Chapter 30
Social Acceptability of Open Source Software by Example of the Ubuntu Operating System

Mateusz Szołtysik
University of Economics in Katowice, Poland

ABSTRACT

The modern development of information technology, and what is connected with it–technological progress and also the wide availability of hardware–make the Open Source software a necessary part of life today. Alternative operating systems with equal functionality are often exceedingly available. These systems often allow one to use a computer freely and are fully suitable for household use. The first part of the chapter includes explanation of acceptance issues and presentation of the most popular acceptance models. The second part contains a description of creating this study and analysis of its results.

INTRODUCTION

The study was designed to test whether people, who have an opportunity to choose a commercial operating system or free alternatives are ready to give up paid solutions and try switching to free and complimentary systems.

The most dynamically developed Linux distribution, Ubuntu was chosen as an example of an alternative operating system and is discussed in this chapter.

The main focus of the survey was to verify that the community of people gathered around this Ubuntu system is able to give up the use of another commercial operating system only in favor of Ubuntu.

Performing daily activities on home computers was set for an example of operating system usage.

BACKGROUND

Acceptance of IT Solutions by Users

Acceptance of information technology solutions by users is an important area and a field of study, for over thirty years. Although, there are many proposed models to explain and predict why the users use this exact system, only the Technology Acceptance Model (TAM) has gained most attention of information systems community. Therefore, it is important to read about this model, for anyone

DOI: 10.4018/978-1-4666-7230-7.ch030

who is interested in the study of technology acceptance by users.

In the early 70s of the last century, the demand for new technologies increased. Along with that, the number of unsuccessful attempts to adapt them in business organizations has grown. Therefore, the prediction of usage of new systems has become an area of research. However, majority of research methods did not produce credible measures that could explain why the system is accepted or rejected.

Previously mentioned Technology Acceptance Model (TAM) was introduced by Fred Davis, in his doctorate (Davis, 1985). Davis suggested that the use of the system was a reaction, explained or provided by the user's motivation. He has also concluded that the motivation is affected by external stimulus, such as the actual features of the system and its capabilities.

Referring to few earlier works, including Fishbein and Ajzen in 1975, who formulated a model of TRA (Theory of Reasoned Action), as well as other related research, Davis refined his model and proposed a conceptual model.

He suggested that user's motivation can be explained by three main factors:

1. Perceived ease of use.
2. Perceived usefulness.
3. Attitude toward using.

Davis hypothesized that the attitude of the user towards the system is a major determinant whether or not the user will actually use the system (or user simply rejects it). However, the attitude is influenced by two key beliefs: perceived usefulness and perceived ease of usage of the system.

Additionally, the attitude of the user is influenced by two main factors (beliefs):

- **Perceived usefulness:** The degree of a specific person's belief that using a particular system would increase its performance (Davis, 1989).
- **Perceived ease of use:** The degree of a specific person's belief that using a particular system will be free from physical and intellectual effort (Davis, 1989).

Davis suggests that perceived ease of use has a direct impact on the perceived usefulness. He also hypothetically states that these factors are influenced by the characteristics of the system design. This characteristics are represented by X_1, X_2, X_3 (Chuttur, 2009).

Due to subsequent experiments, Davis could improve his model to include other variables and modify the relationships that originally formulated. In later years, other researchers have also proposed a number of improvements to this model and over time TAM evolved into a leading model, which can explain and predict the usage of the system by their users (Venkatesh, 2003; Burton-Jones, 2003).

Therefore, TAM became one of the models, to which researchers often refer in their works in the area of technology acceptance (Porter, 2006; Jaeger, 2009; Park, 2009; Pilarski, et al., 2010; Pan & Chiang, 2012).

As already mentioned, through such models as Theory of Reasoned Action, which has source in social psychology, Davis could improve his conceptual model.

Theory of Reasoned Action, in short TRA, was introduced in about 1975 by two researchers, Martin Fishbein and Icek Ajzen (Fishbein & Ajzen, 1975).

They suggested that the current behavior of an individual person can be determined by taking into consideration the intention of the action prior to that person, together with the belief that resulted in this specific activity. This intention, which guided each person before making a particular behavior, has been marked as a behavioral intention of a person and is defined as a measure inducing the specific behavior.

Researchers have suggested that behavioral intentions were determined by: