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A summit produced by Minnesota Public Radio's Civic Journalism Initiative

Held at the University of St. Thomas, Minneapolis campus December 2, 1999

MINNESOTA PUBLIC RADIO mpr
THE HIGH-TECH FALL
Minnesota gave rise to computing powerhouses like Control Data and Cray Research, but today we are falling behind. Here’s why.

THE INFORMATION TIDE
Every once in a great while, major technological breakthroughs dramatically change the economy. In the past, it was steam power, the railroads, telegraph, electric power, and mass production. Today, it’s information technologies.

DOES THE UNIVERSITY OF MINNESOTA GET IT?
In an economy driven by innovation, research universities are playing an important role in developing high tech industries. Critics says the University of Minnesota isn’t doing enough.

THE E-COMMERCE RACE
Minnesota may not be on the cutting edge of the Internet revolution, but its businesses have been quick to embrace the Internet.

AUSTIN’S POWER
Austin, Texas has transformed itself into a high tech Mecca. Cities from all over the world are studying what’s called the “Austin Model”.

MAKING DISTANCE INSIGNIFICANT
While electronic-commerce is helping invigorate the economies of rural Minnesota, some Main Street businesses still face obstacles.

HARD DRIVING
There’s never been a better time to find work in Minnesota’s high technology industries. But increasingly, the jobs come at the price of other values, such as job security and a sense of belonging in a company.

THE TECH CITIES
The Twin Cities has a long way to go before it can be considered a high tech hotbed, but Twin Cities’ companies that are thriving say the area provides unique advantages over high tech centers such as the San Francisco Bay area.

THE MEDICAL TECHNOLOGY ENGINE
The medical-technology industry has long been one of Minnesota’s prime economic engines. Now a number of local companies are trying to create a new industry at the intersection of medical and information technology.

THE DREAM MERCHANTS
The Minnesota business community has long prided itself on the vitality of its venture-capital industry, but Minnesota may not be getting its fair share.

MPR News stories edited by Bill Buizenberg and Carl Goldstein and reported by Bill Catlin, Chris Farrell, Mark Zdechlik, Jon Gordon, Tom Robertson, Art Hughes, and Andrew Haeg.

Online editor: Bob Collins
On December 2, 1999, the Minnesota Public Radio Civic Journalism Initiative produced a summit to take a comprehensive look at where Minnesota stands in the high technology revolution. The state used to be in the vanguard of high technology. The summit would ask: Is it now, is it just holding its own or falling behind? And if it is falling behind, what are the consequences and what should be done to make for a most optimal Minnesota high tech future.

The summit was a spinoff of the Minnesota Public Radio News and Information series also entitled Minnesota in the .Com Age. The stories and programs ran on MPR during the week of November 29, 1999. The whole series can be heard on the Internet at www.mpr.org by using the search word “.com”.

The summit was by invitation only and from the beginning it was obvious that the newsroom had hit upon a hot topic. We anticipated 50-60 opinion leaders and policy makers would come to the summit; in the end more than 100 came.

The Civic Journalism Initiative summits are extremely interactive and depend upon the information brought to them by the attendees. We wanted to be sure they represented a wide spectrum of constituencies from academia, high technology, venture capital, major corporations, education, employment development, citizen advocacy, new media, communications, and government. The attendees — see page 19 — are the power brokers, policy makers, and opinion leaders who can jump start Minnesota towards its most optimal high technology future.

In the morning, the attendees broke into mixed groups and discussed Minnesota’s high tech future, weaknesses, strengths, inclusiveness and asked if a strategic plan was needed by the state. In the afternoon, they asked what action steps their stakeholder group should be taking to move the state to its optimal future.

The word “optimal” was used purposefully because it was up to the attendees to decide whether Minnesota is doing fine or if it must make changes for the future, and if so, what those changes might look like.

This report is the summation of what the Civic Journalism Initiative learned. It can also be accessed and downloaded at www.mpr.org.

Leonard Witt, Executive Director
MPR Civic Journalism Initiative
The Minnesota economy is booming. For months on end, government statistics have painted a glowing picture of record-low unemployment combined with low inflation and low interest rates. And yet, many of those who attended the Minnesota in the .Com Age summit began the day with a gloomy perception of the state’s role in the high technology industries that figure to fuel the American economy for decades to come.

Only one in four thought Minnesota is in the vanguard of technology or holding its own; three-quarters thought the state has fallen behind or is trying to catch up. And most — 79 percent — believed that the state has become complacent about developing high tech industries.

Similarly, three out of four people who attended the conference felt that the University of Minnesota had fallen behind or was trying to catch up to comparable institutions, which elsewhere have helped feed dynamic high tech economies.

To some extent, argued internet strategist R. T. Rybak, it’s a problem of perception, not reality: “Increasingly, I’m finding myself in a position where, once a company hits a certain range, the investors — the major players — invariably say, ‘We can’t get the talent in this market. We’ve got to go to either coast.’ I believe that is absolutely not true. . . .We have an enormous amount of talent. But the perception is that once you reach a certain stage you have to go elsewhere for it.”

Mike O’Connor, dot-com entrepreneur and founder of gofast.net, disagreed, saying, “The dot-com train has left the station. We have to figure out what the next technology wave is going to be.”

Of the 100 plus summit participants: Only one in four thought Minnesota is in the vanguard of technology or holding its own; three-quarters thought the state has fallen behind or is trying to catch up. And most — 79 percent — believed the state has become complacent about developing high tech industries.

