UNIVERSITI TEKNOLOGI MARA

USABILITY EVALUATION FRAMEWORK FOR MALAYSIAN HOSPITAL

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Thesis submitted in fulfillment
of the requirements for the degree of
Doctor of Philosophy

Faculty of Architecture, Planning and Surveying

November 2015

AUTHOR'S DECLARATION

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This topic has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

The main priority of the Malaysian Hospital design quality has been to organise an informational domain for patient-oriented care design that requires a user-friendly environment. Despite the variety of quality design assessment, the usability evaluation has brought a new dimension in tracking the quality in-use by exploring the meaning of users' experiences. Furthermore, those methods lack the procedures that can effectively identify the needs of users would lead to what of the quality dimension to be considered in its implementation. Therefore, the aim of this research had been to develop a usability evaluation framework, in which the nature of patients and visitors' experience could affect the quality of Hospital environments. The theoretical part suggested that the experiences of hospital end-users might be understood through their feedback on the status of Hospital environments by extending usability and quality theories. This research adopted nine usability criteria, which were identified from the literature. After synthesising the literature, a usability evaluation framework was developed. In addition, the usability parameters for each usability criteria and the domain of user experience context of-use the Hospital physical environment were investigated. Phenomenological philosophy and qualitative dominant approach with case studies were carried out in three Malaysian public hospitals. The data from the main case studies were retrieved from the viewpoint of patients and visitors through the conducts of semi structured interviews (n=36) and walkthrough journey experience (n=18 group). The data were analysed using content analysis that was run by NVivo9. The findings were validated by the end-users of hospitals, experts who were experienced in construction, design, maintenance, and Hospital domain experts. The findings suggested 25 usability parameters and six (6) domains of users' experience that affected those parameters. The findings were analysed and the refinement of the usability evaluation framework was carried out. The research findings confirmed that the usability evaluation had been an effective approach and the walk-through journey experience method was the best way to gain holistic information pertaining to users' experience. The main contribution of this study is that the usability evaluation has given an added value in assessing the experiences among patients and visitors, quality design assessment, designing, constructing, and managing the hospital. Hence, this study should help organisations to understand the needs of end-users and to support the design of a user-friendly environment. Furthermore, this research provided a starting point from a different setting with more perspectives from the viewpoints of different actors.

ACKNOWLEDGEMENT

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION TO THE RESEARCH

This thesis developed a usability evaluation framework based on the usability physical environment design criteria for tracking the quality of architecture in-use. The outcome of the framework had been a composition in understanding experience among hospital end-users and their expectations for the actual environment and the facilities that bring in quality and usability physical environment design. Accordingly, in order to achieve this goal, this chapter introduces the overall focus of this research and it is organised as follows:

    i.   Background of the research.

    ii. Problem Statement.

    iii. Rational of the research.

    iv. Research gap.

    v. The research aims and objectives.

    vi. Research questions.

    vii. Scope of the research.

    viii. Significance of research

    ix. Research design.

    x. Structure of the thesis.

1.2 BACKGROUND OF THE RESEARCH

The quality of services and products in marketing and business strategy, which are achieved through the improvement of communication with the customers based on the evaluation of users' experience, has been widely discussed. This involves the exploration of customers' expectations and satisfaction with the service or product that they purchase. Changing consumer demand has forced organisations and businesses to change their strategy to that of a customer-oriented strategy. The evaluation of user experience is relevant because users or customers define quality