



Understanding the New Age of Information

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Communities developing an economic strategy must be aware of the transforming changes being brought about by the new digital information economy. The core question is how to transform an individual community into a linked, economically competitive force to be reckoned with in global terms. Technology alone is not the answer. Although information technology is certainly central to any new economic development plan, more important is what a community wants and needs to do with that technology.

At the heart of this question is a deeply emotional struggle for the survival and improvement of the individual communities' quality of life and economic well-being. This is further impacted by the movement at the federal government level to bring the costs of government into parity with economic realities, and the movement of some provincial governments to take a hard look at consolidation of municipalities. What has become increasingly apparent is that the leadership of most communities do not comprehend the fundamental shift in economic direction that is currently underway. And, if they do recognize that such a shift is underway, they are very unsure of how to guide their community into this new age of opportunity.

The first step to taking advantage of the new digital economy is understanding the age we are in.

Our journey into the information age is complicated by the baggage we carry from previous experiences from the industrial age. We keep using rear view mirrors, developed with industrial age experiences, to look forward toward the reality of the information age economy. Just imagine what the leaders of the industrial age revolution would have achieved if they had relied on agrarian age metaphors to determine their course of direction into their generation's new economic period.

Since the late 1950s numerous books and articles by well-known futurists, such as John Naisbitt, Stan Davis, Alvin and Heidi Toffler, Nuala Beck and many others have attempted to warn us of the sweeping changes brought on by the impending information economy. But few of us have understood the meaningful connection of their predictions to our everyday lives. It seems too foreign; it sounds like science fiction. Because we don't understand the connection, we don't change our behavior.

The meaning of the information economy must be related to our personal situations.

Explaining the value of 500 channels of entertainment, pontificating about the value of virtual multimedia networked organizations, or waxing eloquently about the importance of client/server technology and gigabit to terabit capacity, does not do the trick.

The way to initiate change, to bridge the chasm, is to translate the importance of the information age revolution into its understandable impact on real issues that are of concern today.



Right now, people are confused, concerned, and bewildered. Everything around them is changing-and changing quickly. The only certainty that remains is the certainty of more change. And most people feel totally unconnected to this new reality that is around them.

Until we enable average citizens and their leaders to feel connected to each other and to the reality of this new digital information economy, the best economic development strategy in the world will surely fail.

FOCUS ON LOCAL ISSUES

Members of every community have certain overriding issues that are uppermost in their minds. Generally, these issues center around current job security; our future ability to be qualified for employment and careers; frustration with our access to, as well as the quality and cost of, government services; our dissatisfaction with the education system that we perceive to be inadequately serving our children; the delivery of cost-effective and accessible health care; and our general sense that, economically, things are out of control.

Despite the media hype, the information revolution is not about 500 channels of entertainment; it is about economic prosperity and an improved quality of life. Unfortunately, we have spent decades immersing ourselves in the wonders of technological innovation, instead of relating the impact of these innovations to improving our quality of life.

Tip O'Neill, the late Speaker of the U.S. House of Representatives and a former Congressman from Massachusetts, was well-known for his maxim that "All politics is local." This is as true in Canada as it is in the U.S.

The first step in understanding the age we are in is for us to focus on the issues of highest concern to our individual communities - where we work; where we live; where we raise our families. If we explain the importance of the information economy to our neighbors and friends in terms of economic opportunity, education reform, improved health care access and affordability, work force training, improved public safety, and the reinvention of government, they cannot help but listen, and become engaged in the debate.

The new information revolution is about economic prosperity and an improved quality of life.

If we look at how the issues that are of most concern to us are positively impacted by the information revolution, we will see the connection and be more willing to take action and face head-on the fear of change. The power of this approach is that the controlling agents of change are each one of us - not some outside force, not Darth Vader technology or boxes on top of our desks.

Change occurs most rapidly and meaningfully when we initiate change rather than becoming victims of change.

MAKING THE CONNECTION

Many community and business leaders across North America have awakened to the reality of the new economic age in which they must either succeed or perish.

In Lanark County, Ontario, an executive of a leading Canadian high-tech firm approached me during a community leadership seminar to tell me the great impact the meeting had on him. By being forced to focus on issues that were of great import to his community, and not on technology, he began to realize how much the needs of his company were tightly linked to the needs of schools, health care, and government institutions in his community.

