Chapter VIII
Business Models and Organizational Processes Changes

Helena Halas
SETCCE, Slovenia

Tomaž Klobučar
Jožef Stefan Institute & SETCCE, Slovenia

ABSTRACT

This chapter explores the influence of pervasive computing on companies and their businesses, with the main stress on business models. The role of business models for companies is presented. Introduction to pervasive computing and a survey of existing e-business models classifications are used as a base for our research. The main characteristics of today's business models are discussed and a method for evaluating business models characteristics is proposed. We concentrate on characteristics of pervasive computing and their influence on companies' business processes and business models. The present and future business characteristics and business models are briefly compared, and future research directions on pervasive computing and business models are presented.

INTRODUCTION

The future is bringing us more and more challenges, and changes have become an ordinary part of our everyday lives. The same is true for business. Companies constantly face novelties, and it is important that they know how to tackle the new circumstances and how to adjust their business. One of the biggest shifts was caused by appearance of internet, which interconnected

the world in many aspects and fundamentally transformed the way companies conduct business. Internet technologies enabled communication and cooperation on different levels between whichever interested parties around the world. As a result of further development of information-communication technologies (ICT), we are approaching the next major change that will affect companies, i.e. appearance of pervasive computing.

Pervasive computing is already a fact, although its final form and impact are still not known in detail. However, researchers and practitioners agree that its influence on business will be significant and it will dramatically change business models. Therefore, it is important for companies to become aware of it and to start thinking about what effect pervasive computing and pervasive technologies will have on their businesses. The appearance of pervasive computing needs to be seen as an opportunity for companies to improve their business processes and business as a whole, and not as an (un)necessary evil. New technologies allow companies to improve their business processes, adjust business models, start doing business in a new way, or start completely new business. A question arises here, which of the existing business models will be appropriate for the future environment of pervasive computing and in which way the development of business models will go or what new business models we can expect. It is necessary to investigate which characteristics of pervasive computing will mainly affect future business and which common characteristics of future business models could be exposed.

The main objective of the chapter is to examine how pervasive computing affects the way a company organizes its business and how existing business models fit in the environment of pervasive computing. Our work on this topic discusses existing business models that are appropriate for the era of pervasive computing and necessary changes. We also identify some general characteristics for the future business models. Next, we discuss the means of collaboration between incorporated participants and relations with customers and how will they change with appearance of pervasive technologies. Business models for setting up and operating seamlessly integrated infrastructure are also discussed.

The chapter is organized as follows. First, we present the concept of pervasive computing and basics about business processes and business models. In the next step, we concentrate on characteristics of today's systems and present some existing e-business models taxonomies. At the end of this section, we try to summarize common characteristics of today's business models. After that, we focus on pervasive computing and the changes caused by appearance of pervasive technologies, and their impact on companies and their business processes. Adequacy of existing business models for pervasive computing environments is investigated and a view on the future business models is presented. Future research directions are given at the end.

PERVASIVE COMPUTING

"The most profound technologies are those that disappear. They weave themselves into fabric of everyday life until they are indistinguishable from it." (Weiser, 1991). Although Mark Weiser proposed this concept under the term ubiquitous computing almost 20 years ago, only recently pervasive computing really has started to affect organizations and their businesses. In the last few years, technology improvement of the networks, connectivity and devices capability have moved borders of possible and facilitated wider use of pervasive computing.

Pervasive computing refers to presence of advanced communication and computing technologies everywhere around us in a way they are invisibly embedded in everyday objects and people are mostly unaware of their presence. The computing environment is thus available every-