KEY COMMENTS:
GOVERNMENTAL LIMITS
Dean Barkley, MN Planning: “Working with the University of Minnesota, I think, is appropriate, in trying to figure out how to capture their technologies. When you get into venture capital and actually competing, I’m not sure the government is the driver of where this is going to go. That’s going to have to come from the private sector.”
really smart young ones are gone. It’s a desert here. The people that are really good . . . even before they do their startup, a lot of times realize that this isn’t the place to do it. And they leave. . . .

“This train — the dot-com train — has left the station. . . . I think we have to go on to the next train. We have to figure out what the next technology wave is going to be. This dot-com world, this e-commerce world, is happening elsewhere. The talent is elsewhere; the money is focused elsewhere. The governments of other states are a hundred times hipper to the dot-com revolution than the one here.”

But O’Connor’s was not the majority opinion; only 34 percent of those in the University of St. Thomas’s Thornton Auditorium shared his pessimistic assessment. In fact, despite their critical view of Minnesota today, 63 percent said that they were either “somewhat” or “very” optimistic about Minnesota’s high tech future.

And virtually all — 86 percent — believed it’s important for the state to keep pace with high tech powerhouses such as Austin, Texas, and Boston, if not Silicon Valley.

One of the most difficult questions, of course, is how to make that happen. One theme that would emerge throughout the day was the need for coherent, organized strategies to nourish seedling companies. Steve Johanns, the president of Smackeroo, Inc., a web-based marketing reward company, was one of the first to articulate that view: “There are a tremendous amount of resources throughout the Twin Cities and Minnesota, but there’s a lack of focused effort in helping to develop both the entrepreneur and the ideas.”

“... There are a tremendous amount of resources throughout the Twin Cities and Minnesota, but there’s a lack of focused effort in helping to develop both the entrepreneur and the ideas.”

Steve Johanns, the president of Smackeroo

OPINION

REPORTER INSIGHTS:
SNIPPETS FROM WRITER
FRANK CLANCY’S NOTEBOOK

Several times throughout the day, I also heard someone say “What we need is _________,” and someone else respond: “That’s exactly what my organization does.” One person, for example, said there should be an organization that brought entrepreneurs and investors together. Dan Carr, who runs The Collaborative, was sitting on the other side of the room, and explained what his organization does. Someone else suggested having one or several buildings for high tech entrepreneurs; another participant said he had opened just such a building in St. Paul. So better dissemination of information about nonprofit and for-profit resources would seem both necessary and easy to do.
Ross DeVol

Just how much is technology fueling the booming American economy? How well, by objective measures, is Minnesota doing? And what are the factors that lead to a region’s success?

Economist Ross DeVol, the director of regional studies for the Milken Institute, was the first of three speakers to address those questions. Milken served as lead researcher on the report “America’s High-Tech Economy: Growth Development, and Risks for Metropolitan Areas,” which was released by the Milken Institute in July, 1999. The report looks at the growth rate, relative concentration, and overall size of 14 high tech industries in all 315 United States metropolitan regions.

Minnesota’s performance, DeVol said, “is a question of whether or not you view the glass as being half full or half empty.”

In the Milken Institute’s ranking, the Twin Cities metropolitan area ranks 32nd, Rochester ranks 16th, and Duluth-Superior 129th. Rochester, DeVol said, has the densest concentration of high tech activity of any metro area in the U.S. But none of the three Minnesota cities ranks among the top 50 nationwide in terms of high tech growth. Most of the fast-growing metropolitan areas were in Texas and the western United States.

According to Milken Institute data, the overall growth rate in high tech manufacturing and service industries has exceeded 20 percent over the past three years. Technology, DeVol said, is the single largest factor in determining a region’s relative economic success.

DeVol also identified several factors that are crucial to attracting and nourishing high tech businesses. In manufacturing, the variables are quite traditional—items like wages and taxes that affect costs.

But with high tech service industries, DeVol said, several other elements are important. These include:

- A history of a strong high tech presence in the region.
- Proximity to one or more major research universities.
- Access to venture capital.

Access to venture capital, DeVol said, “is a key factor in incubating and sustaining an entrepreneurial-based high tech cluster. By financing new ideas, venture capitalists are instrumental in maintaining or enhancing a cluster’s dynamism. . . . Without a well-functioning venture capital infrastructure, a region’s technology base is at serious risk of not developing into what it could be.”

And technology, DeVol believes, is crucial to a region’s economic future. “High tech industries are determining which metropolitan areas are succeeding or failing,” he said. “Without growth in high tech, metros risk being left behind. In my opinion, those areas that come closest to replicating the positive aspects of Silicon Valley will be the leading technology centers of the future.”

Minneapolis/St. Paul, DeVol added, “has established itself as the leader in the Midwest among software, internet related development. Most of that has occurred in just the past three years. . . .”

“High tech is not the only development strategy to pursue, but it will be the key distinguishing factor of metropolitan vitality as we enter the early stages of the Twenty-first Century.”

To hear the experts complete speeches recorded on Minnesota Public Radio, go to wwwmprorg.

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The second speaker of the morning, Randolph Court of The Progressive Policy Institute (PPI), spoke via teleconference from Washington, DC, about the results of two of the Institute’s reports — “The New Economy Index: Understanding America’s Economic Transformation” and the “State New Economy Index.” PPI examined the broader foundations of the new economy, such as education levels, the rate at which companies adopt new technology, and the state’s capacity for innovation. In PPI’s analysis, Court pointed out, technology is a key engine of growth, but it’s not the only one.

