

Economic Competitiveness Is Vital in the 21st Century

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The new, information-based economy is challenging local governments to shift their strategies for competitiveness. The approach outlined in this article will help a community understand where fundamental shifts have occurred in its environment, and assist it in identifying tools and techniques that have not kept pace. Figure 1 illustrates the changes in economic development seen in the past decade and how e-communities have adjusted to maintain their competitive positions.

Figure 1. Adjustments in Strategies During Past 10 Years

Old Economy Approach	E-Community Approach
Government drove economic development.	Public/private partnerships produce results.
Government regulated telecommunications providers.	Government forms partnerships with telecommunications providers.
Success meant being a cheap place to do business.	Success means being a place rich in ideas and talent.
Regions gained by attracting companies.	Regions gain by attracting educated people.
Maintaining a high-quality physical environment was a barrier to businesses.	Physical and cultural amenities are necessary to attract “knowledge workers.”
Winners were regions with a fixed competitive advantage in a resource or skill.	Regions prosper if organizations and individuals have the ability to learn and adapt.
Traditional infrastructure was the key.	Telecommunications infrastructure is the key.
Land use and telecommunications were not connected.	Land use policies plan for advanced telecommunications.
Higher education was not an integral player in economic development.	Higher education is a catalyst for economic development.
Sources: PPI and HDR’s Management Consultant Group.	

This article also will explore the three essential elements of the e-communities model: e-infrastructure, e-government, and e-urban design. Examples of how localities are addressing the needs for these elements are provided.

In order to succeed, communities today must gain and maintain a distinct competitive edge. Tools to build this competitive edge include fostering industry clustering, marketing themselves to “knowledge workers,” developing advanced telecommunications networks, and integrating higher education with their economic development efforts. Localities need to update their approaches to reflect these changes, and they need to do it quickly.

E-communities are leveraging the key catalysts of competitiveness—policy, planning, leadership, and collaboration—to position themselves as the top places to live and do business. Local governments can play an important role in creating a sustainable competitive advantage by putting into action the three economic competitiveness strategies in the e-communities model.

E-Infrastructure

The first dimension of the e-community model is gaining an understanding for the importance that broadband technologies play in creating and maintaining a competitive edge. The first step in leveraging telecommunications assets into a competitive advantage is conducting a broad assessment of the current infrastructure. The assessment includes an evaluation of the telecommunications infrastructure, services, applications, availability, and use. The assessment approach revolves around a tool that evaluates six criteria:

1. Infrastructure: Existence of a fiber-optic network, plus coaxial cable, copper, and wireless networks.
2. Networked places: Physical places where people live and work, and how well networked they are.
3. Applications and services: Availability of actual online applications, programs, and offerings made by organizations.
4. Networked economy: Local government understanding of telecommunications issues and the policy ramifications of decision making.
5. Networked “world enablers”: Those underlying aspects of e-commerce that allow a community to participate successfully in the worldwide new economy.
6. Quality of life: The extent to which recreation, culture, and environment impact the living experience and help a community attract targeted companies and individuals.

The general framework for this assessment methodology comes from the Computer Systems Policy Project (CSPP) assessment tool. A number of key assessment dimensions also were added.

Case Study: Lincoln, Nebraska's Telecommunications Infrastructure Assessment

More than 60 participants in the Connecting Lincoln Workshop identified the community's relative position by assessing the six e-infrastructure evaluation criteria, and by ranking them according to four stages of readiness:

- **Stage 1.** High-speed services are hard to get or expensive; few users take advantage of the resources and services offered on the Internet.
- **Stage 2.** High-speed services are more widely available, but local Web sites are limited.
- **Stage 3.** General access to high-speed services is available; Web sites support transactions; and organizations are beginning to restructure around the new economy.
- **Stage 4.** There is universal access to affordable, high-speed services; the Internet has changed the way all organizations operate; the Internet is fully integrated into everyday life.

The table shown in Figure 2 summarizes Lincoln's self-evaluated standings in each of the six groupings used in the assessment tool.

Figure 2. Lincoln, Nebraska's E-Infrastructure Assessment

Infrastructure

Current Stage: 3. Lincoln's telecommunications companies report the wide availability of broadband services, and new entrants into the Lincoln market are emerging. In the past year, both ALLTEL and Time Warner have significantly enhanced their investments in Lincoln toward providing advanced services. The planned entry of new providers like Utilicorp and Sprint will enhance competition and offer redundant network connections for businesses with significant telecommunications requirements.

Networked Places

Current Stage 2+. The Lincoln School District is highly networked and has contracted for the construction of an even more advanced fiber-optic network to link its 59 sites. Higher-education institutions report enjoying fast connections to each classroom and in dorms. The University of Nebraska has implemented wireless networking technology on campus and plans that the entire campus will be on a wireless system within a year. The public library system provides an essential point of access to free computers and the Internet. Community-based organizations are implementing cutting-edge programs to use technology strategically in their operations and to supply access for citizens.

