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An Empirical Study to Assess the Use of a New Web-Based Customer Services System

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ABSTRACT

Assessing use is of vital importance for organizations selling and using web-based customer services systems. The purpose of this paper is to use a conceptual model to empirically study individuals' assessments of a new web-based customer services system over time. The model consists of three phases; pre-use, test and use. The concepts of value and quality are discussed in relation to the three phases. In this paper an empirical study has been undertaken where data collection has been generated by the means of qualitative in-depth interviews over a period of two years. The main contribution of this paper is the understanding of the difference between the concepts of value and quality being illustrated in the conceptual model. Customers' assessment of value and quality could have implications for companies developing new web-based customer services systems.

Keywords

Assessment, Value, Quality, Web-Based Customer Services Systems

INTRODUCTION

Assessing use is of vital importance for organizations selling and using web-based services (Davis et al., 1989; Philip and Hazlett, 2001). In the areas of information technology and management the introduction by Davis (1989) of the technology acceptance model (TAM), was in many ways pioneering in understanding the psychological factors influencing information system use. Davis emphasizes the role of the individual in the organization. Furthermore, Orlikowski (2000) puts forward that since most technologies can be used in a number of ways, users shape the meaning of technologies as they integrate them into everyday practice. Emphasized in this paper is the users' interaction with technology solutions in everyday practice in an organizational context.

Bobbit and Dabholkar (2001) share a similar understanding as Davis (1989) when they put emphasis on attitudinal beliefs to predict and understand use of technology-based self-services. Not entirely emphasized in the models by Davis (1989) and Bobbit and Dabholkar (2001) is a broader understanding of usage than attitudes and intentions of usage, because intentions predict use, but not usage over time (Chau, 1996). Karahanna et al. (1999), on the other hand, put forward the importance of studying technology adoption across time. Karahanna et al. highlight the importance of organizational issues and the affect on the individual, particularly for potential adopters of information technology. A framework is presented where they combine innovation diffusion and attitude theories to study differences in pre-adoption and post-adoption beliefs and attitudes. The consciousness of the difference between adoption and usage is a critical factor when understanding adoption. The importance of different phases in time, by Karahanna et al. (1999) labelled pre- and post-adoption, is of equal importance in this paper.

In addition to the distinction, made by Karahanna et al. (1999), in pre-adoption and post-adoption, a middle phase is implemented in the conceptual model presented in this paper. The middle phase is labeled the test phase. The reason why assessment of usage of a new web-based customer services system (*henceforth web-based service[s]*) should contain an additional phase is users involvement in development processes and its affect on users' assessment of the web-based service in the test phase. Therefore, when users are involved in the development process of a new web-based service, the assessment

of usage should be based on three phases (Figure 1). The purpose of this paper is to use a conceptual model (Figure 1) to empirically study individuals' assessments of a new web-based customer services system over time.

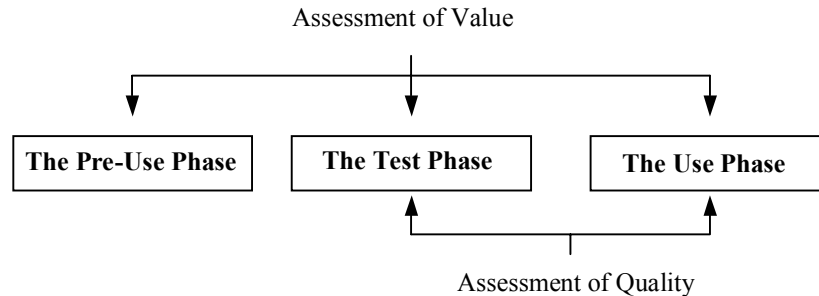


Figure 1. User Assessment of Value and Quality of a New Web-Based Service. Source: Adapted from Johansson, Mollstedt and Carlsson, 2003

In connection with these three phases, two concepts of great importance for user assessment will be discussed. The concepts are value and quality. McDougall and Levesque (2000) put forward that the concepts of quality and value are closely linked; “quality is just one side of the satisfaction equation.” (p. 403). However, the difference between the concepts of value and quality is the main contribution of the conceptual model (Figure 1). The underlying principle of our model and the reason why the concepts of value and quality are important is that users' ability to assess the value of a web-based service is possible without usage (Winograd and Flores, 1986). As for quality assessment, usage of the web-based service is a requirement (Grönroos, 2000).

The structure of this paper is as follows; first, a brief introduction of the concepts of value and quality will be carried out. Thereafter, a discussion of the three phases will be presented with regards to the concepts of value and quality. In conjunction, early results from an ongoing study will be presented. Data collection in this study has been generated by the means of qualitative in-depth interviews over a period of two years. Interviews have been conducted with four pilot-customers of a new web-based service in three different time phases, i.e. the pre-use, the test and the use phase.

VALUE

Perceived value is a difficult concept in that it is hard to define and measure (Zeithaml, 1988; McDougall and Levesque, 2000). Broadly defined, perceived value is the results or benefits customers receive in relation to the total costs. In other words, it is the difference between perceived benefits and costs (McDougall and Levesque, 2000).

According to Zeithaml (1988), customer-perceived value is the consumer's overall assessment of the utility of a product based on a perception of what is received and what is given. This can vary between people but also from occasion to occasion for the same person (Zeithaml, 1988). Caruana et al. (2000) state; “value is seen to be more individualistic and personal than quality and involves both a give and get component” (p. 1339). Ravald and Grönroos (1996) suggest that customer-perceived value has to be related to different personal values, needs and preferences. In addition, they state, that the financial resources of the consumer must be taken into account.

