

Afterword

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PLANNING FOR CREATIVE URBAN REGIONS

Progress toward better understanding of information and communication technologies (ICTs) and their contribution to knowledge-based urban development is evident. The move has been made from Mitchell's (1995) visions of electronic agoras and windowless and peopleless libraries, and discussions of expected policy challenges and implications toward academic and applied attention to the ICT-related patterns, requirements, opportunities, and effects. Interestingly, the research findings indicate that the reality seems to be more blurred and complex than the speculative and clean images of the future. Perhaps we are currently in the state of transition between the analog and digital cities, where, as Thomas (1998) claims, "the structure and function of a country (or city) does not correspond to the external environment with which it has to interact" (p. 7). He terms this state "the moment of discontinuity." So, are we "in between"? Is our knowledge and practice out of sync with technological possibilities and dynamics?

In some ways the history is repeating itself—the things we know have been happening before are coming to bear again: (a) the unique interplay between a new technology and the city; and (b) the pivotal role of innovation, creativity, and diversity in urban development, planning, and management. Jane Jacobs noticed and wrote about the latter almost half a century ago (1961, 1969). These are the key ingredients of urban vitality—economic, social, and cultural. Creative knowledge has been responsible for urban prosperity since the first permanent human settlements were established, and it seems to be the driver of progress nowadays as well (see Figure 1). But what exactly the creative knowledge consists of and how it contributes to urban vitality is not easy to untangle. The editors and authors of this book have made a noble effort to address this phenomenon from various perspectives with knowledge, not only ICT-based, but broadly construed as research and development (R&D) activities, service industry, innovations, and information society.

With regard to the longstanding city and technology interplay, it is evident that urban environ-

ments have always stood in close relationship to the technologies of production, transport, and communications. Over the past century many efforts to plan the ideal urban environment have elaborated on the relationship between the urban environment and technology (Phillips, 1996; Ruchelman, 2000). Examples include: Ebenezer Howard's Garden City, Tony Garnier's Cité Industrielle, Frank Lloyd Wright's Broadacre City, Le Corbusier's Contemporary City, and recently the New Urbanist movement (Congress for the New Urbanism, 1999). In the new information era, this relationship is expressed mostly as metaphors or concepts to describe the evolving ICT-based city: electronic cottage, technoburb, wired city, informational city, intelligent city, invisible city, telecity, city of bits, infinite city, e-topia, digital places, transmissible city, aterritorial city, and networked city (various authors mentioned throughout the book). The relationships those concepts and the metaphors assume are rarely explicitly reflected and applied in the design and planning

of contemporary cities. The examples are only a few, some of them elaborated in this book.

The researchers and visionaries vary substantially in their view of concrete urban manifestations of ICTs and the notions of what the knowledge city is. Some are focused on the products, some on the process. They emphasize different aspects of knowledge city, including but not limited to the ICT technical infrastructure, governance, corporate relations and behavior, the role of universities, application of ICT tools, and the general environmental stimuli of innovation and creativity. But at least the bottom line of each is clear—for the product orientation, it is about economic competitiveness, public service and governance, and quality of life; for the process orientation, it is about the use of ICTs (geographic information systems, decision support systems, and the Internet, in particular) as planning tools to achieve the economic outcomes and build sustainable cities. But, there are cross-cutting concerns as well. We identify the following themes: conceptualization of the phenomena, clustering tendencies, fragmentation of approaches, capacity building, relevance of contents and tools, strategic planning, and restructuring.

Figure 1. Surreal Images by Scott Mutter



Conceptualization

In discussing and researching any phenomenon, we ought to start with a common understanding of its meaning and characteristics. The interchangeable use of concepts and multiplicity of definitions of the same concept have been known to frustrate research in many fields, social sciences in particular. In case of the works presented here, it is about defining 'creative regions', 'urban technologies', and 'knowledge cities', and about understanding the dynamics between them. Does being creative mean being prosperous within the context of information era? Does it mean explicit or predominant reliance on specific types of economic activities? Are innovativeness, artistic orientation, or both measures of creativity? What is the contemporary

relationship between knowledge generation and diffusion, and the application of ICTs? Are cities knowledgeable if they are well informed (via ubiquitously accessible digital technologies) or if they generate new knowledge? Are the urban effects dependent on the ways knowledge is used? And, ultimately, how do all of these contribute to the making of livable and sustainable cities? These are only examples of questions that will probe the causal relationship between the key concepts. This causality, however, is yet to be explored, and for it to be internally valid, the consistent and clear operational definitions are of ultimate importance. More empirical studies into validation of definitions and relationships and evaluation of effects will support the efforts to take advantage of ICTs and promote sustainable economic and urban development.

