Preface

As you have gleamed from the title, this book concerns itself with connecting social and cultural issues with our increasing use of information and communication technologies.

History has shown that the introduction of any significant innovation is followed by a period during which the public assesses it, adopts it, and becomes used to its existence. After the initial period of saturation and use, the new technology can now be considered assimilated into one’s society and culture.

The topic of social information technology has received an immense amount of coverage in recent years, with the media, law enforcers, and governments worldwide all doing their bit to bring the issue to our attention. For those unfamiliar with the term, the concept of social informatics is the study of information and communication tools in cultural or institutional contexts (Kling, Rosenbaum, & Sawyer, 2005). A more formal definition given by the past Rob Kling from the Center for Social Informatics at the Indiana University indicates that social information technology is “the interdisciplinary study of the design, uses and consequences of information technologies that takes into account their interaction with institutional and cultural contexts” (Kling, 2000).

Social information technology is broad and transdisciplinary. It is a field that is defined by its topic and fundamental questions raised by researchers. To understand the significance of the technology, society, and culture, it is important to appreciate the context in which they exist. The contextuality of social information technology looks at the larger framework, of which technology development relates to the overall framework of culture and society. Social information technology focuses on the economic, technological, social, cultural, educational, and organizational conditions. Social information technology investigates the relations between systems development on the one hand, and decision making, power structures, legislation, learning effects, organizational aspects, and media influence on the other. However, social information technology also takes careful consideration to specify contexts and situations.

The key word of social information technology is relevance, ensuring that technological innovations are socially driven rather than technology driven. Design and implementation processes need to be relevant to the actual social dynamics of a given aspect of social practice, and the substance of design and implementation need to be relevant to the lives of the people they affect.

This book helps make these ideas accessible to non-specialists, as well as to strengthen communication among specialists, and to strengthen the dialogs between communities of designers and social analysts.

**ORGANIZATION**

This book communicates ideas of social information technology that are relevant to scholars and the information technology professional community. The contributing authors examine key thoughts of the field, including educational issues. The text is divided into five major sections with a total of 24 chapters. These chapters serve as a brief introduction to the themes and issues of social information technology. The reference section in each chapter includes numerous reference sources to help interested readers
readily identify comprehensive sources and additional information. A brief description of the sections and chapters are as follows:

**SECTION I: The Implications of Social Information Technology**

One key idea of social information technology research is that the social context of information technology development and its use plays in influencing the ways in which people use information and communication technologies, and how information and communication technologies affect the organizations, social and cultural relationships.

In “Historical Perspectives on Analog and Digital Equity: A Critical Race Theory Approach,” the author uses the philosophical lens of Critical Race Theory to shed light upon the vast inequalities in access to information and communication technologies that exist among racial, ethnic, and socioeconomic groups; a phenomenon that has come to be known as the digital divide. The primary focus is on how the digital divide has manifested itself in the communities of people of color. The author uses Critical Race Theory to explain the history of inequalities that have persisted into the 21st century.

The chapter “Exploring Gender Differences in Computer-Related Behaviour: Past, Present, and Future” explores gender differences in three key areas: computer attitude, ability, and use. The author indicates that males and females are more similar than different on all constructs assessed, for most grade levels and contexts. However, males report moderately more-positive affective attitudes, higher self-efficacy, and more-frequent use. Females are slightly more positive about online learning and appear to perform somewhat better on computer-related tasks. Finally, a model is proposed to understand and address gender differences in computer-related behaviour.

“The Reversal of Technology” offers an overview of how technology is central to modern development. This chapter looks at how technology has been conceptualized, and how virtual development is yet another frontier best captured in the notion of technopolis and/or technocity as contextual factors that sustain social technologies. The pervasiveness of technology, the factors that affect the technological experience besides the rhetoric of infallibility, and the taken-for-granted delivery of utility and efficiency will also be explored. By looking at the criticisms voiced against urban and virtual development concerning the loosening of social ties, the author argues for a fluid interaction that considers the possibilities for additional and different, if not new social relations, that both physical and virtual interactions afford to urbanites: technosociability.