The result of this realization was that he left that meeting with the intent of merging the use of his Canada-wide high-speed telecommunications network with the network interests of community institutions from whom he needed services such as



employee training, preventative health, and government agency certifications. Here was a company that had a high-speed network available 24 hours a day which was only used to capacity 15 percent of the day. Sitting right next to him in this meeting were institutions who had limited access to high-speed networks and did not believe they could afford such access, much less use that access to generate new customer services and revenue. A new community-based economic development model, with high-speed telecommunication networks as its foundation, began to take shape that very day.

Communities can begin the process of re-engineering their economic spending patterns simply by understanding the connection between the issues that are of most concern to them and the information revolution. This approach is just common sense. But what a difference a little "digital common sense" can make in our lives - it is the foundation for the development of a successful information-age economic strategy.

INFORMATION AS THE KEY ASSET

Once we have made the connection between shared community issues and the information revolution, we must develop a thorough understanding of the impact of information on our economic situations.

Our everyday actions are based on an economic model created for the industrial age economy. All of our accounting and management systems are based on the discipline of accounting for physical, not knowledge, assets. The tax systems of local communities are based on valuation of physical assets.

For the past century, the theory and dominant practice of management has been focused on the supervision and allocation of physical assets. However since 1990, the cost contribution of knowledge and information-based services has exceeded 60 percent of the cost of goods sold for manufacturing companies in North America.

Daniel Bell, in his 1973 publication *The Coming of Post Industrial Society*, articulated the view that codified information and knowledge were replacing capital and energy as the primary wealth-creating assets, just as capital and energy replaced land and labor 200 years ago.

U.S. Secretary of Labor, Robert Reich, in his critically acclaimed book *The Work of Nations*, outlines three major job classifications that will be of value in this information economy: Problem Identifiers, Problem Solvers, and Strategic Brokers. These are all information-based jobs.

If information is the major asset of value to be exchanged in our new economy, why are so many of us information illiterate and techno-phobic? Is our economic development strategy based on an assumption of job creation that is no longer valid?

One of the fundamental factors which impacts our approach to the information economy is the elimination of time, distance, and geography as barriers to market competitiveness.

The agrarian and industrial economies revolved around the movement of things. Prior to the industrial revolution's development of the steam engine and the building of railroads, agriculture was a geographically defined industry.

Time and distance are being eliminated as barriers to market competitiveness.

The coming of railroads, followed by highways and airways, facilitated the development of national industrial economies, which lessened the impact of geographic location on the ability to compete. And then, with the development of the earliest elements of the information economy, North American firms began to globalize their operations.

Today, with the information economy in full swing, even the factor of time has been minimized as a barrier to competitive



entry. As Nicholas Negroponte states in *Being Digital*, our prior economies have been all about the movement of atoms in large heavy masses over many miles at great expense. The information economy is about moving bits at the speed of light to and from anywhere regardless of location, time, or custom laws. This allows a company to decentralize operations and avail itself of the most qualified and cost-effective labor force, regardless of its global location. The only limiting factors will be access to an adequate knowledge worker base, and a robust information network infrastructure.

There is a question each community needs to ponder: Against whom do we really compete? Our economic development strategy will be very different based on our answer to this critical question.

BEWILDERING REALITIES

We are surrounded daily by erroneous expert information telling us that we are not in an information age economy.

Read any major newspaper or financial magazine, or view financial news network programs. Notice that every one of these information sources is still reporting, as major economic news, information which measures the old industrial economy. Recently *Business Week* and *Fortune Magazine* have been reporting on this discovery. But a Toronto author, Nuala Beck, began to expose this problem back in 1992 with her publication *Shifting Gears*. She very effectively pointed out that the major engines of the information economy are computers, health care, telecommunications, and scientific instrumentation.

Yet, the key measures of the old industrial economy - autos, machine tools, housing, and retailing - are the major focus of financial news reporting and economic measurement.

The problem with this approach is that housing, for example, has less than half of the percentage impact on our total economy that it represented 25 years ago. Yet, semiconductors, a major component of our information economy, were not even included when the U.S. Commerce Department revamped its Survey of Current Business in 1990.

Maurine Haver, president of Haver Analytics, was quoted as saying in a May 15, 1995 *Fortune Magazine* article that "we measure the economy as if we were in 1950 ... we spend more money counting cows than counting gross domestic product."

