The Correlation between Level of Enjoyment and Perceived Usability of a Computerized System: an empirical study – A Case Study of E-commerce Websites

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Summary:

The purpose of this study is to investigate the relationship between perceived usability of a computerized system and level of enjoyment from the interaction with it. Both usability and enjoyment are central concepts in the Human-Computer Interaction discipline, which is concerned with the design, evaluation and implementation of interactive computer systems for human use.

The literature review presents the concepts of usability engineering, enjoyment from interacting with products, microcomputer playfulness, and the relationships between each concept to another. In addition, research finding of these relationships are presented, supporting the theoretical background.

The first chapter lays the theoretical background for the development and goals of the Human-Computer Interaction as research field, presenting the terms usability and enjoyment in that context.

The second chapter presents the term usability and its various components and aspects. Usability is a software requirement which was defined in order to design computerized systems that will be easy to use and learn and well adjusted to the user. This concept was first defined in the early seventies as the ease of use of a system, and since then, researchers have been broadening this definition. During the development of the concept, two approaches have been emerged: the usability engineering approach, which considers usability as an attribute of a product and is measured with quantitive methods, and a broader approach which considers usability as a quality of use. This approach is also defined in the ISO-9241-11 standard as "The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of us".

The third chapter presents the term enjoyment in the context of interaction with products and systems. In the last years there has been a grown interest in this concept as part of research in this field, claiming that the emotional aspects should also be

considered when designing a product in order to make the interaction between machines and users to an enjoyable experience. Enjoyment includes several facets while in the context of enjoyment from technological applications, it is categorized into psychological enjoyment which is achieved when completing a specified goal, and an ideological enjoyment which refers to the aesthetic facet of the system.

The forth chapter presents the theoretical background to the correlation between the two concepts mentioned above, and other researchers found correlations between perceptions of usability and enjoyment are presented. In addition, it is argued that this correlation can be either positive or negative, when there is an empirical evidence for the positive correlation only.

The fifth chapter describes the term "microcomputer playfulness" as an intervening variable between usability and enjoyment. Microcomputer playfulness is an individual characteristic which describes an individual's tendency to interact spontaneously with computers, resulting in the capability to enjoy the interaction and treat work as play.

The sixth and last chapter describes the term "E-Commerce", which means electronic buying and selling on the internet. Furthermore, through the description of the factors influence on shopping online, the reason for choosing an e-commerce website as a type of information system which includes both aspects of usability and enjoyment in order to examine the relationship mentioned above is explained.

The research questions and hypotheses which derived from the theoretical framework are concerned with the existence and direction of the correlation between perceived usability and level of enjoyment of a computerized system, and are also concerned with the existence of a positive correlation between level of microcomputer playfulness and each of the concepts, usability and enjoyment.

In order to answer these questions, a two-phase quantitive research was conducted: in its first part the subjects were asked to perform an assignment using an e-commerce website, where in the second part they had to fill out a questionnaire measuring their perceived usability and enjoyment of the website. The sample included students from the Information Science Department, who participated in computer lab classes.

According to the research findings, a positive correlation between perceived usability and enjoyment was found, but the relationships between microcomputer level and usability and enjoyment were found uncorrelated. These findings suggest that users are seeking enjoyment while using computers, while both usability and

enjoyment are found to important and necessary components of the interaction experience. In addition, it can be argued that individual differences have little or no influence on perceived ease of use of a system.

Further questions arise from the current study: does perceived usability influences the level of enjoyment or is it the opposite; in which situations can a negative correlation be found etc. Furthermore, the quality of the correlation can be tested in different environments, with different systems and in the long term.