Adding value beyond traditional security – lessons learnt from the software industry

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2007

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LXM-ML2-Security DW/DM

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Executive summary

The potential of using security systems for adding value to business bears similarities to the capacity that Data Warehouse and Data Mining offers. Reviewing the literature on documented factors for successful data warehouse adoption and implementation points in the direction of where the future possibilities and challenges lies in adoption and implementation of "value adding" security systems.

The reported success factors are as follows:

- Top management support
- Size of the organization
- Presence of a 'technology champion'
- Collaborative effort between supplier and user organization

Methodology

The results of this memo are based on two interviews made in the United Kingdom in March 2007 and from a literature search made on critical success factors in the adoption of data warehouses. The cited success factors are taken from a high-ranking academic journal with high standards with regards to the rigor of the research design.

Analysis and results

It has been argued that future security systems will provide value beyond mere security purposes. This case has been argued strongly from the industry in the case of retail where functionality like customer counting, customer profiling and merchandising etc. is stressed in conjunction with video surveillance based on IP.

Moving away from being a "cost-entry" on the balance sheet may require a new set of skills for the typical security officer. Here lies an opportunity for security officers to move beyond their mere cost-mentality to actually playing a significant role or at the very least a supporting role on the income side. Moving away from a safe turf also may entail a change in the skill sets in arguing for the value side of security systems - some have the skills to do this, some do not.

The need for added-value systems needs to be initiated, supported or investigated/by other departments, e.g. operations, human resources, and/or marketing. As in the case of 'data mining' it is not a software issue, but rather the knowledge and a staffing issue. Finding a team that understands technology, statistics and business value is a necessary but not sufficient condition. Of even greater

importance is finding successful cases of fruitful collaboration between these often siloed skill sets can be seen as the true challenge. This is confirmed by Watson et al. (2004) stating the need for a successful collaboration between the business and technology mind-set.

I argue that there are similarities in the way the security industry wants to push the extended functionality of value added systems to the idea of 'data warehousing' (DW) and 'data mining' (DM). Data Warehouses is a data storage system that is optimized for fast response times (data redundancy is allowed in favor of faster search times) focused on the data need of the individual decision maker rather than the transactional data need of traditional organizational department. According to Hand et al. (2001) data mining is the "the science of extracting useful information from large data sets or databases" and this dovetails with the potential of using data generated from surveillance cameras, access control and intrusion alarm for business relevant analytics beyond "mere" security.

Having been buzz-words for at least a decade, what are the lessons learned from DW and DM adoption and what implications do these lessons have for the security end-users today?

In a study by Hwang et al. (2004) where 50 surveys were distributed with a response rate of 60% (30 respondents) studying the Critical Success Factors (CSFs) of DW in the banking industry in Taiwan the identified factors are support from top management, the size of the bank, the internal needs, the degree of business competition, and the existence of champions. Critical Success Factors in this memo are not necessary *and* sufficient conditions for successful adoption. They are documented experiences on what *characterizes* a successful adoption.

Top management level support is cited as the most important factor. This is also stressed by Watson et al. (2004) in a study of Data Warehouse implementation at a US-based health insurer in North Carolina. This further stresses the necessary importance of the security manager to establish a "C-level"-role in the firm.

The lack of commitment from top management is still a commonly reported condition among many security officers. One respondent stated it directly:

> *You would never see a security manager walk into the board room of a high-street bank.* (Security manager, 2007)

Although a rather a bold statement that does not hold true for every organization, it still remains a condition under which security managers operate. As a benefit of the top management support, the study by Hwang et al. (2004) further suggests that it allows the analytics team to focus on the task of achieving adoption of the technology.

Moving ahead then to the size of the bank mentioned by Hwang et al. (2004), they suggested that the banks must have sufficient capital resources to take advantage of adopting the data warehouse technology. For the security end-users this is an interesting observation since it relates to the fact that cost sometimes is absorbed at the individual store-level as can be the case in retailing for example. If HQ has an advisory role and the cost is decentralized to the individual store or outlying locations it might work against the adoption of "value adding" security systems. Centralized goals and centralized management can/would expedite the process.

An often cited Critical Success Factor (CSF) in the case of software adoption and its use is the 'technology champion' being a (often senior) person that passionately and with commitment over time pushes the need for the software.

> *Champions can be helpful in persuading chief executive officers, department managers, as well as other associates and staffs to adopt the data warehouse technology. In this study, champions are the persons who actively and vigorously promote their personal vision for the adoption of new information technology.* (Hwang et al., 2004, p. 16)

In the case of the Taiwanese banks, business competition is also stressed as pushing DW adoption ahead, i.e. meaning that firms and industries with low margins are more likely to show interest and succeed in adopting DW due to the need of gaining a competitive advantage. Interestingly, this is also stressed by one of the respondents from the end-user side:

I think some of the new players with low margins are doing [security-wise] good things […] These are very much high volume, low margin … (Head of risk and loss prevention in retail, 2007)

In this case it should be stressed that high volume and low margin business does not necessarily equals advanced integrated "value adding" systems, but rather that the low margins pushes for a need to be *innovative* to lower shrinkage for example; all in order to keep profits at a satisfactory level.

Finally, vendor selection is *the last statistically significantly confirmed factor*. Seen from the experiences of Data Warehousing it is suggested that collaboration between the banks and the vendors is more favorable than being fully in the hands of the vendors.
Thus, a bank cannot afford to fully depend on the vendors' suggestion to develop the data warehouse applications/systems. In other words, how to select the right vendor to work with would affect the successful adoption of the data warehouse technology. (Hwang et al. 2004, p. 16)

This suggests that the successful adoption is characterized as being a kind of partnership where both user organization and software provider (vendor or consultant) work in a collaborative manner with active commitment.

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