Lincoln and Lancaster County have developed a highly integrated cooperative information network. In addition, the city and county have established wireless

connectivity within the county/city building and also have set up fixed wireless connections among four additional sites. Dial-in access also is available to all city/county servers. Secure, encrypted virtual private network (VPN) connections have been established, and personal digital assistants (PDAs) are being used for real-time connections to the city/county network.

Applications and Services

Current Stage: 2. The chamber of commerce operates a successful jobs portal that is a resource both for job seekers and for employers. The city is aggressively pursuing online government, or e-government, and planned to have an online payment capability in place by early 2002. Community-based organizations are developing a portal to be used in providing better information access to each other and to the community in general and are holding trainings for community members.

The University of Nebraska offers satellite-based and online courses, while the Catholic school system uses a real-time Web site to get information to parents. Elementary schools within the Lincoln Public School System are offering computer training to community members in their districts.

Networked Economy

Current Stage: 3. Lincoln possesses the assets and programs to promote innovation in the community. The University Technology Park, Prairie Computer project, Great Plains Software Initiative, J.D. Edwards Program, Nebraska Center for Entrepreneurs, and participation in Internet 2 all represent significant opportunities for businesses to engage in university programs that benefit economic development. Lincoln has an educated workforce, and ongoing programs help individuals and businesses maintain the latest skill sets.

Networked “World Enablers”

Current Stage: 2. Kinko’s, the public library, and the downtown Cornhusker Hotel all make high-speed Internet access available to guest and visitors to the city. Privacy and security are issues of concern that need to be addressed, and organizations need more information on how to do this. The community is just beginning to address key telecommunications and economic development issues.

High Quality of Life

Current Stage: 3. Lincoln ranks high in most ratings in the quality-of-life area. Strengths include a clean environment, housing affordability, and good health care, higher education, and public education. One notable problem is the lack of direct jet service to major metropolitan regions.

E-Government

The second dimension of an e-community involves how well the organization understands and is implementing an e-government program. Simply put, citizens demand and expect that government services will be accessible online; however, governments are in varying stages of implementing e-government strategies. Many have Web pages that are out of date and of little value or simply have no Web page at all. Or, governments just don't understand the business value of an effective online strategy.

Case Study: St. Louis Region and Its Localities in E-Government Transformation

A recent study of the St. Louis region found that of the 180 cities and towns in the region, 68 percent or 123 local governments had no official Web site. Among those that do, there is a wide range of applicability and usefulness of Web sites.

St. Louis is working diligently to improve its regional economy by attracting technology and biotechnology-based firms. Local governments can aid in this overall strategy by upgrading their knowledge and skills around e-government to better portray an image of being a sophisticated and net savvy region.

But it's not that simple. Launching a successful e-government program takes strategy and commitment. Communities need to move through the strategy development phase rapidly in order to focus their energy and resources on implementation, which is the most difficult but most important goal of the process. Identifying the highest return on investment (ROI) applications will best allow communities to move quickly from strategy to implementation.

It is important to develop a business case for investment in e-government applications, but at the same time, managers must be flexible in choosing and applying the tools they use to calculate whether their investment is sound and produces results. In general, if a positive return on investment cannot be demonstrated over a two-year period, the application or service should not be implemented.

Calculating ROI in a government setting can be challenging since not every application lends itself to an ROI calculation. Another way to assess an application's value or its ROI is to review it from a more qualitative perspective. For instance, applications and programs can be evaluated in the manner shown in Figure 3.

Figure 3. Evaluating an Application's Value

	Potential Customer Benefits			Organizational Benefits		
	CONVENIENCE	IMPROVED CUSTOMER SERVICE	INCREASED ACCESS TO MORE/BETTER INFORMATION	EFFICIENCY	AVOIDED COSTS	NEW REVENUE SOURCE
Online Service						
Customer Relationship Management		◆	◆	◆	◆	
Over-the-Counter Building Permits	◆	◆	◆	◆	◆	◆
Online Traffic and Parking Tickets	◆	◆	◆	◆	◆	◆

E-Urban Design

In most communities, there is no strong connection between urban planning/design and telecommunications infrastructure development. Many communities do a good job in coordinating the provision of traditional utilities in the planning and construction process, but often they don't understand how to engage local telecommunications companies in this process to ensure that new homes and business parks are "wired."

This is a story frequently heard from citizens: "I just bought a new home and have advanced wiring inside it to share printers and broadband Internet access. When I called to find out what options I had for broadband services, there were none. I can move data inside my house at 100 megabits but have to go to the Internet at 56k."

