Chapter X

Human Factors and the Systems Development Process

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ABSTRACT

Internet systems have the potential to reach a huge and unknown audience. How easy a system is to use will usually determine its success or failure and consequently the business and yet the human factors elements of systems are rarely considered. Usability describes the ease with which people can use a system to complete a task. It is often the case however that development teams focus more on the technology and less on the users when designing systems resulting in software that is not usable and therefore does not satisfy users’ need. This chapter presents recent research, which examines one approach to developing a web-based information system and demonstrates how the composition of the development team through the inclusion of people with an understanding of user needs is important to the quality of the final product and ultimately the success of the system.

INTRODUCTION

In an age where Internet systems reach a huge and largely unknown audience and businesses are competing for customer attention, the accessibility and usability of an Internet-based system will be critical to its success. Usability in the context of information systems is usually thought of as how users can quickly and easily complete a task. The usability aspects—the human element of systems—however, are often not considered when systems are built.

Often development teams focus more on the technology and less on the users when designing systems resulting in systems that do not satisfy users’ needs. People with technical skills frequently dominate systems development teams; people with skills that focus on the human factors aspects of systems are rarely included. This often results in the failure of the system. Grudin (1991) notes that as the cost of computers fell and user numbers increased, expectations of usability also grew. Technology costs continue to fall and, coupled with a rapid growth of Internet-based, e-commerce systems, we can see an increasing expectation on the part of users that these systems will be easy to use and businesses expect corresponding returns. In this chapter I will argue that there are two sides to producing an effective information/e-commerce system, the technical/functional side and the human side. For a system to be successful from a user’s perspective the development team must include people with not just technical skills but also human factors skills. A case study will be used to illustrate how the development of a system that meets the users needs can be achieved through the inclusion of people with human factors skills.

**WHY SYSTEMS SUCCEED OR FAIL**

There has been much written about information systems (IS) success and failure. Oz and Soski (2000) define failure of an information systems development (ISD) project as either the project being abandoned or the system not fully utilised by the intended users.

Much of the work to date on why systems succeed or fail has focused on the technology and, according to Mitev (2000), takes a very positivist approach to investigating the issues. Mitev argues that there is a lack of understanding of the wider issues involved, and the context and people for whom the system has been built.

Mitev’s argument is supported by research undertaken by Oz and Sosik (2000) who determined, from a survey of IS executives, that leadership, clear goals and clear communication were more important for IS project success than the technology.

In a detailed assessment, Delone and McLean (1992) identified six major categories for measuring system success; these are system quality, information quality, use, user satisfaction, individual impact and organisational impact.

This paper focuses on the users and the extent to which those elements of a system that contribute to usability and success from a user’s perspective can be better managed through the development process. Specifically the areas determined by Delone and McLean (1992) are:

- use
- user satisfaction
- individual impact.
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