Clustering

The expectation of pervasive computing and ubiquitous access to ICTs is countered by the general tendency of ICT infrastructure and activities, knowledge sources, and innovative and creative population to exhibit centralization and clustering. Despite the increased coverage provided by wireless technology in particular, the networks of digital flows are still converging in a limited number of nodes. Interestingly, the nodes are not represented only by so-called first tier or global cities, but also by well-connected local or regional intellectual hubs that possess unique comparative advantages and are part of the world city network (Taylor, 2004). The clustering is driven by various agglomerative factors, the presence of sophisticated producers and consumers of ICT and knowledge being only one of them. Large population centers are the likely points of attraction. The clusters are not forming only within cities, but also contribute toward the new regionalism. An example of such early clustering and expected regional effects is the development of research parks in the United States from the early 1980s on

(Luger & Goldstein, 1991) and the development of the Silicon Valley in California. More recent examples like Marmara, Turkey, Oulu, Finland, and Washington, DC are mentioned in this book. While clustering is considered beneficial from the private business sector's perspective, as it allows for the transfer of tacit alongside coded knowledge and information and it facilitates still invaluable personal contacts, the opposite is desired in case of public access. Ubiquitous digital space is becoming a question of human right and equity rather than luxury and privilege.

Fragmentation of Approaches

Knowledge management, innovation, and knowledge economy and society are of interest to several academic and practice communities, including economists, geographers, political scientists, engineers, designers, city developers, and planners. Unfortunately, the members of those varying communities do not communicate across disciplinary boundaries and rarely take an integrated approach to understanding, promoting, and developing knowledge cities. The knowledge base and approaches are compartmentalized and disjointed. The dissonance is happening at several levels—research, policy, tools, sectors, and the territorial development process. For example, despite the theoretical assertion about their mutually supportive nature, business and creative sectors do not interact and often lack awareness of each other's value or importance. In the territorial development realm, urban planners in particular have failed to tap into the streams of knowledge and policy that would enhance their effectiveness in developing and managing knowledge cities. They tend to focus on administering the technical details, such as the location and impact of transmission towers, appearance of telecom hotels (Evans-Cowley, 2002), and regulation of telecommuting businesses (Wunder, 2000) or development patterns (Levin, 1998). Instead (or rather in addition), they need to consult the litera-

ture sources in economics, political science, engineering, and other relevant disciplines (Hackler, 2006; Bergman & Feser, 1999), as well as policy dialogs among many economic development stakeholders at the local, regional, and national levels (Feser & Green, 2004; Feser, Goldstein, Renski, & Renault, 2002). By becoming part of the broader community and efforts, planners may leverage additional budgeting and decision-making authority that they generally lack when acting single handedly. Finally, with respect to ICT-based tools, there is also a noticeable schism between developers and users of geographic information technologies and decision support systems (DSSs). These tools are developed without full attention to the needs of practicing planners and more so without understanding of their capacity to integrate the tools in their daily functions. Vonk and Geertman in Chapter 12 offer an excellent overview of the issues in DSS development and technology transfer. They provide constructive advice for software developers and planners that will help them overcome an impasse and make a joint effort in taking advantage of excellent tools enabled by the latest ICTs. The call for better utilization of GIS and DSS tools is international, as evidenced from the book chapters on India, Korea, Australia, and Brazil.

Capacity Building

To build information society and economy, both general and digital literacy are a must. They are achieved through an educational process and through individual, collective, and organizational learning. While the target groups may differ between societies, the older and poor populations are commonly the groups that need special attention. The additional disparity is, obviously, in the extent these segments are represented in the population as a whole and in the resources that could be devoted to bring them up to the functional level of literacy. These differences are clearly illustrated in the case studies of Hyderabad, India, and

Boston, USA, where the goals of access-related initiatives are to provide e-services used by the most literate via centralized information kiosks and to establish home access to the low-income population, respectively. In the latter example, the link is established between technologically enabled citizens and enhanced self-sufficiency and empowerment. The literature on information infrastructure refers to this phenomenon as the installed base and implies that human resources and skills in conjunction with other technical and organizational setups may play a facilitating or constraining role in other related developments (Star & Ruhleder, 1996). Essentially, this is about human capital and its importance (along with innovation and knowledge systems) for exploitation of the ICTs for economic and other societal benefits. Digital literacy is just as uneven as the global landscape of ICTs (Warschauer, 2003). This differentiation puts the economic and social development efforts on different footing depending on the specific country's or region's ICT and human capacity. Ultimately, it affects the city's or the region's competitiveness and future prospects. Learning, cooperation, and transfer of knowledge require a critical mass of digitally (and otherwise) literate population. They happen through social networks and communities of practice with specific skills. ICT and innovation clusters occur in places that provide such conditions. The key development question lies, therefore, in finding ways to create such favorable circumstances. Education, again, is a starting point, and focus on student population from early age is the only way to ensure that ICT's potential will be used at some future time. This time around, however, it would not be any skills or any literacy—the information society requires building of human intellectual capital and capacity.