“We found that Minnesota is doing quite well,” Court said. “And it’s not just because all of your men and women are stronger and smarter, and all of your children are above average.” In PPI’s rankings, virtually all the leading states were clustered on the two coasts. Minnesota ranked fourteenth. “When you look at the map of the overall rankings in our index, Minnesota looks a bit like an island,” Court said.

Court identified a number of the state’s key strengths:

- An educated workforce.
- A high percentage of people working in offices (in Court’s words, “the factory floor of the new economy”).
- A high percentage of people working in managerial, professional, and technical jobs.
- Minnesota is well above average in the percentage of its population that is online.
- Minnesota has been a leader in adopting technology in schools.
- The state government uses technology better than most states.
- A strong orientation towards research and development in industry — what Court labels “innovation capacity.”
- A relatively large amount of venture capital activity.

But, Court warned, “Minnesota should by no means be complacent. I think there’s room for improvement in a lot of those areas.” In particular, he identified four areas of weakness:

- The state ranked only 24th in the number of working scientists and engineers.
- The state ranked 23rd in the number of dot-com names registered.
- Minnesota has relatively few of what Court called “gazelle companies” — those that are growing at a pace to double revenues every four years. According to PPI’s figures, these fast-growing companies were responsible for three-fourths of the net new jobs in the 1990s.
- Minnesota, Court said, has a relatively “static” economy. “There’s relatively little ‘churn.’ By that we mean the rate at which new businesses are starting up and replacing existing companies that are going out of business, which is really the process of creative destruction that is so central to the new economy.”

“Minnesota is doing well largely because of its strength in structural foundation areas. The ticket to stronger economic growth in the future, we think, is going to be to invest more to build on those foundations.”

Randolph Court, Progressive Policy Institute

Key Comments: State’s Role

Steve Kelley, State Senator, Hopkins:

“We take [the university cooperating with business] for granted with respect to agriculture, where the extension service has scientists working one on one with family farmers . . . . We don’t have a similar kind of system available for high tech entrepreneurs.”
The third speaker, Jay B. Hare, tracked the flow of venture capital money into Minnesota between 1995 and 1998, comparing it to inland cities such as Dallas, Austin, Atlanta and Houston. Hare, who leads PricewaterhouseCoopers’ Internet practice in Minnesota, works with emerging growth technology businesses, particularly Internet software and medical device companies, many of which are backed by venture capital.

“While I agree that we do have, still, a strong foundation and legacy, and a lot of the elements that are needed,” Hare said, “I don’t believe that we have as many of the elements that we need. … There’s a saying in venture circles that good ideas attract good people. I would say that good, symbiotic environments for growing companies attract activity in venture capital.”

And venture capital activity, Hare said, foreshadows the future: “What’s going into the pipeline is indicative of where we’re headed, especially in the high tech and dot-com arena.”

PricewaterhouseCoopers has been conducting “money tree” surveys to track the flow of venture capital since the mid-1990s. Hare looked at the years 1995 to 1998. In many respects, Minnesota did poorly.

• Nationally, venture capital investments grew 129 percent in these years, from $6.2 billion to $14.2 billion. In Minnesota, venture capital investments grew just 28 percent.

But it’s not simply a matter of people and venture capital moving to both coasts. Hare compared Minnesota to regions like Denver, Houston, Austin, Chicago, Atlanta, and Dallas. Colorado grew more than 300 percent — more than ten times as much as Minnesota. Austin, Houston, and Chicago all grew about 125 percent. Atlanta and Dallas grew twice as much as Minnesota.

“There is a major tailwind blowing behind venture capital activity and dollars across the country,” Hare said. “It’s a gale force wind, and we grew 28 percent.”

• The number of venture capital deals in Minnesota grew 15 percent from 1995 to 1998. Four of Hare’s comparable markets grew seven to ten times as much: Dallas (111 percent), Austin (126 percent), Colorado (130 percent), and Georgia (159 percent).

• Minnesota’s overall share of venture capital money was just under 3 percent in 1995. In 1998, it was 1.3 percent. “Right now, from my perspective, unfortunately, we’re slipping,” Hare said.

• Minnesota fared poorly even in what has historically been the state’s strong suit, medical devices and technology. The state beat only two of Hare’s comparable markets in terms of growth (Colorado and Houston). The number of medical technology deals in Minnesota grew 39 percent from 1995 to 1998; in Chicago, Atlanta, Austin, and Dallas, that figure grew from 100 percent to 400 percent. And, while Minnesota still ranks first overall among those regions in medical technology, Georgia (mostly Atlanta) will soon pass Minnesota.

• Looking beyond medical technology at flow of venture capital money in communications and software, Hare said, Minnesota fared even worse. “Communications,” he said, “essentially is nonexistent in the state.” In comparable markets, the number of software industry deals grew between 50 percent and 329 percent. In Minnesota, the number declined 7 percent.

“This is a very complex question, and there is no easy answer,” Hare said in conclusion. “It’s a combination of things and not having the optimum supply of financial capital, human capital, technology capital, and what I call success capital.”
After listening to Ross DeVol, Randolph Court and Jay Hare, the approximately 100 participants at the Minnesota in the .Com Age summit were divided into five groups, each of which was asked to examine a different aspect of the high tech picture: strengths, weaknesses, inclusiveness, the future, and strategies. Here is a summary of their reports:

**STRENGTHS**

Group 1 was assigned the task of looking at Minnesota's high tech strengths. "We discussed the negatives a lot," said the group's spokesperson, Rick Birmingham of NetDay Minnesota.

