

System Informatics-based New Service Development

Kwang-Jae Kim

Department of Industrial and Management Engineering
Pohang University of Science and Technology (POSTECH), Pohang, Korea
kjk@postech.ac.kr

Plenary Talk Abstract

Various types and massive amounts of data are being collected in multiple industries. Such a big data proliferation has provided ample opportunities to develop more and better services, especially in manufacturing industries. For example, heavy equipment manufacturers monitor, diagnose, and predict product health through prognostics and health management services using the data collected from their equipment. Consequently, equipment managers can cope with potential product breakdowns and maximize product availability for clients. Numerous companies in manufacturing industries have “servitized” their value propositions to address issues on product commoditization and sustainability. A key component of servitization is informatics, which transforms system data into useful information for the system stakeholders. In this talk, informatics-based service is defined as a type of service wherein informatics is crucial to customer value creation. Despite the importance of this concept, studies on the design and development of informatics-based services in manufacturing industries are rare. This talk proposes a conceptual framework of new service development based on the analysis of the data collected from the system in question, called system informatics-based new service development. The framework is introduced using recent case studies in automobile, vessel, energy, and healthcare industries. Observations and findings from the case studies would contribute to promoting and inspiring research on the development of smart services in manufacturing industries.



Kwang-Jae Kim is Professor in the Department of Industrial and Management Engineering and Director of the Quality Systems Laboratory at Pohang University of Science and Technology (POSTECH), Korea. His current research interests include quality assurance in product and service design, product-service systems, and smart service systems. His work has been applied in various areas including semiconductor manufacturing, steel manufacturing, automobile design and manufacturing, healthcare and wellness, smart energy, telematics, and ICT services. His research has been supported by National Research Foundation, Ministry of Science and Technology, Ministry of Knowledge Economy, Ministry of Health and Welfare, Ministry of Trade, Industry and Energy, Ministry of ICT of Korea, and various industrial companies including Samsung, LG, POSCO, Hyundai, IBM, and Microsoft. He currently serves as a vice president of Korean Institute of Industrial Engineers and Korean Society of Quality Management. He is a fellow of Asia Pacific Industrial Engineering and Management Systems (APIEMS) and an advisory board member of INFORMS QSR. More details can be found at <http://quality.postech.ac.kr/>.