Relevance of Context and Tools

How do we know if the new knowledge, innovations, or e-services provided are being used and

useful? What do we know about their transmission and reaching of the targeted population? The primary stimulus for creative knowledge gains and system development seems to come from the supply side. The demand side, however, is just as important. The relevance is ultimately judged at the user end—businesses, institutions, individuals, or society as a whole. It is about the quality of the needed content. Needs assessments offer us the clues about the user requirements and interests. The dilemma arises between providing for basic needs or going beyond and creating new needs and practices (and opening new possibilities). The empirical evidence presented in this book shows that the consumers from the private and public sector know what they want and what they do not want. Integration of prospective users in the process of developing infrastructures and systems to support knowledge cities is one way of ensuring relevant contents. Raising awareness about what is available and how it could be used is another. Finally, attending to the societal members that have for social or economic reasons been precluded access is also important.

Strategic Planning

Apparently, only a few knowledge cities and regions happen on their own. Instead, the majority of them are a result of deliberate action—strategic planning, implementation, and investment. The strategies are necessary in every aspect of their development—economic, political, technical, and aesthetic. It seems that there is an inbred public orientation in the process of creating and harnessing ICT-related opportunities. The strategies are a matter of urban policy, and local level is the key in its making—addressing the issues of ICT support to urban development goals: economic prosperity, environmental sustainability, social equity, and quality of life. They consider costs and risks along with benefits, and estimate the demand, capacity, financial sustainability, stakeholders, and future growth. The examples from Finland and Turkey

described in this book, however, demonstrate that the collaborative approaches between the public and private sectors and engagement at multiple administrative levels are more likely to effectuate change than single-handed government approaches. Also, the backing of other stakeholders may help the locals overcome the financial obstacles and obtain top administrators' support. In both examples the reference to the European Union's initiatives and incentives and strong national policies are used in conjunction with local policies and planned action. Similarly, the developments in Korea and Singapore are led by a centralized approach at the national level. So, specifically then, what is the role of the local governments (municipalities)? First, they need to be proactive, exert leadership, and initiate partnerships. Second, they need to evaluate the strategies against broad urban development goals and take steps toward their accomplishment, for example, training of knowledge workers, efficient delivery of public services, and enhancing the municipality's quality of life. Third, the public sector is the only one to take into account the equity issues by taking a perspective on ICT as a public right rather than a privilege determined by economic status. Finally, it ensures broad-based accessibility and participation in urban governance, even with some evident trends toward market models and many challenges to establishing conditions for democratic governance (Falch, 2006).

Restructuring

Fundamental to the introduction and use of ICTs for innovative and knowledge-based cities is the process of change. ICTs are applied to create a different kind of economy and a different kind of government. They are to strengthen and streamline business and government and to enhance quality of life and civil society. It is a process of reinvention, learning, and restructuring—economic, social, institutional, and physical. The example of Istanbul's new CBD is illustrative of the spatial

change—a clustered decentralization, which is fueled but not ultimately determined by ICTs. The transformation is driven by multiplicity of forces, primarily related to economic growth and availability of land for urban development and regeneration. Societal rearrangements and cultural and political shifts are present as well. The cities and regions are reinventing and redefining themselves with new opportunities. Establishment of new legal, regulatory, and institutional framework is accompanying the urban and regional restructuring. Last but not least, the most significant change is in the individual and collective psyche, as the work and recreation are becoming “e-driven.” Accessibility needs to be coupled with trust in “e-everything.” The population needs to be “e-ready.” And, as for urban planning, it is being ‘rE-done’ too—with new visualization and decision support tools that open new opportunities for enhanced participatory processes and greater involvement of a variety of public and private stakeholders.

Final Remarks

Evidently, the change is happening and the cities are in the process of transition. The manifestations are numerous and very local, depending on available infrastructure, societal policies and resources, digital literacy, human capital, and economic development potential. We are gearing up for new regionalism and information society, but at different paces and different forms. In some cases, the “e-reality” is too complex and well ahead of the capacity to capture it with our policies and tools. The requirements for interoperability, standardization, database repositories, and updates are enormous. The early attempts to provide e-commerce, e-services, and e-governance are rudimentary and can be counterproductive, that is, limiting and constraining of the established analog patterns and activities. Still, progress cannot be made without the experiments that will give us benchmarks and models to apply elsewhere and examine the possible futures.

Figure 2. *E-term e-list*

e-accelerator	e-economy	e-participation
e-agenda	e-education	e-planning
e-ambassadors	e-engagement	e-polls
e-applications	e-Europe	e-privacy
e-Bourgogne program	e-forms	e-procurement
e-business	e-government	e-ready
e-citizen	e-governance	e-region
e-city	e-health	e-services
e-commerce	e-inclusion	e-Seva
e-communications	e-information	e-shopping
e-economy	e-learning	e-society
e-consultation	e-lifestyle	e-strategies
e-dating	e-literacy	e-submission
e-decision making	e-local	e-technology
e-democracy	e-locations	e-Tampere
e-development	e-mail	e-Turkey

The list in Figure 2 compiled from the chapters contained in this book testifies to the pervasiveness of ICTs in various aspects of our life. Although e-governance (government) has been mentioned the most, numerous times, the other terms are sometimes surprising (as e-lifestyle was to me), but indicative of the diversity of e-realms.

Lastly, the change is inevitable and is only to our advantage if we embrace it with open mind, conscious action, and comprehensive approach.

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