

FUTURE takes

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A FUTURE FORWARD WORKFORCE

*Rick Smyre
President
Center for Communities of the Future*



“The imagination is the mind’s supreme faculty for dealing with the future, for intuitively sensing and insightfully grasping patterns that do not yet exist but are still forming themselves and coming into being. It is the entrepreneur’s (and scientist’s and inventor’s and artist’s) most precious gift.”

“In an adaptive system, learning – the system’s capacity to change effectively – thus takes the form of the alignment of lower-level elements with what lies in the future – a growing but as yet unseen pattern. This is the reverse of normal learning, which is based on reasoning from past experience.”

*..... Richard Ogle
Smart World*

We live in a time of historical shift from one type of society to another, from the Industrial Age to an Organic Age. For the first time in history, three different types of economies are mixed together, or, as some say, in churn. We are in the last stages of the Industrial Age. By 2015, only 4-8 % of employment will be in manufacturing, and those involved will need more technical skills.

From 2000 to 2025, a Knowledge Economy will predominate and a focus on attracting creative people will require communities to develop a culture that supports innovation and is open to new ideas and diverse people. It is the weak signal of a Creative Molecular Economy (or Organic Economy) that is beginning to emerge that requires a different kind of workforce, one capable of thinking differently, able to see emerging patterns of new ideas, and with the ability to connect with anyone in the world to build “global innovation networks.”

One suggested definition of a “Creative Molecular Economy” is “an economy based on the integration of emerging technologies, such as microprocessors, microsensors, nanotechnology, new materials science and biotechnology, with creative individuals, groups and companies organized in interlocking networks, connecting and disconnecting constantly in processes of continuous innovation.”

Local leaders will be required to understand the core needs of each type of economy and be able to establish flexible methods and techniques to help local communities transform their thinking and actions as three parallel approaches to economic development – continuing to recruit businesses from other areas of the U.S. and world, creating an environment and culture to attract creative individuals, and seeding new life science and networking capacities to begin to build a Creative Molecular Economy – begin to complement each other. Individuals and organizations involved with economic development will need to understand how to create economic resilience in multiple ways, with organizations and individuals, developing a culture and environment that supports continuous innovation.

THE 21st CENTURY WORKFORCE

By the year 2040, it is expected that 40-50 % of people will work from their homes. Within the next ten years, the traditional hierarchies of an Industrial Economy will continue to flatten and networks of people will continuously connect and disconnect, adapting to new economic opportunities. It is expected that the emerging Creative Molecular Economy will be undergirded by the principles of life science as what is made and how it is made are impacted by the biological principles of genetic engineering. Economic activity will reflect a mixture of large international firms organized in interlocking networks and complex adaptive systems, and individual 21st century entrepreneurs and small businesses, working in deeper collaboration with each other and with international organizations to create new products, services and experiences aligned with a different type of society and economy that is in the early stages of emerging.

Within the next twenty years, the largest corporation in the world will have a staff no larger than 1500 people, whose roles it will be to design and facilitate networks and webs of core capabilities, free agents and start up companies...all of whom will be able to adapt as if a societal and economic immune system able to respond quickly to the challenges of a world in transformation were developing.

Each local community will need to broaden and deepen the capacity of citizens to understand the emerging economic times that will be so different from the past, and prepare the thinking and action of an economic workforce in totally different ways. This will shift the emphasis of economic development in communities from recruiting industrial factories and businesses from other areas of the country and world, to building economic resiliency in local areas by ensuring that individuals develop the capacities to be involved with and adapt to a constantly changing economy based on creativity, deeper collaboration, and connectivity using computer skills.

We are in the early stages of an economic shift so significant, based on networks and complex adaptive systems, that a new form of organization will evolve that will be neither capitalism nor socialism as we know it.

“I see the emergence of social production and peer production as an alternative to both state-based and market-based closed, proprietary systems....these activities can enhance creativity, production and freedom.”

..... Yochai Benkler
The Wealth of Networks

This is the first time in history when the technical and cultural systems of an emerging Creative Molecular Economy can elevate the individual with the group at the same time. In the past it was a trade-off between the needs of the individual or those of the community.

“The goal of communitarian technology (e.g. Web 2.0) is this: to maximize both individual autonomy and the power of the people working together.”

..... *Kevin Kelly*
Wired Magazine

RETHINKING WORKFORCE CRITERIA

It is with this emergence of a new type of economy in mind that the following framework is suggested to establish a 21st century workforce for a Creative Molecular Economy – one that has the capacity to innovate, collaborate at a deeper level, and be capable of adapting to constant change in a fast-paced, increasingly complex society using communications technology and a new way of thinking:

1) Building Individual Capacities

For any local workforce to prepare for an economy in constant change, where competition will emerge from anywhere in the world, and when artificial intelligence will develop the capacity to do more than the most menial of tasks, a systemic approach must be taken. Individuals will become responsible for their own economic capacities and need the following:

- a) An understanding of how the society is transforming and how this transformation will impact economic opportunities for themselves and their communities.
- b) Lifelong learning skills, which will become more than a phrase as individuals learn how to spot emerging weak signals and develop the capacity as electronic entrepreneurs to create new opportunities for income streams from different sources.
- c) Capability to be constantly innovative by developing the capacity to connect total disparate “idea spaces” into new products and services that adapt to changing conditions.
- d) Capability to use Internet access in multiple ways, to include uploading blueprints for new products that can be custom manufactured at instant manufacturing sites and shipped within the week to individuals anywhere in the world.
- e) Well-developed imagination, intuition, and insight, so that individuals can be a part of a creative workforce able to adapt to constant change.
- f) Ability to connect with other people and organizations throughout the world to develop innovation networks around emerging ideas, issues, or opportunities.