But they did identify several strong areas:

- One of Minnesota's biggest strengths is the state's economic diversity. Companies are poised to take on a variety of different challenges, and to take advantage of new opportunities that cross barriers and combine industries.
- Minnesota's financial and manufacturing infrastructure is a strong suit.
- The state has an available, educated workforce.
- The state's population is stable. People tend to stay here.
- Though imperfect, the University of Minnesota is a strength. It has, especially in recent years, shown itself to be willing to work with businesses.
- Organizations such as the Minnesota High Tech Association are starting to get people to work together.
- The overall quality of life is very high. When people come to Minnesota, they stay.

**WEAKNESSES**

Group 2 focused on Minnesota's weaknesses.

- There is a general lack of awareness of Minnesota as a high tech center. "Maybe we got complacent, compared to some other states that realized they had to embrace the Internet and high technology," said spokesperson T. J. Culbertson, founder and CEO of Startupzoo.com, a business incubator.
- At both the state and university level, there is lack of focus, leadership, and strategy. "Why does the university put millions of dollars into agriculture, and why are there not more funds available to fund new high tech developments," Culbertson asked. "Where is the leadership going to come from?"
- There is a lack of available financing in Minnesota, both at the larger level and the level of seed capital. Some seed investors here distrust young entrepreneurs and are unfamiliar with the Internet.
- The state lacks formal and informal networks for regular collaboration and dialogue about issues that are important to high tech companies and entrepreneurs.
- The University has not done enough to promote high tech development. "How do we create the University of Minnesota as a jewel for information technology," Culbertson asked, "and use that as a marketing tool for the rest of the country, to attract talent?"

"Why does the university put millions of dollars into agriculture, and why are there not more funds available to fund new high tech developments?"

T. J. Culbertson,
CEO of Startupzoo.com

**OPINION**

**REPORTER INSIGHTS: SNIPPETS FROM WRITER FRANK CLANCY'S NOTEBOOK**

During one afternoon breakout session, a man pondered ruefully the quest for vast returns by looking at a hypothetical investor who puts his money in dot-com instead of a medical device that might have saved his life 20 years later: "What's it going to say on his tombstone? 'He earned a 46% annual return on his investment?' But he wouldn't fund the medical device that might have saved his life."
INCLUSIVENESS
This group was asked to examine one broad question: What must be done to ensure that the high tech future benefits the greatest number of Minnesotans, while not diluting the full potential of the high tech benefits to the state?

Their recommendations:
• The state should place a heavy emphasis on preparing its citizenry through K-12 education.
• Connectivity — access to bandwidth via direct Internet connections — is a huge issue. In both rural and isolated urban areas, access to direct Internet connections is limited.
• More must be done to promote community economic development and to get minority communities involved in technology, particularly the Internet.
• At the state level, there must be leadership and vision on this issue; with three political parties sharing power, the state government is now badly divided.
• With the help of local businesses, the United Way has invested resources in helping nonprofit organizations to upgrade their technology. Bringing the business and nonprofit sectors together is key.

"Maybe Minnesota has the ingredients, but we don’t have the recipe. Without the recipe, it doesn’t really matter whether the ingredients are there.”
Steven Clift, online strategies consultant

FUTURE
This group was asked to imagine Minnesota’s high tech future. What might that future look like? And who will lead the state towards it? Should Minnesota aspire to be another Silicon Valley or Austin? Or should we be content to be in the second tier of high tech cities?

One key to answering these questions, said the group’s spokesperson, dot-com entrepreneur Mike O’Connor, is understanding how radically business has changed. “Ideas nowadays are ideas, and businesses are ideas,” O’Connor added. He said Minnesota needs a place where “idea fusion” can take place.

Like others, this group expressed disdain for the notion of a grand central plan. Instead, they recommended nourishing three key “ingredients” and “smashing them together.”

The three are:
• Develop Minnesota’s information technology infrastructure.
• Nourish organizations and networks that promote entrepreneurial activity — that provide both seed capital and large amounts of money, and that support young people just starting out.
• Support institutions like the University of Minnesota, the University of St. Thomas, and other state and private colleges which will provide the new ideas.

“The big plan is for the birds,” O’Connor added. “Smash the stuff together and see what happens. That’s how the Internet worked, that’s what the next thing will do.”

In imagining Minnesota’s future, this group also saw a potential conflict between high tech growth and the state’s quality of life. “In a hypergrowth economy like the Bay Area,” O’Connor said, “the quality of life is lousy. So we have a tradeoff to make. We have to choose. We sort of have to calibrate where we want to land on that spectrum and then play from there.”
STRATEGIC PLANNING NEEDS

This group was asked to examine a series of questions related to planning for the future. Should Minnesota have a high tech master plan? If so, who should construct the plan? And who can lead the state’s high tech future?

What should Minnesotans do in the short term? What should the long-term strategy be?

The group’s recommendations:

• The idea of a central master plan seemed too bureaucratic, said the group’s spokesperson, internet strategist R. T. Rybak. What’s more important is a genuine commitment to high tech development from public institutions such as government and schools.

• The state should focus on catching up in dot-com development, and staying ahead in biotechnology.

