

Title	製造業における情報共有・知識創造 ~ 音声つぶやきシステムを用いた現場作業者間の振り返り学習の提案
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Information Sharing and Knowledge Creation in Manufacturing
Proposal for Reflective Learning for Field Workers Using Smart Voice Messaging
System

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The manufacturing industry in Japan accounts for about 20% of GDP in 2019 and plays a role as one of the major sectors supporting Japan's economy. However, the declining number of workers and the aging of the workforce in Japan's manufacturing industry are serious issues. Therefore, in order to prevent the loss of knowledge of skilled workers, it is necessary to transfer on the knowledge of skilled workers to younger workers. On the other hand, about 70% of the companies have indicated that they have not been able to implement knowledge transfer. In light of this situation, the Ministry of Economy, Trade and Industry (METI) is promoting the use of digital technologies such as AI and IoT. However, simply utilizing digital technology alone will not advance knowledge transfer. Therefore, this study establishes a method for information sharing and knowledge creation using digital technology through the operation and evaluation of a system that supports the sharing and transmission of worker awareness in the manufacturing industry.

ISOWA corporation, which is engaging in the design, manufacture, and sale of corrugated machinery and all related services, cooperated with us in our research using the Smart Voice Messaging System. The company conducted preliminary and main experiments and was able to collect a total of 690 valid voice messaging. These voice messaging have four validities: (1) communication and recording, (2) expression of judgment and intention, (3) sharing within the department, and (4) sharing outside the department. Based on these effectiveness, in the operation of the Smart Voice Messaging System, teams should be formed for each business or product within the system to collaborate with each other.

From the above, in this research, the knowledge transferred by individuals was transformed into organizational knowledge through the operation of the Smart Voice Messaging System, and the method of this transformation was also clarified. Nevertheless, since this study focused on only one company, future challenge is the need to operate the system in many companies, leveraging the corporate supply chain.