Using a Design Structure Method to Support Technology Roadmapping for Product-Service Integrated Systems

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Abstract : Recently, due to intensifying competition in several industries, the importance of meeting customer requirements has increased. The role that service plays in satisfying customer's requirements is key area of focus. Thus, the concept of using product development-research in the service system has been actively practiced. As strategic decision making tool, various types of the technology roadmap were suggested in the product-service system (PSS). However, the technology roadmap was configured a top-down form around the technologies of the elements. The limitation is that it hard for it to indicate a variety of interrelations. In response, this paper suggests using the planning support tool of PSS for a DSM for the technology roadmap; it consists of the relationship of product-service-technology as a bottom-up form. Therefore, nine types of the technology roadmap of PSS exist. The first defines the relationship of product-service-technology. The second phase identifies output when of the technology roadmaps are adapted to the DSM process. Finally, the DSM-based forms of each type of technology roadmap are presented through case studies.