• The state should focus on people. “We have to have a trained workforce; we have to have people who innovate,” Rybak said. “It is the university, but it’s not just the university. It’s private universities, public universities, but it’s also community colleges and other levels. It’s very important that all levels work together.”

• Encourage and nourish innovation. “You can’t do this if there aren’t a lot of good ideas out there,” Rybak said.

• Develop sources of capital, particularly seed capital for startups. “Some people said that first dollar is a lot harder than that tenth million dollar,” Rybak said. This requires cooperation and collaboration among governments, colleges, and corporations, for example through matching challenge grants to universities.

• High tech workers must be trained to fill existing gaps. Once again, this should be a public-private partnership: Business must, among other things, tell educators what they need.

• Although foundations serve different purposes, organizations like the Blandin Foundation can play a larger role, particularly in assuring that technology is distributed throughout the state.

• Develop the information technology infrastructure. In more remote parts of the state, where there is no incentive for private business to deliver technology, government and foundations must play an active role. The same is also true in portions of the state’s inner cities.

• Encourage mentoring.

“In a hyper-growth economy like the Bay Area the quality of life is lousy. So we have a tradeoff to make. We have to choose. We sort of have to calibrate where we want to land on that spectrum, and then play from there.”

Mike O’Conner, dot-com entrepreneur
"I think entrepreneurs have one thing in common," Ann Winblad told the audience at the University of St. Thomas's Thornton Auditorium. "They believe they can do anything, and they believe that they're constrained by nothing." That may be even more true in the emerging dot-com economy, which no longer requires large amounts of capital: The software and internet companies that are driving this new economy, Winblad said, "really only have one competitive advantage. That is intellectual capital."

Winblad is by inclination an entrepreneur — in her words "a trained overachiever." She started her own software business, she said, with $500 borrowed from her brother's savings account; to pay her living expenses, she took an evening job teaching typing at a technical school. She eventually sold the company for some $17 million.

In Winblad's view, the dot-com entrepreneurs who succeed today are very much like herself. "They believe so passionately in their idea that they're not waiting," she said. "They're not waiting for venture capital; they're not waiting for approval from their parents; they're not waiting for someone to bring them into a nurturing environment and to fully train them to be an entrepreneur. They're just doing it."

The opportunities are vast. According to figures cited by Winblad, in the first six months of 1999, American venture capital firms invested more than $8 billion in more than 800 different new, privately owned software and internet companies.

"There is very little science to the process of creating an entrepreneur. You either are one or you aren't one. You're either willing to enter this new digital revolution or you aren't."

Ann Winblad, Hummer Winblad Venture Partners
companies funded by Hummer Winblad, for example, is works.com, which provides services to small and medium-sized businesses. It's based in Austin. Winblad described the company's inspiration as Joe Liemandt, the founder of Trilogy which is also based in Austin. She said he is "the centerpiece of the Texas entrepreneurial economy. It's entrepreneurs driving other entrepreneurs. They all wanted to be Joe Liemandt."

Winblad also pointed towards Seattle, which was not known as a hub of entrepreneurial activity until Amazon.com started. "Nothing was happening in Seattle," Winblad said. "[Seattle has] a major university; you've got Microsoft there, with thousands of employees. Why isn't it an entrepreneurial environment? Why weren't there a lot of new companies there? Why didn't you hear about other IPOs? Not until Jeff Bezos got in his car with his wife, drove to Seattle, and set up Amazon.com, did entrepreneurs feel that, 'Yes, this is an environment where other entrepreneurs can succeed. You don't just go to Seattle to work for Microsoft.'"

Hummer Winblad has recently funded two Seattle-based companies: HomeGrocer.com, which delivers groceries to your door, and rivals.com, an internet sports network.

In the dot-com economy, things move quickly. Winblad told the story of another Hummer Winblad venture, pets.com, which had close to 300 employees only 180 days after it received funding. "This is not the time to sit around and think about things," Winblad said. "This is the time to just do it, to get it done." The companies that succeed, she believes, will be the ones who start early, execute their business plan well, cultivate loyal customers, and form key partnerships.

And they are led by great entrepreneurs. When deciding which companies to fund, Hummer Winblad relies heavily on the individual entrepreneur. In the case of Net Perceptions, Inc., Winblad had met cofounder Steve Snyder years ago, before he came to the University of Minnesota to get his Ph.D. "I knew he was a permanent, broken type-A person, and I should keep my eyes on him, that he would start a company sooner or later," Winblad said. Three years ago, she ran into Snyder while in Minnesota to attend an event. She asked when he was going to start a company. As it happened, Snyder had an idea for software that would help web sites respond personally to customers. Winblad immediately saw an enormous opportunity and made Snyder promise to visit California to present a proposal. "Steve came out the next week," Winblad recalled. "He said, 'I don't have a polished business plan.' I said, 'There is no time to polish shoes. Scuffed shoes don't matter in this market.'"

Part of Hummer Winblad's role in that venture: "use the best of the dot-com world" to get Net Perceptions rolling, Winblad said.

Winblad identified three major areas of opportunity in the dot-com world:
• Business-to-consumer sites. With 65 percent of the country yet to go online, Winblad said, "B-to-C is still wide open. It is not for the faint of heart. It is indeed a race. For every pets.com, there are ten other companies that sell dog food."
• Business-to-business. "Business-to-business businesses are hard to start," Winblad said. "They require enormous technology. You cannot isolate yourself from integra-

“This is not the time to sit around and think about things. This is the time to just do it, to get it done.”