**SECTION II: Geo-Political Practices**

Section II emphasize the discussion of social information from the standpoint of public policy and public affairs. Questions about the consequences of new technologies are often posed in a very black and white manner. For instance: What demographic of people are not participating in the voting process, and will e-voting rectify the situation? People expect a straightforward black and white answer. However, there are no clear-cut answers. It is important to get involved in public debates, because the debates about the social roles of technologies sometimes ignore relationships that are recognized as being very important by social analysts. This allows those with a vested interest to dominate public debate about technology; since the most powerful voices in debates about computerization are the designers, sellers, and government agencies directly involved. Computerization can raise questions about social choices and value conflicts that the participants do not always seem to understand; thus, the contribution of scholars is to articulate these social choices.
The chapter “The Impact of the USA Patriot Act on Social Diversity in Cyberspace” assesses how the USA Patriot Act protects US national security and, through self-censorship over privacy concerns, may affect sociopolitical and cultural diversity in cyberspace.

In “A Comparative Analysis of Online Peace Movement Organizations,” the authors take us on a journey into a comparative study that examines Web sites of Peace Movement Organizations (PMOs) in Japan and Israel. The collective action frame is used as a theoretical framework to analyze 17 Web sites, identifying the similarities and differences in the ways that online PMOs frame their activities. The findings indicate that these organizations employed various strategies to develop resonance, highlighting the importance of cultural resonance in framing online PMOs in different countries.

In “Planning for the Worst, Bringing Out the Best? Lessons from Y2K,” the author considers the utility of Clarke’s worst-case planning by examining Y2K preparations at two US government agencies, the Bureau of Labor Statistics and the Federal Aviation Administration. The chapter concludes that the thoroughness of worst-case planning can bring much needed light to the subtlety of critical complex and interdependent systems. However, such an approach can also be narrow in its own way, revealing some of the limitations of such a precautionary approach.

Since the concept of health is universal and culturally relevant, and the field of informatics is an emerging practice characterized by indistinct boundaries in terms of theory, policy, and practice, various ethnographic and cultural associations are made in the chapter “Exploring Serres’ Atlas, Hodges’ Knowledge Domains and the Fusion of Informatics and Cultural Horizons.” The author explores the writings of French philosopher Michel Serres, and presents a health care that integrates development of social information systems. Central to the chapter is the notion of holistic bandwidth, utilizing Hodges’ model as a tool to develop and disseminate sociotechnical perspectives.

In “The Social Glue in Open Source: Incomplete Contracts and Informal Credits,” the author discusses open source as a most significant institutional disruption to the way software and, digital content evolves and is dissipated through society. On the one hand, less formal kinds of credits than money and the like often provide for a relatively efficient and viable way of accounting for credits in the development of large and complex software and technology projects. At the intersection of developer communities with end users, there is a distinct need for formal, money-based interactions, because informal contracts and credit redemption do work well in communities, but less so in anonymous market contexts.

With “Musique Concrétization: Music, Technology and Critical Constructivism,” the author starts with a description of the crisis over copyright and control of music distribution that has been developing. The outcome of this crisis has had tremendous implications not only for the fate of commercial and creative entities involved in music, but for the social reproduction of knowledge and culture. This chapter introduces the concept of “concretization,” and demonstrates how concretization can be applied on the lives and work of the people using modern media. In addition, the author gives us not only a detailed description of the relations of various groups and modern media technologies, the chapter also provides a prescriptive program for the future maintenance and strengthening of a vibrant and radically democratized sphere of creative exchange. Critical theories of technology are used in addressing these implications.

In “The Social Side of Security,” the author argues that current information security strategies tend to focus on a technology-based approach to securing information. However, these technology-based approaches can leave an organization vulnerable to information security threats, which in turn put society at risk to potential losses, due to inadequate security by the organizations with which they do business. Humans operate, maintain, and use information systems. Their actions, whether intentional or accidental, are the real threats to organizations. Information security strategies must be developed to address the social challenge of security.
In “The Cultural Factors in Electronic Monitoring,” the authors claim that the use of electronic monitoring tools in the workplace has grown dramatically due to the availability of inexpensive, yet powerful monitoring systems, including the widely used information and communication technologies in today’s workplace. However, existing research pays little attention to the pervasive use of electronic monitoring systems on ICT at work. This chapter draws theories in international and organizational cultures, and concludes four hypotheses on privacy concerns of employees and their perceived trust to the management when being electronically monitored.

