An assessment of human–computer interaction research in management information systems: topics and methods

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Abstract

As an emerging subfield of Management Information Systems (MIS), Human–Computer Interaction (HCI) or Human Factors studies in MIS are concerned with the ways humans interact with information, technologies, and tasks, especially in business, managerial, organizational, and cultural contexts. To date, few studies have either synthesized existing studies or drawn an overview picture of the HCI subfield in MIS. This paper first provides a framework of broad HCI issues and concerns. It then reports an assessment of a sample of published HCI articles in two top MIS journals, *MIS Quarterly* and *Information Systems Research*, over a period of thirteen years (1990–2002). It identifies the main topics studied, the main research approaches utilized, the research publication patterns, and the needs for future research efforts in this subfield. The results should be of interest to researchers in this subfield, in the MIS field, and in other related disciplines for future research, collaboration, and publication.
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Keywords: Human–computer interaction (HCI); Human factors in information systems (HFIS); Literature analysis; Literature assessment; Research methods

1. Introduction

Research that synthesizes existing studies to provide an overview of an emerging field is often scarce but extremely important to advance our understanding of the current status and suggest future directions of the field. This situation is especially pressing for an emerging subfield that is an overlapping or intersection of the two important disciplines, human–computer interaction (HCI) and management information systems (MIS).

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As rightly recognized by Hewett and colleagues (Hewett et al., 1992), there is no agreed upon definition of the range of topics that form the area of Human–Computer Interaction. In an attempt to derive and develop educational materials, these scholars defined HCI as "a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them" (Hewett et al., 1992). It is widely recognized as an interdisciplinary field where many traditional disciplines contribute to the study of its main issues (Preece, Rogers, Sharp, Benyon, Holland, & Carey, 1994).

Management information systems (MIS) is a community of scholars interested in the development, use, and impact of information technology and systems in social and organizational settings (Zhang & Dillon, 2003). MIS has been through a steady shift from what was a techno-centric focus to a better-balanced technology/organizational/management/social focus (Baskerville & Myers, 2002). User attitudes, perceptions, acceptance and use of IT have been a long standing issue and a major theme of MIS since early days in computing (Lucas, 1975; Swanson, 1974).

Human–computer interaction (HCI) or Human Factors studies in MIS are "concerned with the ways humans interact with information, technologies, and tasks, especially in business, managerial, organizational, and cultural contexts" (Zhang, Benbasat, Carey, Davis, Galletta, & Strong, 2002, p. 334). The emphases have been on both the "design, evaluation and implementation" aspect and the "use and impact in social and organizational settings" aspect of information technology for human use. Since the 1970s, MIS researchers have published abundant studies concerning HCI issues in many MIS journals. The active HCI-centered minitracks, sessions and workshops in major MIS conferences, along with the newly formed AIS Special Interest Group on HCI, have also shown high interests in HCI among MIS researchers in recent years.

With the fast development and deployment of information systems, information technology and communication technology (in this paper, we use IS or IT to represent them all) into every part of our lives, HCI issues become persuasive and fundamental. They also prompt a need to re-examine what HCI is about and how to conduct research in this area.

Several studies have been conducted to systematically assess the intellectual evolution of the MIS field in terms of its theories, topics, research methods, etc. (Alavi & Carlson, 1992; Culnan, 1987). However, very few studies have drawn an overview picture of the HCI subfield up to date (Zhang et al., 2002). The purpose of this study is to reflect on the current status of the subfield in terms of research topics and research methods, to identify gaps that need to be addressed, and to point out future research directions.

Specifically, this paper will first depict a new framework of HCI issues, which is intended to capture the dynamics and richness of the interaction between human and technology. Utilizing the new framework for subject topics and an existing framework for research methods, the paper then reports an assessment of a limited collection of the published HCI articles from two main MIS journals, *Management Information Systems Quarterly* and *Information Systems Research*, on the following