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IS-Success Analysis of Bring Your Own Device

Bachelorarbeit

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Anmerkung:

Folgende Teile wurden von Frau Rohr verfasst:

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Alle Kapitel wurden kooperativ verfasst, sodass eine gleiche Bewertung erwünscht ist.

1 Introduction

1.1 Motivation and Objectives

As part of the so-called consumerization¹ some companies allow employees to use personal devices according to the Bring Your Own Device (BYOD) model (Forrester Inc. 2012, p. 2). BYOD allows employees in organizations to use their personal mobile devices to access the resources of the company for work as well as to use them personally (Gajar et al. 2013, p. 62). With the change of communication behaviour the adaptation pressure on existing commercial processes and IT systems is growing and gives businesses reason to critically examine the BYOD concept (Forrester Inc. 2012, p. 2; Bitkom 2013, p. 5). The use of non-company standard devices raises many negative issues, but can also have positive effects (Bailey 2012, p. 1).

The question of the value contribution of information systems (IS) has been debated intensively for a long time. At different levels² it is tried to establish a connection between expenses and benefits for IT, but the results are usually different (Petter et al. 2008, pp. 236). The value adding potential of IS is not longer disputed, but it remains to be clarified why and how this potential can be realized in the actual application (Kohli/Grover 2008, pp. 24).

The primary objective of this study is to identify the success of BYOD programs in companies. The influence of IS - as a BYOD concept - to the company's success is often indirect and dependent on personal, organizational and environmental factors, which can make the measurement of success complex and elusive (Petter et al. 2008, p. 237). Within the scope of this paper the "DeLone and McLean Model of Information Systems Success" will be presented. Using the criteria set out by DeLone and McLean, individual questionnaires were developed for interviews with experts. Based on the expert interviews overall cost-benefit criteria was established, which are intended to serve as guidelines for companies. In addition, two case studies were created using real company data representing the cost-benefit situation of established BYOD programs.

¹ Consumerization refers to a trend, increasing the penetration of innovations in the business environment in the past few years, which originally come from the consumer sector (Niehaves et al. 2012b, p. 3).

² including economics, industry, company, individual application

Based on the described objectives the following research questions are formulated:

- Does BYOD represent an IS-Success for companies?
- What cost and benefit aspects do companies have to consider to be successful with BYOD programs?

1.2 Structure

Chapter two represents the basic concepts: BYOD and IS-Success and especially shows the development of BYOD. The cost-benefit analysis is presented as a measurement tool for IS-Success. In chapter three the current situation of BYOD in companies is presented. Furthermore, conditions are shown which should be considered in the case of introducing a BYOD program. Chapter 4 describes the actions of the selected research method with which the expert interviews were analyzed. This chapter provides a summary of the overall cost-benefit criteria, that the companies can use as a part of business cases at the beginning of a BYOD project. As a conclusion of this chapter cost aspects and benefit potentials are discussed in detail. Chapter five provides a representation of two case studies from different branches. In chapter six recommendations for the practical application are formulated and finally in the conclusion a summary statement about the success of BYOD is made.

1.3 Limitations

The present study focuses on measuring the success of BYOD programs, even though potential benefits are very subjective and difficult to measure (Forrester Inc. 2012, p. 2). Furthermore, there is a lack of scientific literature on this specific topic. Also the presentation of the cost-benefit analysis in the literature is mainly based on the public sector (Hanusch 2011, p. 1) and cannot be easily transferred to the private sector.

In this work, not all technical possibilities and aspects can be described, e.g. the mobile device market is very diverse and fast moving. Therefore it was not possible to capture it altogether. The context of BYOD programs was limited to smartphones and tablets, though the BYOD concept is applicable to laptops, computers and even software.

While grouping the interviewees it was indeed planned that an additional fifth group should represent the employees who use the BYOD concept, but no adequate contact could be established at this point. The literature recommends to carry out as many interviews until saturation is reached (Johnson/ Joshi, 2012, p. 4). In this study, as many In-

interviews were carried out as possible in the given time. Thus, while no saturation was reached, however, the interviews conducted were a good basis for the achievement of the objective of the work. The number of interviews appears to be sufficient since the evaluation was carried out manually without the use of software.

2 Theoretical foundations

This chapter deals with the integration of private mobile devices of employees into the companies processes, better known as Bring Your Own Device (BYOD) or even consumerization of IT. At this point the concepts “Shadow IT” and “IT Consumerization” are being used to explain the development of BYOD. Because the BYOD concept should be examined concerning its success, the concept IS-Success is defined in the following. The cost-benefit analysis is used and presented as a tool for the measurement of IS-Success.

