

## SUMMARY OF MASTER'S DISSERTATION

Student Identification Number	80933464	Name	Takahisa Hattori
Title Evaluating Cloud Computing Considering Personal Information Security			
Abstract <p>Information system is providing a variety of services today which has resulted in dramatic increase in the complexity and the cost of developing, maintaining, operating the system. Cloud computing is a feasible solution to reduce such increased cost of information system and therefore acquiring much attention from market. However, the fact is that it has not been widely introduced to businesses yet. The reason is that clients are reluctant to introduce cloud computing because they are afraid of potential leakage of personal information from servers that are remotely managed by the third party.</p> <p>The previous researches evaluated benefits of cloud computing based on the cost of acquisition, size of company or degree of importance of tasks managed by the system. However, the most critical factor to consider for introducing cloud computing is how to secure personal information. Therefore, this research aims to evaluate cloud computing from the viewpoint of personal information security. I designed a model to quantify the risk of personal information leakage associated with cloud computing and calculate the cost to mitigate the risk for evaluating the total benefit. I also propose a business model that guarantees the risk of personal information leakage for further promotion of cloud computing.</p> <p>According to each deployment model of servers, I calculated the risk using probability of occurrence of personal information leakage multiplied by potential damages and then compared the total cost of cloud computing with that of conventional system. I estimated an insurance rate so as to transform the risk into the cost to cover the damage.</p> <p>The results showed that we could expect enough cost reduction effect in cloud computing when we consider personal information security. Value of cloud computing varies greatly due to quantity of information and quality of information such as criticality as well as corporate social responsibility and customer service quality of an enterprise. Moreover, I could design an effective selection model of servers for cloud computing. Furthermore, I found it a feasible business to provide risk mitigation service for promoting introduction of cloud computing.</p>			
Key Word(5 words) Cloud Computing, Security, Identity Theft, Risk, Cost			