Or from businesses: "We are looking at this 'Tech Park' location for our offices. But upon further investigation, the installation of broadband services will take months. The developers of the property did not plan well for telecommunications services."

Why does so little planning go into the approval process for newly constructed, supposedly wired homes and communities? More often than not, planning departments don't fully understand telecommunications services, what to look for in the design and platting processes, and how to work with their providers to ensure that services are being delivered.

Communities that are successful in planning for telecommunications infrastructure are ensuring that at a minimum, they are providing alternatives. When no broadband providers are willing to cooperate with the city or county,

it is wise for the locality to install empty conduit at a time when they can do so with little or no disruption to streets and rights-of-way.

Governments need to understand that their role has to change from that of purely a regulator of telecommunications companies to that of a proactive collaborator. Making this transition is not easy but can be done.

In Brief

Honing a competitive edge today calls for a different approach than in the past. Governments can play an effective role in the development of their communities' economic competitiveness by addressing three areas that they can directly influence: e-infrastructure, e-government, and e-urban design. As a government organization becomes more familiar with these tools and approaches, the city or county can begin to take aim at some key targets, starting with overall economic development strategy, university and higher-education relationships, and telecommunications infrastructure development.

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Important Questions for Transforming Communities to Ask

E-Government Vision Statement

- What does e-government mean in our organization/community?
- How will we collectively benefit from e-government?

Technology Infrastructure

- What are our capabilities and deficiencies?
- What are our investment plans? Do we have the core systems in place now?

Costs and Benefits

- How much will it cost to implement our strategy, broken down by phases?
- What specific metrics should we track?

Implementation

- What is the first step? What is our budget for the first year?
- Who is in charge?

Community Needs Assessment

- Who are the target users in the community?
- What do they want from e-government services?

Intranet/Internet

- What can be done online to improve our employees' ability to do their jobs?
- What applications have the best potential payback?

Challenges

- What aspects of the program will be the most challenging?
- How will we address these challenges?

Continuous Improvement

- What systems and programs do we have in place to continuously refine our strategy?
- Have we addressed critical organizational issues?

Case Study: San Joaquin Valley, California

Unemployment was high, and the median income was more than \$7,000 below the state average when a program in the San Joaquin Valley of California, called ACCESS (Advanced Communications Connectivity for E-Commerce Strategic Success) was developed and implemented in the San Joaquin Valley.

Goals of the project were to:

- Improve access to high-speed communications services.
- Increase the use of e-commerce technologies by rural businesses.
- Engage local governments in telecommunications planning.

Findings from an initial survey of the nine participating counties indicated that connectivity was good in the larger cities, but few businesses or governmental agencies were putting the network to productive use. Access to affordable, high-speed services was generally nonexistent outside the metropolitan areas.

Fifty ingenious and practical programs were identified by local leaders and

developed for community improvement. Several permanent changes resulted:

- A committee structure provides ongoing leadership for the program at the county level.
- An established network of 50 to 150 people in each county leads the ongoing efforts of the program.

Use of computers and of the Internet now is on the rise. Job growth in construction, wiring, and technical support is expected to quicken. There is wider high-speed-service availability and a greater understanding of policy issues. And, most important, the implementation process has generated renewed e-community excitement in the valley.

Case Study: Southwest Florida

By pooling resources, talent, and leadership, Collier, Charlotte, and Lee counties are beginning to lay the foundations of an e-community. These counties have conducted a technology assessment enlisting the participation of more than 300 community leaders from all three jurisdictions.

THE REGION'S COMPETITIVENESS

Competitive strengths of the region include strong relationships with higher education; proximity to south Florida's telecommunications infrastructure (NAP); a high quality of life; and an emerging national recognition that this region is a good place to locate a business.

ABILITY TO ATTRACT AND RETAIN TECHNOLOGY-BASED BUSINESSES

While telecommunications infrastructure development is happening in other parts of the state, southwest Florida currently lacks the infrastructure to support a tech-based business hub. Additionally, the region is not known for having a particularly high-tech workforce.

REGIONAL INITIATIVES

- Telecommunications Regional Advocacy Committee will collaborate with telecommunications providers to meet the needs of underserved areas.
- Greater emphasis on higher education should raise educational attainment and skill levels.
- Regional telecommunications standards will cover new construction, utility coordination, and e-government applications.

Implementation of these initiatives will be a critical success factor for southwest Florida.

All E-Communities Have Three Things in Common

E-INFRASTRUCTURE

A robust telecommunications network is a key driving force behind today's knowledge-based economy.

E-GOVERNMENT

Today's constituents demand that online services from the public sector be as accessible as those deriving from the private sector.

E-URBAN DESIGN

Urban design standards are important in facilitating the construction of wired homes, offices, classrooms, hospitals, and public facilities.