Chapter I

User Acceptance and Diffusion of Innovations Summarized

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Abstract

There are many quantitative studies on the behavior of consumers of new products or services. This chapter shows the starting point of three major lines of quantitative research. The next four chapters will lean heavily on these three subjects: diffusion of innovations, technology acceptance, and theory of planned behavior. The first line of research is the diffusion of innovations research that can be traced back to Rogers. One of the most important features of the book is the characterization of the persuasion step with relative advantage as a major driver for acceptance of innovations. The second line is the many applications of the technology acceptance model (TAM) that was introduced by Davis in the late 1980s. The most important result of this article is that perceived usefulness was significantly more strongly linked to usage than was ease of use, both defined in this chapter.
Last but not least, the school of planned behavior is introduced with a summary of the early work of Ajzen, in which he states that at the most basic level behavior is a function of salient information relevant to the behavior. Relevance will be a common thread in this book.

Introduction

Predicting user acceptance of innovations used to be a process of looking into a crystal ball before Everett Rogers introduced his book *Diffusion of Innovations* in 1983 (Rogers, 1983). In 1989, Fred Davis introduced the TAM in the MISQ, which was adapted by a mass of researchers (Davis, 1989). Icek Ajzen, at the same time, approached the same problem from another perspective with the *Theory of Planned Behavior* (Ajzen, 1991). But still, the diffusion of innovations is very difficult to predict. In the second section of this book, Ajzen argued that a quantitative method of measurement can indicate a diffusion problem but cannot easily explain the reason behind the problem. In this section the quantitative methods are shown and today’s applications are surveyed. This ends up in the Unified Theory of Acceptance and Use of Technology from a recent questionnaire of Visnawath Venkatesh, Fred Davis, Gordon Davis and Michael Morris (2003), which is shown in Chapter 4 and summarized in the Preface.

Innovation Diffusion Theory

The first ingredient to our theoretical framework is based on the innovation diffusion theory by Rogers (1983, 1995). This theory builds on a wide range of empirical studies, including studies in the healthcare sector (e.g. Rogers & Scott, 1997). *Diffusion* is the process by which 1) an innovation 2) is communicated through certain channels 3) over time 4) among the members of a social system. Diffusion is a special type of communication concerned with the spread of messages that are perceived as new ideas.

An innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. The characteristics of an innovation, as perceived by the members of a social system, determine its rate of