Special Section: Human-Computer Interaction Research in MIS

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Human-Computer Interaction Research in MIS

Human-Computer Interaction 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 [11]. Although HCI studies in MIS share common interests and concerns with HCI studies in other disciplines such as Computer Science, Psychology, and Ergonomics [12], HCI studies in MIS are also distinctive in its own ways. An MIS researcher's perspective affords emphasis and special importance to managerial and organizational contexts by focusing on analysis of tasks and outcomes at a level that is relevant to organizational performance and effectiveness. The two main distinctive features of MIS when compared to other 'homes' of HCI are its *business application* and *management* orientations [9, 15].

MIS-oriented HCI issues have been addressed since the earliest studies in the MIS discipline. Culnan [4] identified nine factors or subfields in early MIS publications (1972-1982). Of these nine, three are related to issues in humans interacting with computers. In a second study of a later period of MIS publications (1980-1985), Culnan [5] found the MIS field to be composed of five areas of study, one of which, individual (micro) approaches to MIS design and use, is closely related to human-computer interaction. After surveying 50 years of MIS publications in the *Management Science* journal, Banker and Kauffman [1] identified HCI as one of five main research streams in MIS and predicted that interest in HCI research will resurge.

The prediction of the resurge has already taken place. MIS scholars' interest in HCI has greatly increased in recent years and HCI has been gaining importance in the MIS discipline. For example, a large number of MIS scholars have self-reported their research interests in HCI-related issues and in teaching HCI-related topics [11]. HCI courses are also offered in many MIS programs [2, 3, 8]. HCI is recognized as an important topic in the most recent model curriculum for Masters in Information Systems majors [7]. Both the total numbers and percentages of HCI studies published in primary MIS journals have increased over the recent years [14]. There are two forthcoming volumes on HCI research

in MIS [6, 13] that are part of the Advances in Management Information Systems series (http://mesharpe.com/amis.htm). Major MIS conferences, such as International Conference on Information Systems (ICIS), Hawaii Interntional Conference on Systems Science (HICSS), Americas Conferences on Information Systems (AMCIS), Pacific Asia Conferences on Information Systems (PACIS), and European Conferences on Information Systems (ECIS), have been paying attention to HCI studies over many years. Most of them have started to set up specifically-designated HCI tracks (ICIS started this in 2004, AMCIS in 2002, PACIS in 2005, and ECIS in 2006.) There is a workshop devoted to HCI research in the MIS discipline that started in 2002 — the pre-ICIS Annual Workshop on HCI Research in MIS. Finally, an official organization of HCI in MIS, the AIS Special Interest Group on HCI (SIGHCI), was established in 2001 to promote and support HCI research, teaching and practice in MIS [10].

Manuscript Selection Process for Special Section

This special section is the fifth in a series of special issue fast-tracking from meetings organized and sponsored by AIS SIGHCI including HCI tracks/minitracks at AMCIS and the pre-ICIS workshops on HCI in MIS. The earlier four special issues include *International Journal of Human-Computer Studies* (Volume 59, Issue 4, October 2003, based on AMCIS 2002), *Journal of Association for Information Systems* (January and March, 2004, based on the 1st pre-ICIS HCI in MIS Workshop 2002), *Behaviour and Information Technology* (Volume 23, Issue 3, May-June, 2004, based on AMCIS 2003), and *International Journal of Human Computer Interaction* (forthcoming in 2005, based on AMCIS 2004). Future foreseeable special issues include *Journal of Association for Information Systems* (forthcoming in 2005, based on the 3rd pre-ICIS HCI in MIS Workshop 2004) and *International Journal of Human-Computer Studies* (forthcoming in 2006, based on AMCIS 2005).

The papers for this special section are the expanded versions of the best papers from the 2nd Pre-ICIS Workshop on HCI Research in MIS, held in December 2003 in Seattle,

Washington. A total of 42 papers were submitted to the workshop of which 17 were accepted for presentations. Nine of the 17 papers were selected for consideration in this special section. The authors of these nine papers expanded their manuscripts based on feedback from the workshop reviews and comments from the participants, and enhanced the theoretical, conceptual and empirical content of their papers. Each of the resulting manuscripts was then reviewed by one original reviewer from the workshop and two or three new reviewers. After three rounds of rigorous peer review and editorial feedback from the special section guest editors, four papers were accepted for this special section of JMIS.

Preview of the papers

This special section contains four papers that illustrate some of the many interesting current HCI issues and concerns within the MIS discipline. The papers evolve around the theme of decision making in IT use and adoption. The first three papers examine interface issues and their impact on decision making and problem solving. The last paper examines the impact of task type on decision making relating to adoption of mobile technology for commerce.

The first paper entitled "Involvement and Decision-Making Performance with a Decision Aid: The Influence of Social Multimedia, Gender, and Playfulness" is co-authored by Traci Hess, Mark Fuller, and John Mathew. The study explored how multimedia vividness and the use of computer-based social cues can influence involvement with technology and decision-making outcomes by taking into account two individual differences, gender and computer playfulness. Findings indicate that personality similarity between the user and the decision aid as well as computer playfulness result in increased involvement with the decision aid. In addition, women reported higher levels of involvement with the decision aid. Increased levels of multimedia vividness are found to have a contradictory effect, with animation actually reducing involvement with the decision aid.

In the second paper entitled "How Presentation Flaws Affect Perceived Site Quality, Trust, and Intentions to Purchase from an On-Line Store," Andrea Everard and Dennis Galletta studied the impact of three types of presentation flaws (errors, poor style, and incompleteness) on users' perceived quality and trust of e-commerce web sites as well as their intentions to purchase from the sites. The highest perceived quality was reported for web sites without flaws and a pattern of diminishing returns was observed with each subsequent flaw perceived. The findings indicate that errors, poor style, and incompleteness influence perceived quality via the perception of these flaws, and perceived quality influences trust which in turn affects purchase intentions. Because it is the perception of flaws on web sites rather than the actual presence of flaws that affects users' quality assessments, it is important for web stores to pay attention to how the features of web sites are perceived by consumers.

In the paper "Investigating Coherence and Multimedia Effects of a Technology-Mediated Collaborative Environment," Andrew Gemino, Drew Parker, and Adrienne Olnick Kutzschan applied the Cognitive Theory of Multimedia Learning to assess the coherence and multimedia design principles of a technology-mediated collaborative environment. The study examined the impact of the context relevance of graphics embedded into the background of a collaborative interface. The results indicate that including context relevant graphics can enhance knowledge acquisition, while including irrelevant graphical information neither adversely affects nor fosters acquisition. The results support the coherence and multimedia principles of the Cognitive Theory of Multimedia Learning in the technology-mediated collaborative environment.

Despite the many IS studies on user acceptance of various technologies, few studies emphasize the role and impact of task types on user acceptance. Xiaowen Fang, Susy Chan, Jacek Brzezinski, and Shuang Xu addressed just such an issue in their paper "Moderating Effects of Task Type on Wireless Technology Acceptance." Three task categories were identified in the wireless context: (1) general tasks that do not involve transactions and gaming; (2) gaming tasks; and (3) transactional tasks. A validated

conceptual model for wireless technology adoption indicates that task type moderates the effects of four possible determinants: perceived usefulness, perceived ease of use, perceived playfulness, and perceived security. User intention to perform general tasks that do not involve transactions and gaming is influenced by perceived usefulness and perceived ease of use; user intention to play games is affected by perceived playfulness; and user intention to carry out transactions is influenced by perceived usefulness and perceived security. The study results have practical implications to designing wireless devices to better suite specific task types.

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