SECTION III: International Social Information Technology Practices

The effective use and infusion of information technology (IT) can either increase or decrease the “digital divide.” Recent studies have indicated that the information technology investments have improved the productivity of national economies and organizations. As described in the four chapters included in this section, developing nations, such as Samoa, India, New Zealand, and Turkey, have been able to leverage national development with advances in IT.

In “Measuring IS Success in Small and Medium Sized Enterprises in Samoa,” the author describes how exploratory research was conducted to assess and measure the success of information systems by small- and medium-sized enterprises in Samoa. The study also reveals the effects on IT investments both in terms of social and cultural capital.

In “Technology and Culture: Indian Experiences,” the author discusses the deployment of e-learning technologies as it relates to preserving and disseminating knowledge of the Indian cultural heritage. An analysis has also offered insight on how culture impacts e-learning initiatives, design issues within online courses, and programs. This chapter makes an attempt to understand and frame the Indian culture and experience through e-learning practices, and how the differentiated learning needs of multilingual and multinational consumers are addressed.

In “ICT-Enabled Communication in the New Zealand Family Court: A Multistakeholder Study,” the author proposes that the New Zealand Family Court is an ideal public sector application for social information technology. In a study investigating ICTs within multiple venues such as court stakeholders, paradoxical results emerged. This chapter encompasses private and public space, sense of self, emotional energies, and digital citizenship in the field of social informatics. This theoretical framework provides grounding for results within and across disciplines, revealing deeply engrained behaviours, emotional states, customs, workplace cultures, and the problems associated with solving private problems in public spaces.

“Technology Access Points in Turkey: A Case Study on Internet Cafés and their Roles in the Society” investigates one of the most common technology access points, Internet Cafés, by focusing the missions to regard Internet access and use as well as game play. Data was collected by giving a questionnaire, including demographic information about users and their Internet Café habits. In addition, observation reports were used while they were using the Internet and playing computer games in these places. The study aimed to select Internet Cafés from both low and high socioeconomic regions in the city so that Internet Cafés, and their roles in the society, can be easily investigated by comparing different factors like socioeconomic status.

SECTION IV: Online Social Information Technology Applications

Information and communication technologies are potentially transformative. The changes in society have occurred because of the implementation of new and complex Web 2.0 software tools. There is great speculation concerning the changes that might arise in society when new social software technologies
become widespread. In the past few years, researchers of social information technology have developed findings that are pertinent to understanding the development and operation of usable information systems, including intranets, electronic forums, digital libraries, and electronic journals. The new Web 2.0 and wiki systems described in “Web Information Retrieval: Towards Social Information Search Assistants” and “Twin Wiki Wonders? Wikipedia and Wikibooks as Powerful Tools for Online Collaborative Writing” are also expected to work well for people and help support their work and collaboration, rather than make it more complicated.

“Web Information Retrieval: Towards Social Information Search Assistants” introduces search assistants and underlines their evolution toward social information. Thanks to the “new Web,” the Web 2.0, personal search assistants are evolving using social techniques such as social networks and sharing-based methods. Due to the high amount of information and the diversity of human factors, searching for information requires patience, perseverance, and sometimes luck. To help individuals during this task, search assistants feature adaptive techniques aiming at personalizing retrieved information.

In “Twin Wiki Wonders? Wikipedia and Wikibooks as Powerful Tools for Online Collaborative Writing,” the authors investigate the emergence and growth of two participatory environments: the highly popular Wikipedia site and its sister project, Wikibooks. Wikipedia has grown out of trends for free and open access to Web tools and resources. While Wikipedians edit, contribute, and monitor distinct pieces of information or pages of documents, Wikibookians must focus on larger chunks of knowledge, including book modules or chapters as well as entire books. Several key differences between these two types of wiki environments are explored. In addition, surveys and interviews conducted with Wikibookians shed light on their challenges, frustrations, and successes.

SECTION V: Implications of Social Information Technology in Education

One key area of social information technology is within the area of education. There is an increasing emphasis on the integration of information and communication technology to enhance the teaching and learning process within education. These effects are focused on the way in which participants interact with new technologies, and how the technologies aid in reshaping the society in medium- and long-term use through better education and training. Social information technology is a sustained method in understanding educational and training issues in ways that do help improve the learning outcomes.

