Using Systems Engineering Approach for Innovation Service Model Analysis-An Example of Building Security System

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ABSTRACT

Globalization, internationalization and digitization have become the trends of industry development. The major industry structure in Taiwan also turns into innovative service industry driven by technology. In recent years, the domestic service industry has reached over 70% of the gross product which reveals the critical position of domestic service industry. There is severe competition in domestic service industry and innovation becomes the important means to maintain sustainable development. Regardless of the innovation of products, service process or operational model, only satisfying the customers ’ increasing demands can allow the competitiveness to be maintained for accomplishing the goal of sustainable development. This research was based on the concept of 3D structure of system engineering and combined model analysis, INCOME simulation and AHP decision-making analysis to construct the process of innovative model of service industry. The researcher intended to upgrade the competitive advantage of service industry and used security service industry as an example to elaborate the application of innovative model; since the domestic urban architectural patterns mainly refers to buildings, passive fire control system cannot provide the residents a safety environment. The simulation and validation of this innovative model revealed that the innovative fire control security service system based on RFID system could allow the monitoring center to lead the people to the right exit direction at the fire accident and offer the customers safer and more efficient security system to respond to the rapidly changeable society. The fire control security system in the buildings will no longer only provide the residents passive exit function. It will be a better solution.

Keywords : 3D structure of system engineering ; innovative model analysis ; INCOME model simulation

Table of Contents

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