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Introduction

Community Informatics: Enabling Community Uses of Information and Communications Technology

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There is an emerging need for all sectors of society to find ways to optimize the opportunities which information and communications technologies present. Research and development work in Information Systems and information technology has accepted a model of computing where the individual interacts directly with the computer and, through the computer and communication systems, with other individuals. Thus the objective of IT research and development has been to continuously enhance and extend the capabilities of ***individuals*** *within the context of the corporations, organizations, and governments for which they work. However, ICT also can be used to support* ***communities*** *in their efforts for social and economic development. Community informatics is a technology strategy or discipline which links economic and social development efforts at the community level with emerging opportunities in such areas as electronic commerce, community and civic networks and telecentres, electronic democracy and on-line participation, self-help and virtual health communities, advocacy, cultural enhancement, and others.*

As you read this chapter, the world is being transformed by information and communications technologies (ICTs). From scarcely a million users of the Internet in 1990, the current estimate is 125 million users and growing exponentially.[1] Where ICT-enabled commerce was unknown 10 years ago, it is estimated that $1.5 trillion annually of transactions will be undertaken via the Internet by 2005. Some tens of thousands of discrete Web sites are being created daily, and it is estimated that there

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are currently several billion discrete "pages" on the World Wide Web. Internet companies have surpassed in paper value entire conventional industries. Normally conservative commentators are arguing that Internet-enabled education will put in jeopardy the current tertiary educational systems of the world and have a transformative impact on all other levels of education.

Much of the research and development work in the area of ICTs has been focused on pushing the frontiers of the hardware or the software—to make it faster, smaller, cheaper, and more functional. The model implicit in this is of the individual directly interacting with the computer and, through the computer and communication system, with other individuals building "virtual" relationships in a "virtual world." IT research and development has been directed to continuously enhance and extend the capabilities of individuals working with these machines, and in this way enhance the activities of the corporations, organizations, or governments in which they work.

But many applications and application areas are not accommodated within this schema; for example, ICT[2]-enabled activity also can be focused on "physical communities" as well as on "virtual"[3] ones, and on those currently at risk of being excluded from participating in an ICT-enabled world and the opportunities which it presents, alongside the rather narrow demographics of current users. The technology juggernaut is moving forward, and increasingly, segments of society find themselves displaced or simply left behind as a consequence. "Community informatics" (CI)[4] is concerned with carving out a sphere and developing strategies for precisely those who are being excluded from this ongoing rush, and enabling these individuals and communities to take advantage of some of the opportunities which the technology is providing. It is also concerned with enhancing civil society and strengthening local communities for self-management and for environmental and economically sustainable development, ensuring that many who might otherwise be excluded are able to take advantage of the enormous opportunities the new technologies are presenting.

Community: Virtual and Physical

Community informatics pays attention to physical communities and the design and implementation of technologies and applications, which enhance and promote their objectives. CI begins with ICT, as providing resources and tools that communities and their members can use for local economic, cultural, and civic development, and community health and environmental initiatives among others.[5]

CI includes the technology/ICT and the "user" (and the "uses"),[6] and is as concerned with community processes, user access, and technology usability as it is with systems analysis and hardware or software design.[7] CI accounts for the design of the social system in which the technology is embedded as well as the technology system with which it interacts.[8] Thus CI is an extension from "organizations" to "communities" of the "socio-technical" approach to systems design, and reflects the increasingly ubiquitous distribution of personal computers and Internet access to communities and individual end users as well as corporations and governments.[9]

Discussion on the impact of ICT has, to date, concentrated on the "virtual"

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