QUALITY

Quality originates from Latin and means the attribute or the constitution of something. The ground of the competition is made up by the customers' experience of quality in relation to the costs (Edvardsson, 1996). Grönroos (2000) presents the concept of total perceived quality building upon the gap between expected and experienced quality.

Palvia et al. (2001) present a socio-technical framework for quality assessment of computer information systems. When assessing a system, the authors state; “the quality of an information system should be concerned with both the technical and the social subsystems. The technical subsystem covers the nature of the tasks to be accomplished and the technology that

enables their accomplishment. The social subsystem involves the individuals who are responsible for accomplishing the tasks and the means whereby their work can be coordinated. In short, the assessment of system quality reflects the task, the supporting technology, the people involved and the organization” (p. 238).

EARLY EMPIRICAL RESULTS

For individuals and organizations, value and quality are important aspects. As a consequence, questions about how value and quality are perceived by individuals are essential when web-based services are developed and assessed. Below, the concepts of value and quality will be discussed in conjunction to the three phases of the conceptual model (Figure 1). Based on a chronological order, the first phase, the pre-use phase will be presented, followed by the test phase and finally the use phase. The presentation will focus on theoretical as well as empirical findings.

The pre-use phase

The first phase in the conceptual model is the pre-use phase. At this point the potential user has a service present-at-hand, which means that information about the service and/or visual experience are the only sources available for the potential user to assess the web-based service (Winograd and Flores, 1996). The importance of the pre-use phase is highlighted by Barki and Hartwick (1994), where they argue that it may be more easy to change users’ “thoughts and feelings” before implementation. Early results from the study show an overall positive attitude towards the future web-based service. Possible explanations could be that users perceive the web-based service to be valuable or that users involvement in the development process has influenced users thoughts and feelings in a positive manner.

Davis et al. (1989) state that the most vital problem, when assessing user acceptance of IS in the early stages of development, is the difficulty to give users a clear picture of features and functions of the new system. Likewise, our study shows that although pilot-customers were given a short introduction in the early stages of the development of the upcoming web-based service, they had difficulties in expressing opinions about the quality of the service.

Davis et al. (1989) discuss the importance of finding new methods for evaluation of acceptability of a system as early as possible in the development of information systems. This could better help to decide if the system needs to be changed and decrease the risks of developing a system that is not going to be used. The overall picture in our study is that pilot-customers feel that they have had good opportunities to share opinions and concerns regarding the upcoming web-based service. Pilot-customers concerns of missing features and functions in early presentations of the upcoming web-based service were taken into consideration and later developed and implemented into the service. In line with the conceptual model (Figure 1), pilot-customers in the pre-use phase were able to express general opinions about quality issues, but not to make assessment of quality issues. However, assessment concerning values of features and functions of the upcoming web-based service were possible to express opinions about.

The test phase

Emphasized by Davis et al. (1989) is the interest in the possibility to forecast and explain user behavior after a very short time of interaction with a system. In order for computer systems to improve organizational performance they must be used (Davis et al., 1989). As the users interact with the web-based service in the test phase, it is possible to form a judgment about the quality, or excellence of the service (Zeithaml, 1988). After the pilot-customers had used the web-based service for approximately a month, value and quality assessment were easier to express opinions about.

Orlikowski (2000) points out that technology users shape the meaning of technology as they integrate them into everyday practice. In other words, technology structures are not external from the user. In the test phase, the user repeatedly interacts with the web-based service, which shapes their view about it and accordingly their use. Davis (1989) suggests that two determinants, “perceived usefulness” and “perceived ease of use”, are especially important when people accept or reject information technology. Both variables influence users’ attitude, intention and finally behaviour. In the test phase, as in the pre-use phase, the role of the individual is critical. It is of utter importance for the success of the application that the user finds it useful and easy to use. In our study, pilot-customers expressed difficulties in using the web-based service for the first time. It was not obvious how to make an error-report in the web-based service, although error-report is an essential function of the service. Pilot-customers assessments are important to take into consideration in the test phase since the determinant “perceived ease of use” (Davis, 1989) will have an influence on users behaviour in the use phase.

The use phase

In the test phase, but even more apparent in the use phase, the user gradually becomes more aware of the web-based service not only in the own working tasks but also in the organizational context. As Palvia et al. (2001) point out, when assessing a computer information system, a wider socio-technical view is important. Therefore, the quality of a computer information system should be concerned with both the technical and the social subsystems. A longer use of a web-based service in an organizational context, “technology-in-practice” (Orlikowski, 2000), will have implications for users’ judgment when assessing the web-based service in the use phase.

Hu et al. (1999) state that the organizational context is new to IT acceptance and adoption research. Taylor and Todd (1995) argue for the importance in understanding determinants of information technology usage in organizations. Barki and Hartwick (1994:77) state that when new systems have been implemented and used, feelings and thoughts among the users were “likely to have greater impact on the use of new systems”. In accordance with Taylor and Todd (1995), the importance of organizational issues and its affect on users’ assessing web-based services will be stressed throughout the use phase.

PRELIMINARY FINDINGS

The empirical work in the use phase is not finished, but will be presented in the complete paper version. However, early findings in the pre-use and the test phase indicate support for the conceptual foundation of the model (Figure 1) that is, the difference between the concepts of value and quality in relation to user assessment in three time phases.

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