Chapter6

Conclusion and Recommendations

It is clear that majority of people have the belief that they have to face many barriers when implementing PKI for e-business authentic document transactions. "PKI poorly understood" is identified as major or topmost barrier for this in the Sri Lankan banking sector. According to the literature review, this was identified as the third top barrier and the result is different with local context. The result of the PKI knowledge tested show that the knowledge is indeed is very poor in Sri Lankan context compared to global context where we can find a tremendous trend on PKI technology. This is understandable as the PKI is complex and difficult to understand. The complexity of PKI is identified as second top barrier and there would be significant relationships among these two top barriers for implementation on PKI for banking sector.

Although Nearly 95% use document management systems in Sri Lankan banking sector, 81% of them use both document management systems and manual processes. It shows the level of belief of document management systems and users do not trust these information systems.

Level of information security experience and PKI knowledge of IT professionals in banks measured as key factors to low adoption of PKI enable document management systems in Sri Lankan banking sector. Research analysis emphasis that there is a relationship between "information security experience" and "barriers to PKI implementation". Also, "PKI knowledge" does construct a relationship with "barriers to PKI". In addition, both relationships interpret a negative relationship on barriers to PKI.

Recommendations to Banks

- Information security experience of IT professionals in banks should improve dramatically. It will definitely lead to better PKI knowledge in future. The management users should aware of this, as they are the privileged group. Although banks consist of considerable IT professionals, their experience is not enough to develop PKI technology for authentic document transactions. Awareness programs and workshops related to information security should

organize and educated users who are highlighted in these programs. These users can motivate through sponsoring for information security certifications that are globally recognized.

- PKI knowledge of users is trivial in Sri Lankan banking sector as the barriers to PKI increases. Therefore users should be trained on PKI technology and be aware of global trends on PKI in order to improve their knowledge of PKI as "PKI poorly understood" is the top most barrier to PKI implementation.

- The researcher observed that knowledge of digital signature of the IT professional in both private and public sector banks in Sri Lankan are very poor. In addition, the researcher observed that these IT professional are not aware of electronic transaction act. Therefore, the researcher's recommendation to banks is to conduct an awareness program on digital signature for IT professionals in the Sri Lankan banking sector and the legality of it. It is a necessity for them to have a clear understanding of this prior to understanding PKI and the different types of PKI applications. How to use PKI when forming the digital signature is the most essential.

- As individuals do not have a good knowledge on this particular field, it would place the complexity of PKI as the second top barrier. Training programs on PKI should be conducted with global examples of successful PKI implementations to emphasize its simplicity when understood properly.

As there is a lack of demand in Sri Lanka for PKI, it is noted that there is a low adoption for PKI usage in document management systems. The researcher believes that individuals do not posses a clear idea on how to use PKI for digital signature. It may also lead to a lack of demand. As mentioned earlier, educating IT professionals on PKI in global context will help to overcome this barrier.

We can conclude that PKI can be integrated with many other applications used in e-businesses. As an example, same digital certificate used for digital signatures in document management systems can be used in secure email systems.

The article by entrust [6], clearly mentions that digital signatures are powered by public-key infrastructure (PKI) technology and are widely recognized as the best practice for ensuring digital accountability for electronic transactions. In addition, it is highlighted that digital signatures are the most effective, easy-to implement and

secure methods of providing accountability while enabling electronic transactions [6]. However, researcher believes the ease of use would vary among countries based on technological, economical and social factors.

Limitations

The reason for selecting the number of banks that were chosen was due to the time and other limitations. Therefore, the researcher used a number of ATMs to measure the IT wealth in a bank and to narrow down the number of banks selected. Due to this, the researcher made an assumption that when the numbers of ATMs are higher, the banks would have more electronic document transaction volume using information systems.

The IT professionals as well as the branch managers of banks within the Colombo district were considered for the sample. The results would have been better if the sample would have consisted of more IT management users from each bank. However the research was limited to only one IT management user in each bank.