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**Ann Winblad, Hummer Winblad Venture Partners**

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**KEY COMMENTS:**

**IT'S A YOUTH MOVEMENT**

John Rollwagen, St. Paul Venture Capital: "We're a little stodgy, maybe, in Minnesota, and we need to recognize that these new firms are being started and developed by people in their twenties, not even in their thirties. And they're having tremendous success early on. We need to build an environment around here that's attractive to them, where they can get the support they need, and they can find each other."
tion with the corporations you are serving, whether it is the supply chain, the logistics chain, or the demand chain. These require patience and stamina. However, you won't have as much competition during the [period of] patience and stamina. Once you get the customers, they're unlikely to go away, because the hurdle is high to serve them.”

- Infrastructure companies like Net Perceptions that, in Winblad’s words, provide “the picks and shovels that drive all these internet sites.” “Anyone who wants to be in this marketplace has to be in a hurry, because they will get mowed over — not just from companies in California, but companies in Illinois, companies in Ohio, companies in New York City, and companies in Seattle.”

In each arena, staggering amounts of money are at stake. Hummer Winblad won’t fund a company, Winblad said, unless the potential size of the market is at least $10 billion — and no one’s claimed it yet.

In Winblad’s view, Minnesota has a mixed place in the dot-com economy. To illustrate, she described three Minnesota companies:

- Net Perceptions, Winblad said, is “a Minnesota company through and through,” with offices in New York and San Francisco. But the company has sought assistance elsewhere when necessary. “If we can’t find it in Minnesota, we don’t settle for second best,” Winblad said. “We find it in the dot-com universe. We have one goal: We want a place on the emerging market map, and we want first place.”

- Catalogue retailer Fingerhut, Winblad said, “has transformed itself to be the envy of all companies in the dot-com world... Companies are begging to have the opportunity to do business with Fingerhut.com.” Fingerhut’s success is as significant as it is surprising: “It means every company has the opportunity to change and participate in this dot-com arena,” Winblad added.

- Winblad also described an unnamed Minnesota company that sells office and home furniture at a handful of retail locations and through a catalogue. Having seen the catalogue and the company’s furniture, Winblad called to discuss expanding their Internet presence, which consisted of a website that merely led would-be buyers to a toll-free phone number. “Why am I talking to you?” Winblad remembers the woman saying. “We’re not an Internet company.”

“The answer is, everyone is an Internet company. That did tell me that there’s some work to do in Minnesota. The fact that this very large, family-owned business — a prestigious business in the state of Minnesota — would say they’re not an Internet company is a wrong answer. I think that is where the entrepreneurial effort needs more work. Every single retailer ... is now a multichannel retailer, including the Internet.”

But Winblad expressed optimism about Minnesota’s high tech future. With the Internet as the dot-com economy’s common platform, geography is not a barrier. What’s needed are entrepreneurs who, like Winblad, will risk everything to make their ideas work. “You entrepreneurs, get in the fast cars,” she said, “because there’s a lot of deer in the digital headlights here in the state of Minnesota, and they’re ripe for mowing down.”
The numbers don’t lie. Minnesota’s economy may be soaring, but the lack of venture capital money being invested here hints of a less rosy future. In a rapidly changing economy, Minnesota has not kept pace. As one participant in the conference said of his morning breakout session, “We could have spent two or three more hours discussing the [state’s] weaknesses.”

But listing weaknesses is easy. The far more difficult challenge is to figure out how to nourish the state’s high tech economy. And then do it.

Many of the answers suggested by those who attended the Minnesota in the .Com Age summit are obvious and necessary. In this economy, more than ever before, a good public education system is absolutely crucial. But improving math and science curricula in K-12 schools won’t have an effect for years.

Some suggestions — restoring the Minnesota Office of Technology to a cabinet-level position, for example — could be enacted easily and might help begin to address many of the nagging questions that erupted throughout the day.

Other needs were fuzzy and vague. Many of those who attended the conference expressed hunger for human contact — for a way to meet and share experiences with others like them. Of course, they’d also love to meet “angels” and venture capitalists who would invest in their company. . . .

And some questions are by their nature exceedingly difficult to answer. Perhaps the most commonly heard message of the day was an all-but-inevitable lament in an extraordinarily competitive economy where tens of billions of dollars are at stake: Minnesota’s high tech entrepreneurs — especially those involved in medical technology — find it extremely difficult to find capital. “That first dollar is almost impossible to get,” one lamented during an afternoon breakout session.

Ideas and models surfaced to address this and other big challenges — one program in Pennsylvania that invests pension funds in high tech startups, a different approach in Maryland, a third in Australia.

But the bottom line is, there are no easy answers, no quick fixes, no simple solutions.

Each stakeholder group at the summit listed its action steps, and the whole group voted on which they thought were the best.

The action steps follow on the next three pages.

**KEY COMMENTS: STEALTH RESEARCH**

Ross DeVol, Milken Institute: “One of the first things that can be done . . . is to encourage the commercialization of research that is taking place at the universities, because a lot of the new, innovative ideas show up there first, but they remain in stealth mode, and, in many cases, never get out into the real world. You’ll find researchers who are working on some very interesting things that could be applied in the real business world — a business plan could be developed, but many of them not only aren’t encouraged to speak to people with money and ideas about how to run a business, they’re discouraged by the universities.”
**ACADEMIC GROUP**

- Enhance public/private partnerships between businesses and institutions of higher education, not only through the University of Minnesota, but also at other public and private colleges and universities.