A November 7, 1994 *Business Week* cover story paints a picture about government statistics, upon which almost all of our economic decisions are based, that is frightening. Their conclusion, similar to Nuala Beck's, is that "in the midst of the greatest information explosion in history, the government is pumping out a stream of statistics that are nothing but myths and misinformation."

LOCAL GOVERNMENT SERVICES

Community governments - whether local, regional, or provincial - must rethink why they are in business.

There are only three reasons for local governments to be in business - they exist to tax us, to serve us, or to regulate us. The common denominator is us; but there is little that connects us to the agencies charged with the responsibility to tax, serve, and regulate. As a result, government is very expensive and incredibly inconvenient. Government has done little to connect us to them, much less connect multiple agencies together with citizens or with businesses interactively.

How many communities have integrated their permit, planning, zoning, and regulatory functions for one-stop shopping?

How many communities have zoning laws that encourage telecommuting from home?

According to a recent survey of consumers, 53 percent of all purchase decisions are based on convenience factors. If the ability of our credit cards to access information in ways that make our lives more convenient is our benchmark for service,



how relevant is our community's mode of organization for becoming an information age competitive community? We wouldn't put up with this kind of service when we go shopping for goods and services in the real

We must understand the information economy and act accordingly. Why is it good enough for government?

Schooling at all levels is a critical element in the development of an information age community. Ask schools to define their business, and they will respond that it is teaching. But ask a community what happens to their economic viability when schools no longer exist in their community and they will tell you that people move away, and fewer people and even fewer companies are interested in their community.

I would contend that schools are in the community development business. And if your schools are in the community development business, they will no longer look internally for linkages. They will look for linkages with the total community.

This is critically important in an information economy that is looking for knowledge workers, and lifelong learning resources. It is even more critical for adding meaningful application value to curriculum.

My grandfather grew up on a farm.

The math he learned in school each day was put to work each week on the farm. How do students of any age or level put their new knowledge to work, when it applies to global resources not within our physical view?

A truly information competitive community will link all of its resources together, including access to resources outside of its sphere of control, to provide a globally competitive lifelong learning environment. There are such places: The City of North Bay, The Region of Niagara, Lanark County. Others are emerging today as communities try to become globally competitive places to live, work, and play in the new digital information economy.

WHERE DO WE GO FROM HERE?

Hopefully, where we want to go is forward. But we can't move forward unless we know where we are, and have a strategy which leads us where we want to go. We must understand the economy in which we operate, and then act accordingly.

This can be related to a business example to show that nothing less than survival is at stake. Only one company that was in the business of making horse drawn carriages is still in existence today. The company is Body by Fisher. What happened to everybody else? They thought they were in the carriage business, not in the business of providing personal transportation. Do you and your community want to suffer the same consequences?

All of these elements are the symptoms of a subliminal industrial age mindset. Our first step has to be the development of our own personal awareness of this condition, so that we can more effectively develop awareness in our broader communities. The development of this awareness must involve each institutions' understanding of the role it will play in the creation of an information competitive and competent community. Remember, success depends on relating the need to change to the issues that are most important to your local community.

In order for this to occur, we must understand what the roles of our institutions are in our community, and what it will take to be information competitive.

In this new economy, four prime considerations will guide firms and individuals alike.

First, your community must be able to offer firms the best base of globally competitive knowledge workers, and provide



access for workers to lifelong learning resources that reflect best practice.

Second, your community must demonstrate that it is the most effective, efficient, and affordable location for

Third, your community must invest in globally competitive multimedia telecommunication infrastructures and information networks.

Fourth, your community must provide a quality of life that is enriching, engaging, globally accessible, and secure.

CHALLENGE AND OPPORTUNITY

Understanding the new age we are in is the first and most critical step in the process of developing a sound base for creation of a sustainable and successful economic development strategy. You must also recognize the need for a sense of urgency. Other communities are moving ahead now, as are corporations whose movements are dramatically changing the complexion of economic prosperity.

We must ask ourselves if our communities, our organizations, and our citizens are consciously making decisions to change the manner in which they function because they recognize that they will be competing in an information economy. Are we organizing to succeed? Are we making decisions to raise the priority for investments in information age infrastructure, networks, services, and technologies? Are we reducing investments in industrial age practices?

To paraphrase Jesse White, Chairman of the Appalachian Regional Commission: Are we ready to sow the seeds, which will empower our people to grow the communities and corporations that will be the major players of the 21st century?

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