

**UNIVERSITI TEKNOLOGI MARA**

**MEASURING HUMAN CENTRED DESIGN  
(HCD) PRACTICES IN SOFTWARE  
DEVELOPMENT IN INDUSTRY**

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## **ABSTRACT**

The demand to develop a high-quality system that covers effectiveness, efficiency and satisfaction to the end users is growing tremendously and the focus on the system usability has increasing significantly due to being considered as a main factor to produce a good and usable system. Usability has become a critical quality factor and it requires the adoption of a human-centered approach in the software development process. There are organizations that have been adopted the HCD however, the level of adoption is still unknown. As such, this research is conducted as to investigate and measure the implementation of HCD practices in the current software development in industry. In order to determine the level of Human Centred Design (HCD) adoption in software development companies, Human Centred Design Adoption Model (HCDAM) has been used. A qualitative approach is used in this study whereby an interview questions has been constructed based on HCDAM key activities, to identify the perception made by the IT professional. The result points that little evidence is available on the adoption of HCD during the initiation and design process where almost all of the participants have initiate an HCD practice such user involvement. With only thirteen (13) participants, it is quite difficult to generalize the outcome. Bigger group of participants with various experiences and background would be considered valuable for this kind of study. Future study needs to explore the most fundamental foundations from where IT practitioner's goal and assumptions. This understanding can facilitate them to apply HCD in the entire software development process hence, create a positive experience and eventually resulted in high quality and usable product.

*Keywords: Human-Computer Interaction, HCI, Usability, Human Centered design, HCD, User-Centred System Design, User Involvement.*

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 OVERVIEW**

This chapter provides a brief review to explain the reasons why human element is important in system development. In this chapter, the background for the study is provided, together with the research background, problem statement, research questions, research objectives and significance of the study. The information in this chapter will describe on the surface towards evaluation of Human Centered Design (HCD) in the perspective of HCD practices in Software Development in Industry.

### **1.2 RESEARCH BACKGROUND**

Most of the time, Information Technology (IT) systems are designed with a focus on business goals, fancy features, beautiful graphics and colors and the technological capabilities of hardware or software tools. With time, the complexity of today's software system makes the development process is way more challenging for the software industry and the research communities. There is significant discussion among industry designers on how to create software systems that could offer a more appreciated and valued in term of user experience (UX) (Ardito, C. et al 2014). In addition, the second question is on the sharing of the successful experiences in software development and in what way or method to transform and incorporate the experiences with the current software engineering practices.

Usability is an important aspect of UX (Moczarny et al. 2012) and it shows with the current trend that most of the consumers are always appreciate the appearance as a number one factor rather than functionality. This scenario can be seen when Apple releases the IPHONE and IPOD. As a result of the situation, there is an attempts to incorporate these goals using an iterative process which includes creation and evaluation of complex