- Create and nourish an educational environment that is supportive of entrepreneurs and helps to move ideas from the laboratory into the marketplace.

- Form partnerships to help science and math educators in grades K-12 keep their knowledge of technology up to date.

- Aggressively recruit talented math and science students from around the country, both at the undergraduate and the graduate level.

- Provide corporate and private support for endowed chairs at universities — both senior and associate professors.

**VENTURE CAPITAL/ENTREPRENEURS/HIGH TECH**

- The state should invest in technology, first by supporting research and development at the University of Minnesota. It should also explore creative methods of supporting high tech businesses, such as a Pennsylvania program that invests public employee pension funds in high tech start-up companies. (The fund is managed by professionals, not politicians.)

- Encourage and create networks of people interested in starting companies.

- Create a formal system or organization that connects startups with venture capital firms. (Since venture capital companies are routinely swamped with proposals, the system would have to weed out weak or poorly conceived ideas.)

- Build awareness of existing resources and services for high tech entrepreneurs.

- Publicly celebrate entrepreneurs and the spirit of entrepreneurship, rather than focusing on those who have already achieved success.

**REPORTER INSIGHTS:**

**SNIPPETS FROM WRITER FRANK CLANCY’S NOTEBOOK**

Numbers don’t lie. Yes, Minnesota’s share of venture capital money has plummeted. But I also heard people say repeatedly that Minnesota’s lack of prominence is, to some extent, a problem of perception. Why isn’t Fingerhut considered a “gazelle” company? In part because it, like Net Perceptions, deals with behind-the-scenes web technology. You don’t see ads for fingerhut.com on Super Bowl Sunday. The same is true of Net Perceptions and with eBenX, a St. Louis Park company that went public and raised $100 million last week (ten times more than its annual revenue for 1998).
EDUCATION AND EMPLOYEE DEVELOPMENT

- Support ongoing, sustained professional development for K-12 teachers.

- Colleges and universities should require all students to take information technology courses so every student has a basic core knowledge of technology.

- Train those who are underemployed so they can acquire the necessary skills to work in high tech jobs.

- Make teachers aware of web-based career tools such as www.iseek.com that can help students learn about careers and what is required to enter them.

- Put computers in homes, schools, and training sites, so that people are learning about technology in all three places.

- Celebrate Minnesota’s educational successes — the model schools, partnerships, and systems that are contributing to our quality workforce.

COMMUNICATION/NEW MEDIA

- Invest in telecommunications infrastructure.

- Develop a buzz about Minnesota technology. One idea is to sponsor events, much as the Minnesota Film Board does with “ice pack” parties for Minnesotans who work in film.

- Make higher education more interdisciplinary — break down walls between disciplines.

- Restore the state office of technology to a cabinet level position.

- Provide mentoring opportunities for young people.

- Emphasize the quality-of-life factors that make Minnesota an attractive place to live.

CITIZEN ADVOCATES

- Despite a shortage of high tech workers in Minnesota, the problem is not a lack of workers, but a lack of workers with appropriate skills. Aggressively educate and train people who are already living here to fill available jobs.

- When discussing issues, be sure to include all members of the community — people of all ethnic groups and races, both genders, all social classes, and regions.

- Build community awareness of high tech opportunities.

- Set up foundations or otherwise make available seed grant funds for entrepreneurs who aren’t yet ready for multimillion dollar investments from venture capital firms.

- Increase Internet access, perhaps by leveraging digital broadcasting.

- Devise ways to use technology to build communities, even if those methods are not profitable. One idea is to create a Minnesota public Internet site, similar to public radio.

KEY COMMENTS:

ROLE OF THE U

John Rollwagen, St. Paul Venture Capital: “I think the university is an absolutely key part. It was true 20 years ago; it’s true now. I think the university is behind and needs to gather its resources. I think our new president is doing that.”
MAJOR CORPORATIONS/CORPORATE DEVELOPMENT

- Develop Minnesota's existing high tech workforce by encouraging companies to create more jobs and to keep existing jobs in the state.

- Work with colleges and universities to develop employees.

- Help to eliminate the "digital divide" by sponsoring and participating in community development activities, educational partnerships, and similar activities.

- Companies should nurture and grow their core business; without this, no funds will be available for community activities.

- Provide scholarships to attract science and technology students from out of state; after graduation, they'll be more likely to stay and work in Minnesota.

- Encourage telecommuting and other strategies that allow employees to maintain a balance between home and work; Minnesota's quality of life is an advantage in competing with other states to attract workers.

- Corporations should sponsor and direct university research that fills their needs.

GOVERNMENT/CIVIL SERVICE

- Encourage university researchers to innovate; develop strategies to facilitate the commercial use of the resulting technology in private businesses.

- Help to improve the telecommunications infrastructure.

- Prepare future technology workers by promoting education, both in K-12 schools and through lifelong learning institutions. Make education more market-driven.

- Promote citizen participation by making people more aware of technology and improving access, for example in rural areas and the inner city.

- Foster partnerships between business and education; make education more market-driven.

- Develop new ways to make government more accessible to citizens through technology. In Texas, for example, citizens can reach any state government office by dialing a single information number.
Minnesota has fallen from the vanguard of high technology and is playing catch up, at least that was the consensus of some 100 academic, business, government, and civic leaders who came together at this Minnesota Public Radio summit on high technology. One participant Mike O’Conner, founder of gofast.net, said we have already missed the.com train. It has moved out of the station without Minnesota aboard.