2.1 BYOD

Consumerization

A clear definition of the term "consumerization" does not exist. A study by Moschella et al. (2004) shows the increasing use of IT by consumers in a company context. The term "Dual Use" was proposed as a definition. This means that more and more hardware, network infrastructures and value-added services are used by enterprises as well as by consumers (Moschella et al. 2004, p. 2). Therefore the key element in this early definition of the concept is the unclear separation of business and personal boundaries (Niehaves et al. 2012b, p. 3). For Niehaves et al. (2012a; 2012b; 2013) "consumerization" is the process or the phenomenon where electronic devices, such as smartphones or tablet PCs of employees are also used for their work. The traditional direction of technology spreading from enterprises into private households is increasingly changing to a more consumer-driven type. Employees are augmented able to select technologies, applications, and devices for optimally managing their work, so that they are not forced to accept given solutions of the IT department (Niehaves et al. 2012a, pp. 1). As a result a distinct change in the IT innovation paradigm from a top-down to a bottom-up approach occurs (Niehaves et al. 2013, p. 40; Niehaves et al. 2012a, p. 2). However consumerization of IT does not only mean that people do their job with the help of iPads or iPhones. The consumer markets for mobile devices and software experience a process of continuous development and improvement of technol-

programs is not adequate, there is a risk that safety requirements are violated or the benefit of these programs is not reached. Therefore, companies should invest more in training of staff to ensure that security risks are minimized and the potential is used (Forrester Inc. 2012, p. 14).

Furthermore, it can be said that the objectivity of studies could be improved. For example, the Cisco study of 2012 only questioned IT manager. As well the study of Forrester Inc. evaluated 60 percent of employees from IT departments in 2012 (Forester Inc. 2012, p. 16). There is a r that this represented opinions of studies on the subject is illustrated in a distorted way.

7 Conclusion

“Bring Your Own Device” is not an innovation. It is clear that BYOD is only about ownership conditions and that the development of the device has already started 10 years ago in the context of software. Not BYOD itself but the development of mobile IT can be classified due to its technological progress to the “Gartner Hype Cycle” (transcript A, ll. 158; C, ll. 53).

The aim of this paper was to find out whether BYOD represents an IS-Success for companies or not. Experts have different opinions on this issue. Some of them argue in favor of BYOD: it reduces support fees, saves investment costs and resources; others doubt that there is a cost reduction. Moreover, saved acquisition costs can be lost quickly due to additional administration effort or liability cases.

The two case studies in the present paper show that BYOD may represent an IS-Success for specific companies. But certainly the results of these case studies cannot be transferred completely to other companies because each business is individual and each industry has specific characteristics. Therefore, an accurate economic consideration is essential before introducing BYOD. It is important for enterprises to analyze in which areas BYOD projects can enhance processes and make them more efficient and whether they fit into the overall corporate strategy. Furthermore, the interviews illustrate that significant cost savings cannot be achieved with BYOD if appropriate safety requirements and the desire of flexible hardware adoption shall be implemented at the same time. That means a company has to find an intelligent compromise concerning the trade-off of cost reduction, gain in efficiency and minimizing risk. In most cases of the con-

ducted interviews, the companies did not prepare a business case for the BYOD projects. But it is essential to find out which cost-benefit-criteria are important for a business. The general tool for a cost-benefit analysis prepared in this study can serve as a guideline for companies. This tool provides a detailed description of the advantages and disadvantages that were set up as costs and benefits.

On the benefit side are aspects concerning better usability, safety aspects and saving potentials are also listed. Furthermore, aspects which may be taking into account to increasing productivity, satisfaction and motivation of the users are demonstrated. Additionally other advantages like MDM and container are presented.

The side of costs presents negative aspects concerning the same topics like the disadvantages or misunderstandings of usability-, safety- and productivity- aspects. The alternative cost criteria have been listed in detail, too. Moreover, there are aspects that may decrease user acceptance and aspects concerning liability. Also the negative sides of the container and MDM solutions are presented.

Finally it can be noted that companies do not just think about the introduction of BYOD, they are already looking for ways and remedy to implement the private devices in the company processes to exploit the potential. Others have already implemented BYOD solutions. Unfortunately, there are no long-term experiences yet in order to make a clear statement to the IS-Success.