In addition, capital will be accessed from different sources worldwide, including from individuals willing to participate to fund specific ideas and concepts over web sites such as www.kiva.com.

2) Building Community Capacities in Support of a Creative Molecular Economy Workforce

As the world economy becomes more interconnected, the traditional distinction between the needs of the individual and the needs of the community becomes a false dichotomy. For the first time in history, self-interest and community interest are one because self-adaptive systems need to have individuals working in collaboration to create a culture that supports continuous innovation. The following are ways in which a community can create a culture of innovation:

- a) Ensure that there is universal access to broadband infrastructure at a minimum of 100 Mbs and, preferably, 1 Gbs.
- b) Arrange for economic organizations such as the chamber of commerce and economic developers to educate the community on the existence of three superimposed, interacting economies and the need for a workforce to learn how to imagine with intuition and insight.
- c) Build interlocking networks of all types for economic resiliency, to include connecting those under thirty who know how to utilize technology with those older who can share experiences to help the youth understand context of how we arrived at this juncture in economic history.
- d) Give incentives and awards for the most creative ideas and to those who understand how to build capacities for transformation in their communities as well as how to form innovation networks within and beyond the local region.
- e) Create a “futures institute” at the local community college.
- f) Maintain industrial and business recruitment at the county economic developer and establish a Future Economy Council at the chamber of commerce.
- g) Develop a new type of leadership development whose graduates understand the theory and application of networks, can identify trends and weak signals, and can design parallel processes to help establish a culture in support of continuous innovation.
- h) Build a parallel learning effort in the community to seed Transformational Learning abilities that can help people shift from analysis based on reasoning from past experience to an understanding of how to see patterns in an emergent situation and how to imagine totally new ideas.

BRINGING IT TOGETHER

The development of any 21st century workforce capable of adapting to constant change will need to “mash-up” individual commitment for learning new capacities for transformation with an emergent culture open to new ideas of any type and attractive to creative people and organizations.

What has not been realized by many of those involved with workforce development initiatives is that in a time of economic and social transformation, concepts and methods must reach beyond reforming traditional practices. Therefore, increasing standard scores in our schools, while helpful, by itself will not prepare students of any age for a different type of economy and society that will be non-linear and require an ability to think differently, to imagine, and be able to connect totally disparate ideas.

As another example, improving incentives for industrial and business recruitment, and preparing sites that will be attractive – while helpful in the short run to employ those who have been displaced – misses the point that there needs to be a sense of urgency to build an electric infrastructure able to allow all of its citizens simultaneously to videostream, to use virtual worlds, and to connect with anyone in the world, all without crashing the local system.

It is the vision of Center for Communities of the Future that organizations dedicated to workforce initiatives will understand the need to rethink their policies and efforts in order to meet the needs of the

present as they simultaneously work to create a culture able to support a true transformation of thinking and action in anticipation of the emergence of a Creative Molecular Economy.

***Rick Smyre** is an internationally recognized futurist specializing in the area of building "capacities for transformation" in local communities. A graduate of Davidson College and NC State University, he is President of the Center for Communities of the Future and is an architect of the new field of "community transformation." Mr. Smyre is the past Chairman of the Board of the American Association of Retirement Communities and was on the staff of the National Economic Development Institute for fourteen years. In the '70s he was the CEO of a textile yarn spinning firm. Mr. Smyre's work emphasizes innovative transformational concepts, methods, and techniques connected with preparing local communities for a constantly changing future. He speaks internationally and has provided more than 400 seminars, keynotes, and retreats over the last two decades to introduce these "Community Transformation" and "Second Enlightenment" ideas. This year will be the sixteenth year he has presented at the international World Future Society Conference.*

POINTS FOR THE CLASSROOM (send comments to forum@futuretakes.org or post on FUTUREtakes blog):

- Support or refute Smyre's analysis and projections of historical shifts – specifically, the coexistence of, and progression among, three interacting economies).
- Do you agree with Smyre that by the year 2040, 40-50% of people will work from their homes? Will this be the case in your nation or region – and will the world's largest corporations have staffs no larger than 1,500 people as Smyre contends? Why or why not?
- What other characteristics will tomorrow's workforce and workplace have, beyond those discussed by Smyre?
- What weak signals of a Creative Molecular Economy (Organic Economy) can you identify?
- Smyre refers to "different type of society and economy that is in the early stages of emerging." Characterize "the economy after next." (See "Think Tank" column, "The Economy After Next," Winter 2008-2009 issue.)
- Smyre envisions a new form of organization "that will be neither capitalism nor socialism as we know it." Indeed, the "capitalism-vs.-socialism" debate has dominated much politics and geopolitics during the 20th century, in some cases assuming the characteristics of competing "religions." What does this debate assume, and (in addition to the factors identified by Smyre), what social changes and other developments may someday render the debate irrelevant?
- Smyre envisions that the traditional distinction between individual needs and community needs will become a false dichotomy. In what way will this transform economics and society in general? (Compare Smyre's thoughts with Adam Smith's writings on economics.)
- Help struggling foresight educators! Smyre proposes that tomorrow's workforce will need the ability to shift from analysis based reasoning and past experience to an

understanding of how to see patterns in an emergent situation and how to imagine new ideas. What changes in learning can educators, schools, colleges, and universities make to best cultivate these needed capabilities?