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A Business Model of Taiwan's RFID Network Platform in Healthcare Industry

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Healthcare is life-critical. Any medical mistakes may cause irremediable regret. Patient safety is the most important issue in healthcare industry. The bottleneck of Hospital Information Systems (HIS) is the inability of tracking and identifying the patient's information like name, dispose content, operational time, and location. Radio Frequency Identification (RFID) technology can provide some supports to solve the problems to make better decision by HIS.

There are some RFID pilot projects in healthcare which have verified that it can enhance care quality, decrease medical errors, and increase both efficiency and effectiveness in healthcare resource. A "RFID Network Platform" is necessary for spontaneous and innovative applications to proliferate, and the business model is important to the platform provider for stimulating and channeling innovations to drive the network effect in healthcare industry.

This research proposes a business model for Taiwan's RFID network platform in healthcare industry. Based on the platform business model, we examined RFID applications in drug control, blood bag control, emergency medical service, and long-term care service.

Keywords:

Radio Frequency Identification (RFID), network effect, platform strategy, business model, National Healthcare Information Infrastructure (NHII)

Introduction

Healthcare is life-critical. Any medical mistakes may cause irremediable regret. Patient safety is the most important issue in healthcare industry. World Healthcare Organization (WHO) and other organizations all pay much attention about reducing medical errors and creating a medical environment for patient safety. The famous organization in healthcare, Institute of Medicine (IOM), proposed that many medical errors occur because of human carelessness. The bottleneck of Hospital Information Systems (HIS) is the inability of tracking and identifying the patient's information like name, dispose content, operational time, and location. Under such situation, it is difficult to make better decision from HIS.

Radio Frequency Identification (RFID) technology can provide objects identities, tracking and tracing. Some pilot projects have verified that it can enhance care quality, decrease medical errors, and increase both efficiency and effectiveness in healthcare resource deployment if RFID technology is applied.

In terms of economic value, there are many potential fields to implement RFID technology such as in biotechnology labs, pharmaceutical manufactories, medical appliance transportations, hospitals, and in extended healthcare service providers. Some of the applications may soon become killer applications if the government policy or some other factors trigger a mass-scale implementation.

An RFID network platform is necessary for spontaneous and innovative applications to proliferate, and the business model is important to the platform provider for stimulating and channeling innovations.

The level of information technology implementation in Taiwan's healthcare industry is high because hospitals need information systems compatible with the monopolistic from "National Insurance System" to apply medical expense. The research in the field of healthcare information management in Taiwan is also advanced because of the popularized internet infrastructure and universal users adopt rate.

Taiwan government has been paying considerable attention to RFID related industries, especially in healthcare industry. There are some government-funded pilot projects seeking to deploy RFID technology in hospitals. However, RFID implementation demands intensive and extensive data exchanges not only between levels but also across different organizations. This calls for a technologically robust and commercially sustainable platform.

This research proposes a business model for Taiwan's RFID network platform in healthcare industry. The result of research has been adopted by the Department of Health (DOH) and Ministry of Economic Affairs (MOEA) in Taiwan as guidance for future government-funded projects.

Conclusion

This research proposes a business model for Taiwan's RFID network platform in healthcare industry. We design

system architecture and the whole infrastructure for healthcare which reference from EPC Network in MIT. Based on the platform business model, we examined RFID applications in drug control, blood bag control, emergency medical service, and long-term care service.

There are some RFID pilot projects in healthcare which have verified that it can enhance care quality, decrease medical errors, and increase both efficiency and effectiveness in healthcare resource. An "RFID Network Platform" is necessary for spontaneous and innovative applications to proliferate, and the business model is important to the platform provider for stimulating and channeling innovations to drive the network effect in healthcare industry.

"RFID Network Platform" stands on a critical position in healthcare value chain. It's an important research issue for us to plan a suitable platform for healthcare to solve many existing problems in healthcare industry. And it will create many new business opportunity in the evolution about integrating RFID technology in healthcare.

The research is an exploratory study to investigate the planning and the developing strategy of "RFID Network Platform". In the future research, will reference more researches and reports from the "financial transaction platform in banking", "supply chain management (SCM) platform", and research about platform developing strategy. And finally, we will try to develop a model about the information platform developing strategy in healthcare.

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