

Impact of Enterprise Mobile Systems` Management on Security Paradigms

BACHELORARBEIT

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Abbreviations

App	Application
app.	Appendix
BYOD	Bring Your Own Device
CAGR	Compounded Annual Growth Rate
EM	Enterprise Mobility
EMM	Enterprise Mobility Management
EMS	Enterprise Mobile Security
IS	Information Security
IT	Information Technology
MAM	Mobile Application Management
MCM	Mobile Content Management
MDM	Mobile Device Management
MSM	Mobile Security Management
OS	Operating System
SMD	Smart Mobile Device
SSL	Secure Socket Layer

1 Introduction

1.2 Relevance, Research Question and Procedure

Our world is changing fast. Workers now collaborate anytime and anywhere, making instant real-time decisions thanks to smart phones, tablets and devices. The capability of Smart Mobile Devices (SMD) significantly increased in the past years. Because of today's technological enhancements and opportunities, using SMDs for business purposes provide possibilities to create a new level of productivity. However, challenges and requirements towards information security have changed decisively in recent years, leading to companies having to face completely new risks and threats.

Ever-changing evolving information and communication technologies allow for an increase in data exchange as well as information flow. Consequently the management of data security and privacy has become more complicated. Due to drastic development of Bring your own device (BYOD), cloud computing technologies and the Consumerization of Information Technology, companies are faced with new threats and risk coming von mobile platforms, which is why IT security became the most important IT in 2016 (see fig. 1). Incidents and problems regarding IT security, namely data loss, data theft, accidental damage, unauthorized access and misuse by employees, increased drastically in recent years and can especially harm large companies.

The digitalization is in full swing and includes increasing number of endpoints that could access data. With regards to the trends of enterprise mobility and developments of digital transformation, the question should be asked, how enterprises would need to develop their Information security management to meet all security threats coming from the mobile component.

SMD data flow forecasts predict a CAGR of 53%, which means sensitive corporate data, will need to be even more protected against emerging threats and vulnerabilities.

Moreover, a single security solution for SMD within the corporate processes and environment is still missing. Along with Mobile Device Management, Application and Content Management, the right Enterprise mobility solution would have to be found by the enterprises based on several factors.

This thesis investigates the current status quo of the whole Enterprise mobility topic and tries to find out determining factors of enterprise mobile security. The research question of this thesis is the following:

RQ: To which extent enterprise mobile systems' management has an impact on information security paradigms?

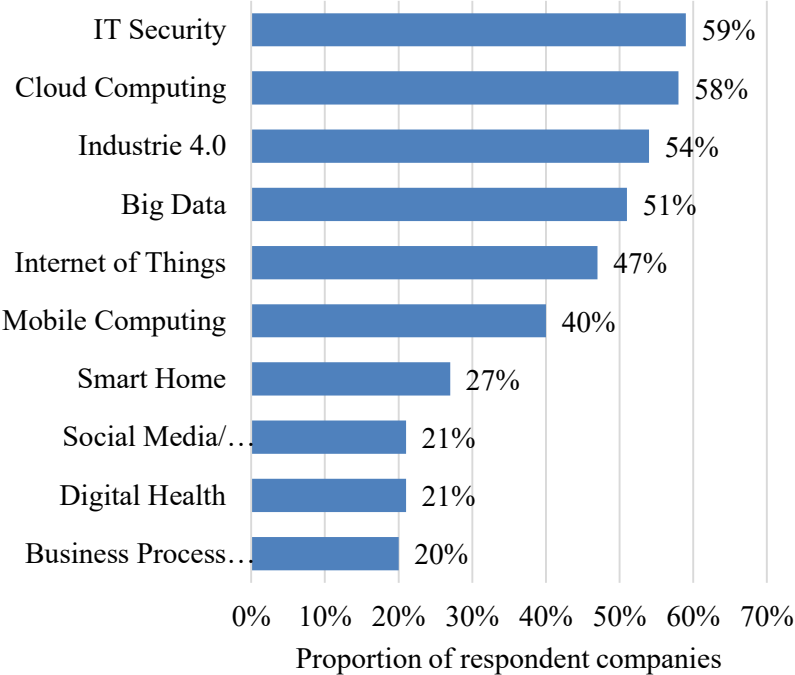


Figure 1: Most important IT trends in 2016

Section 1.3 of this work begins with a definition of the most important terms and an explanation of the theoretical basis. This contains models that apply for information security and definitions in regard to mobile security systems.

Subsequently, a literature review based on Webster and Watson (2002) provides an overview on the topic of Enterprise mobile security. Therefore, in section 2.1 methods and procedures regarding processes of searching and selecting are provided that are relevant for further researches in this thesis.

The most examined factors based on selected papers are illustrated in the concept matrix. After presenting analysed literature, potential trends and identified research gaps are summed up in section 2.3. Chapter 3 describes the research design applied in the thesis. Afterwards,

experience with expert interviews displays an important factor when it comes to achieving a smooth dialogue between both parties. Due to the relatively open character of half-standardized interviews the respondents are free to make any statements. Thereby, to previously estimate a certain time-range for the interview turned out to be difficult. Factors like the actual mood of the participants or external influences like disruptions can influence the flow of an interview. Therefore, a comfortable atmosphere would have to be important for a successful interview. It is further suggested to conduct the interview in a face-to-face conversation, which was experienced to be a more fluent and personal interaction with the respondent compared to a phone call.

Conclusion and Outlook

In the course of this bachelor thesis it was investigated to which extent enterprise mobile systems' management has an impact on information security paradigms.

It can be concluded, that mobile systems' security within the companies IT had gained significance over the past years. With respect to recent trends that have been developed within the past years, interviewed experts noticed that there had been a shift of the awareness about the importance of the "human factor" for IS.

Through recent developments, deployments of mobile platforms and location and time independent availability of data, there can be identified significant risks, but also add-values for companies. Businesses, customers, business partners and employees are expecting a higher level of mobility by the possibility to flexibly using business relevant applications and data via SMDs. Currently, a highly flexible workforce is developing quickly. While an increasing number of employees will be enabled to bring and choose their own device for business purposes, Germany is lacking of innovation drivers. Especially BYOD seems to be a far less attractive model in German companies. Selected experts argue this is due to the given legal framework, which hinders business to make corporate data available on SMDs to employees for daily working processes.

This may change within the near future, whereby new threats and potential attack vectors for companies could evolve and put their data at risk. Experts report that highly professional and organized cyber-attacks endanger business data more than ever before. The digitalization also means potential access to data through a constantly increasing number of endpoints, which displays a significant risk for mobile security. Enterprises will have to enlarge their IT management departments. Further, it will be inevitable to adopt EMM and/or cloud solutions to keep their business content save. Further investigations need to be made regarding the market for EMM solutions and the providing companies to investigate the current state of

efficiency of these solutions and their effectiveness regarding the management of such complex and diverse application environments of device-neutral business applications.

The research question presented at the start of the thesis cannot be generally answered. Occasionally, it remains uncertain, if German enterprises that are still restrained in their investment intentions due to legal aspects and the worker's councils are prepared for the upcoming mobility wave. - Forecasts show that the global smart device data traffic will increase dramatically within the next four years. The estimated volume of data being transferred, generated and stored will increase daily, driven by the digitalization of the companies. This increase in data traffic coming from smart mobile devices includes access through more and more endpoints to data and could lead to a significant risk for mobile and information security. The central question for enterprises to meet those risks will be how to find adequate security concepts despite of quicker development of innovations. There is further research demand in terms of the influencing factors that are crucial for the aligning of business-own mobile security with respect to recent trends of the IT.