Even the most optimistic pronouncements about Minnesota’s place in the high tech world were framed in discussions of whether the glass is half full or half empty. Not sterling endorsements of the state’s high tech future. In the half full camp were researchers Ross DeVol of the Milken Institute and Randolph Court of the Progressive Policy Institute, who agreed that Minnesota with its well educated workforce, computer industry history, and major research university had the foundation with which to build a high tech future.

However, Twin Cities analyst Jay Hare of PricewaterhouseCoopers rang a dire warning saying the trend here is for venture capital investments to be faltering compared with the rest of the nation, and without money there can be no start-ups. Nationally, from 1995 to 1998, venture capital investments grew 129 percent, from $6.2 billion to $14.2 billion. In Minnesota, venture capital investments grew just 28 percent. Minnesota’s overall share of venture capital money was just under 3 percent in 1995. In 1998, it was 1.3 percent. “Right now, from my perspective, unfortunately, we’re slipping,” Hare said.

Ann Winblad, the summit’s keynote speaker, was more optimistic. She says just one man or woman with a powerhouse of an idea and the entrepreneurial spirit can put Minnesota right back on the high tech start-up map. As a founding member of Hummer Winblad Venture Partners, which controls some half billion dollars in assets, and as a woman who made her first million right here in Minnesota, she knows of what she speaks.

She used Seattle as an example of what could happen here. Even with Microsoft in its boom years, the place was a land of failed entrepreneurial start-ups. The atmosphere, the naysayers claimed, was simply not conducive to high tech start-ups. Then one day in 1994, Jeff Bezos loaded up his car and headed for Seattle. Just a few years later amazon.com was a national household name, and Seattle was suddenly in the vanguard of high technological start-ups. Winblad said other entrepreneurs headed in that direction, and it soon joined the high tech hot spots including Silicon Valley, Austin, Texas, and Boston.
The result of these successes is mixed. Austin grew from 200,000 to 1,000,000 people, forever changing the city’s character. Even San Francisco’s old guard sees that city going from laid back to hard driving with rents and other costs hitting astronomical levels. However, not having a high tech future might be far worse than adapting to a high flying, high tech world. Jay Hare says the economy in Minnesota is cooking now, but he says, “We can’t rest on our laurels just with the large companies.” What would happen, he asked, to Minnesota, if companies like Medtronic and St. Jude Medical, Inc. were acquired by other corporations. We need, he says, the diversity that start-ups bring to our economy.

Winblad’s knight or lady in shining armor could come and provide that economic diversity in Minnesota overnight. And using the word “overnight” is not an exaggeration. Winblad, who has funded dozens of start-ups, says that if an entrepreneur doesn’t have a company that grows from zero employees to 200 in six months, he or she should move along to a new endeavor. Which emphasizes, at least on the .com side, that the high tech revolution is moving along at lightning speed.

To help Minnesota catch up, here are some suggestions from the summit participants. The University of Minnesota must take the initiative to form more strategic partnership as, for example, the University of Texas has. It was the engine pushing Austin. Second, the state government should be asking itself what can it do creatively and financially to support a high tech revolution. At the summit, State Senator Steve Kelley suggested the state do for high technology what it does for advancing agriculture. The state also must help or encourage the building of a high speed communications infrastructure serving both urban and rural Minnesota. And there must be better networking. MPR’s Minnesota in the .Com Age summit was well attended by so many business, community, and academic leaders in large part because no one else was proactively building the human and institutional connections necessary to spawn a high tech culture in Minnesota.

Minnesotans must ask: What do we want the state’s high tech future to be like and which individuals and institutions will move us toward that vision? Unfortunately, we can’t dawdle in finding the answers, because, as O’Conner and Winblad warned, this high tech era waits for no individual, institution, or state, no matter how illustrious its past may have been.

Leonard Witt is executive director of the Minnesota Public Radio Civic Journalism Initiative, which sponsored the summit Minnesota in the .Com Age. To learn more about the summit and hear its speakers go to www.mpr.org.
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Nick Debronsky
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Paul Engbretson
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Erwen Kelen
President, Kelen Ventures

Steve Kelley
Senator, Minnesota Senate

KEY COMMENTS: NETWORKING THE YOUTH

T.J. Culbertson, founder of startup-
zoocom: “I think there are young
people out there. I think it’s difficult
for them to get together in groups
and discuss new ideas, get together
with investor groups. I think there’s a
lack of coordination amongst angel
investors — places where companies
can go to get maybe 300 to 500
thousand dollars to develop a software
prototype, maybe get their web site up.
I think that there’s a lack of networking
in Minneapolis for people that are
under 35 to discuss issues.”
KEY COMMENTS: GAZELLE COMPANIES

Mac Lewis, Sherpa Partners: “I like the term ‘gazelle companies.’ Having some pretty good companies is okay. But having some gazelle companies would be terrific. So let’s get some Microsofts and Amazons dot-coms here as well. Let’s think big.”

Participants

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Jacques Koppel
President, Minnesota Technology

Pradeep Kotamraju
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Art Kydd
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The MPR Civic Journalism Initiative's mission is to gather citizens to talk about public policy issues and amplify what they say via radio, the Internet, and print. With MPR's 29 network stations, it can get into the smallest towns in Minnesota, and with its connections to National Public Radio, Public Radio International, and the British and Canadian broadcasting companies, it can also get to the capitals of the world.

For more information go to www.mpr.org and click on "Civic Journalism"