

Factors influencing the experience of website usage

Sascha Mahlke

eye square

Schlesische Str. 29-30

10997 Berlin, Germany

+49 30 44 01 08 24

sascha.mahlke@zmms.tu-berlin.de

ABSTRACT

The present study examines the role of subjectively perceived factors of the experience of website usage in forming an intention to use a website. An integrative research model is presented and tested empirically. It includes the following four aspects of experience: perceived usefulness, ease of use, hedonic quality and visual attractiveness.. The two main research questions are: (1) Are these aspects four subjectively independently perceived aspects of website interaction? and (2) Is the intention to use formed by combining and weighting these four experience aspects and if so, which weights are assigned to the respective aspects.

The results suggest that all four aspects of experience can be independently perceived by the user and contribute all with different weights to the intention to use the website.

Keywords

User experience, perceived website quality, hedonic quality, aspects of experience

INTRODUCTION

Norman [5] describes user experience as encompassing all aspects of the users' interaction with a product. Different approaches have been made to describe the foundations of user experience. Novak and Hoffman [4] used the *flow concept* as basic principle to explain which factors make using the Web a compelling experience.

The present study takes a different approach. As a starting point of user experience the qualities of the system are considered. The qualities of the system perceived in the interaction with the system are supposed to have a main influence on the experience of the interaction. As one consequence of user experience the intention to use the system is focused as an aspect of the acceptance of the system.

WEB USER EXPERIENCE: AN INTEGRATIVE APPROACH

Figure 1 shows the elements of the hypothesized model of user experience. A website can be described on different quality dimensions. These qualities of the website have an

effect on the experience of interaction. The experience interacting with the website is described on four dimension: the perceived usefulness, ease of use, hedonic quality and visual attractiveness.

Perceived usefulness (U) and ease of use (EOU) are defined in Davis' Technology Acceptance Model [1] as the main factors of the acceptance of a system. Hassenzahl et al. [2] studied the importance of hedonic quality (HQ) aspects of software defined as non task-related aspects like originality or innovativeness. V. d. Heijden [3] considered the influence of visual attractiveness (VA) in website context.

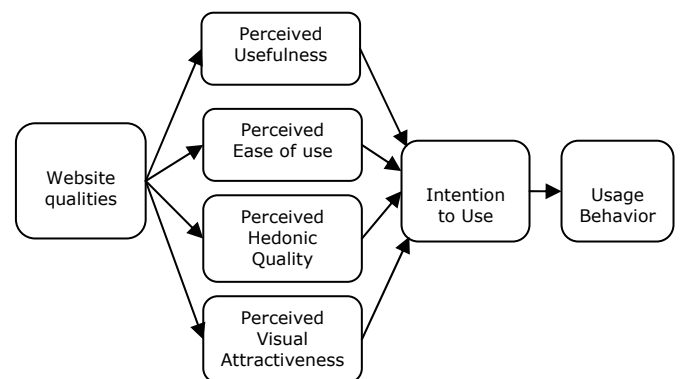


Figure 1: Research Model.

The integration of these aspects of experience as factors contributing to the intention to use (INT) a website as an important predictor of website usage leads to the following research questions:

Q1: Are perceived usefulness, ease of use, hedonic quality and visual attractiveness four independently perceived aspects of the experience of website usage?

Q2: Is the intention to use a website formed by combining and weighting the four aspects of experience?

METHOD

Participants

210 individuals participated in the study. The sample was balanced for gender and mean age was 28,8 years (Min 15, Max 64). Internet expertise varied from moderate to high.

Investigated websites

Websites were chosen from two domains of general interest: online bookshops and travel agencies. Ten websites from each domain were selected for inclusion in the study. The main criterion for selection was heterogeneity.

Questionnaire

A questionnaire was developed to measure the four aspects of experience and the intention to use. The four aspects of experience and the intention to use were operationalized based on studies of Venkatesh & Davis [6], Hassenzahl et al.[2] and v.d. Heijden [3]. The questionnaire consisted of 24 items.

Procedure

The study was carried out as an online experiment. After a short introductory page the participants were randomly assigned to one of the investigated websites. Dependent on the domain of the website a prototypical scenario was presented. It consisted of a short cover-story asking the participants to execute a task on the web sites that were to be displayed within 10 minutes. Subsequently the above described questionnaire was presented. Some questions concerning demographics, internet expertise, domain relevance were added at the end of the questionnaire.

RESULTS

Q1: The scale characteristics of all measurement scales of the questionnaire showed high reliability with Cronbach alpha coefficients higher than 0.88. A factor analysis (Principal Component, Equamax rotation) of the U, EOU, HQ and VA items of the questionnaire extracted four relevant factors. Together the four factors explain approx. 79% of the total variance.

Q2: The intention to use is conceptualized as being formed on the basis of the individual's perception of the four aspects of experience. To check this assumption a regression analysis was performed in order to predict the intention to use from the factor values of the four aspects of experience.

Criterion	Adjusted R ²	Predictors	Beta	Sig.
INT	.719	U	.653	<.001
		EOU	.377	<.001
		HQ	.311	<.001
		VA	.244	<.001

Table 1: Regression Analysis of U, EOU, HQ and VA on INT.

Table 1 shows the results of the regression analysis. The four aspects of experience succeed all in predicting the intention to use. The weight of contribution to the intention to use differs from U with the major influence to VA with the smallest effect.

DISCUSSION

The results of the factor analysis show that users can perceive the four assumed experience aspects consistently and mostly independently.

The regression analysis to predict the intention to use shows that the perceived usefulness expectedly has a main influence on the intention. Also, the other three experience factors contribute significantly to the intention to use.

CONCLUSION

Recapitulating the presented approach appears promising for a better understanding of the concept of user experience. Four aspects have been found to describe user experience.

In addition to the transferability to other domains further questions seem interesting for future research. A variation of the effect of the different aspects of experience over time and the difference of importance of specific experience aspects depending on person variables, like internet expertise can be expected. Besides one interesting aspect in the internet context is the influence of the quality of experience on forming a brand attitude.

ACKNOWLEDGMENTS

I like to thank Michael Schiessl and Dr. Thomas Krüger from eye square, Berlin and Prof. Upmeyer and his department from Technical University of Berlin for supporting this work.

REFERENCES

1. Davis, F.D. Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly*, 13, 1989, 319-340.
2. Hassenzahl, M., Platz, A., Burmester, M. & Lehner, K. Hedonic and Ergonomic Quality Aspects Determine a Software's Appeal. *CHI 2000 Conference Proceedings*, 2000, 201-208.
3. Heijden, H.v.d. Factors influencing the usage of websites: the case of a generic portal in the Netherlands. *Proceedings of the 2001 Bled conference on Electronic Commerce*, Bled, 2001.
4. Novak, T.P., Hoffman, D.L., Yung, Y.-F. Measuring the Customer Experience in Online Environments: a structural modeling approach. *Marketing Science*, 19, 1, 2000, 22-42.
5. Norman, D.A. *The invisible computer*. MIT Press, Cambridge MA, 1998.
6. Venkatesh, V. & Davis, F.D. A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management Science*, 46,2, 2000, 186-204.