)
- “Reasonable remuneration” for the person who evaluates and selects the invention of AI products at a company shall be paid in accordance with the degree of his/her contribution. There may be no compensation paid at all in some situations.

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products (continued)

③ Consideration of the person who evaluates and selects the invention as the inventor (continued)

Advantages (continued):

- Protection in the form of a patent would be an incentive for laying the invention open without keeping it as a trade secret.
- No difference in the enforcement of patent right (for example, possibility of abuse of right would be low due to small risk of pretention)

2. Tasks Surrounding Patents regarding AI-related Technologies

Handling of AI products (continued)

③ Consideration of the person who evaluates and selects the invention as the inventor (continued)

Advantages (continued):

- The basis of the purpose of Patent Law is to achieve industrial development by accumulative progress of technologies is formed by incentives and motivation of human beings. Construction of legal systems around AI, which has no motivation, should be avoided. Accordingly, the best course of action is to maintain the current legal framework that has worked well for a considerable amount of time.

2. Tasks surrounding Patents of AI-related Technologies

Handling of AI products (continued)

③ Consideration of the person who evaluates and selects the invention as the inventor (continued)

Disadvantages:

- This is an issue that should be decided from legal and political standpoints, and not by courts. In this regard, this is a task for the Diet.
- Risk of a monopoly of patents by a small number of big companies cannot be denied. Measures should be taken for SMEs to survive (such as compulsory license)

3. Possible Protections of AI-related Technologies by other Frameworks

(1) Trade Secrets

(2) Utility Model

■ Advantages:

Prompt protection in fields where the technologies rapidly change, and if necessary, enforcement is possible

3. Possible Protections of AI-related Technologies by other Frameworks

(2) Utility Model (continued)

- Disadvantages:

Process inventions cannot be protected. The reason is because possibility for registration by third parties and scope of protection were unclear from historical point of view, thus legal stability would be disturbed.

Currently, taking the fact into consideration that publication of utility model registrations is available via internet, such a concern should not be applied any longer, and process inventions should be protected as utility models from the viewpoint of legislative theory.

Thank you for your attention

Contact

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