

A Usability Evaluation of a Web based ICT System for Quality Management

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Introduction

Policies and strategies to achieve welfare in the Norwegian society demand a well-developed and complex organization of public services. Statutory demands to deliver quality in public services are following the growth of the welfare state. In the purpose of learning from failure, it is required by law to report adverse events in the health services [1]. To support the increasingly complex public management that the growing welfare state requires, there is confidence in how information and communication technology (ICT) can support the processes. ICT systems are developed and implemented to facilitate processes and demands in public services, but display varying success. Implementation success depends on several factors[2]. System quality in terms of usability is one critical factor for success. The aim of this study was to evaluate the graphical user interface (GUI) of an ICT system module for reporting adverse events, developed for quality management in the municipality healthcare services in Norway.

Materials and Methods

The cognitive walkthrough approach and a survey were used. The content analysis was used to categorize data according to classical aspect of Human Computer Interaction (HCI); information content (does the information system provide too much or too little information?), comprehensiveness, graphics and text (whether a computer display is understandable to the subject or not), navigational difficulties (does the subject have difficulty finding desired information or computer screen?) and overall system understandability (of icons, required computer operations and system messages)[3]. Six nurses and one social worker, all experienced ICT users, participated in the study. Five considered themselves experienced users of quality management systems; however, no one had experience with or previous knowledge of the system used in this study.

Results

Information content: Six of the participants reported that the information displayed in the GUI were sufficient. Five of the participants reported that they found the information were it was expected to be found.

Comprehensiveness, graphics and text: All participants found the module at the homepage. Two of the participant had no error keystrokes during the test. The five others had one each where two were connected to the same issue in the GUI, but they all found the right option without problems in a few

seconds. According to the size of the letters, the font and the flexibility the survey showed some variation. The organization of the functions was considered logical by five participants and less logical by two participants. Five of the participants found it pleasant to use the system.

Issues of navigation: According to the survey six participants found it easy to navigate in the system. One participant did not find information about whom the report was sent to. Average time to accomplish the task was 7 min and 14 sec. (max 9 min 55 sec. and min. 4 min. 54 sec).

Overall system understandability: All participants found the system easy to use and easy to learn. None of the participants had problems entering information into the system, and all were able to perform the given task without training or knowing the system.

Discussion

To successfully implement ICT to support learning in an organization the technology has to be used by the employees. The systems usability is a critical factor for success. Overall the ICT system shows facilities that support the user according to classical aspect of HCI. It was above all perceived as easy to use and easy to learn. The size of the letter, the font and flexibility might be area for improvement.

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