In “How Can Cultural Variables Guide the Instructional Engineering of Computer-Based Learning?”, authors discuss how cultural variables can be taken into account when designing computer-based learning environments. Its purpose is to identify concrete recommendations to guide instructional engineering of computer-based learning for diverse cultures through a review of the literature on the subject. This chapter describes the context in which recommendations have emerged and have identified the issues underlying instructional design for diverse cultures. Then, the chapter introduces models and guidelines on how cultural variables can be taken into account when designing CLEs. Specific recommendations are organized using a method of instructional engineering for CLEs, called MISA, as a frame of reference. This is followed by a discussion on future trends that may affect how cultural variables guide instructional engineering over the next decade.

Often, the main drive for technology-enhanced education has resulted in national policies that are supported by the government, such as the recent e-learning strategy that has been proposed for the National Health Service in the United Kingdom (UK). In “Technology and Continuing Professional Education: The Reality beyond the Hype,” the authors describe the potential of Social Information Technologies (SITs) for online continuing professional education (CPE), and identify the main driving
forces in UK. The authors highlight the important findings from our experience and research of online CPE, particularly within the health service. In fact, the authors’ motivation in writing this chapter was in part to raise awareness of the importance of the major differences between policy and the reality of the context of professional practice and online CPE, and to propose recommendations that can inform future policy and practice.

The author of “Investigating and Encouraging Information and Communications Technology (ICT) Engagement amongst Student Nurses” states that in the nursing field in UK, 6 years after the Guidelines for Networked Learning in Higher Education were published, levels of students’ skills and engagement with ICT remain problematic, which undermines attempts to deploy networked learning. The author argues that for such initiatives to succeed, more foundational connections need also to be promoted. Factors that contribute to student nurses’ ICT non-engagement: gender, caring, professional identity and knowledge work are explored. Finally, the author explains how some of the barriers identified can be overcome through integrating ICT.

“Social Implications of Three Different Models of Distributed Learning” describes three different models of distributing education to achieve different social missions. A distance learning university (The UK Open University) is profiled as a multicampus higher education institute servicing remote and rural areas in the Highlands and Islands of Scotland (UHI Millennium Institute). A new university in Greece spread over five small islands (University of the Aegean) is another distance-learning university profiled to discuss the social implications of distributed learning. The chapter considers different social missions and the ways in which the choice of technologies supports distributed teaching and research. International activities are also described and future trends considered.

In “Instructional Design: Sex Driven?” the author analyzed three main aspects of instructional design (online learning communities, learning styles, and digital games) on the basis of gender preferences. The author noted the visible differences between males and females when interacting with technology, and reviewed the available literature in these areas. Maja conducted a survey on males and females, with an average age of 21 years, that highlights the preferences between genders when related to the use of playing computer games. The resulting conclusions were summarized to form guidelines for gender neutral and gender specific instructional design. Further, the author hopes these guidelines will assist appropriate instructional design to open the area of learning equally to both sexes, and foster equal participation of males and females in traditionally male-dominated topics.

The chapter “Sociotechnical System Design for Learning: Bridging the Digital Divide with CompILE” introduces CompILE as a sociotechnical “comprehensive interactive learning environment” system for personal knowledge management and visualization that represents the growing collective knowledge an individual gathers throughout his or her lifespan. A network of intelligent agents connects the user and his or her inhabited knowledge space to external information sources and a multitude of fellow users. Following a brief perspective on educational technology, concepts of human-computer interaction, and a description of CompILE, this chapter describes CompILE as a sociotechnical system supported by an enriched design process. From an educational perspective, CompILE can bridge the digital divide by creating community, embracing culture, and promoting a learning society.

In “Structural Coupling as Foundation for Instructional Design,” the authors describe an alternative to the cognitive and neo-behavioral views of learning that currently dominate the field of instructional design and development. Founded in the work of Chilean biologists Humberto Maturana and Francisco Varela, these theories view questions of the fundamental notions that the environment can actually be “instructive” and that instruction can be prescribed to change learners in predictable ways. Instead, the research in this chapter offers a prescriptive model of instructional design, one that embeds the process
in the basic foundation that learners are organizationally closed, structurally determined and coupled with their environment.

REFERENCES


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