

Keynote: Seattle Business Magazine Tech Impact Awards

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Introduction

- I'm honored to have been invited by Leslie Helm to offer a few remarks this evening
- It's important that we get together once a year to celebrate what Seattle's tech community has accomplished
- So, at the outset, let's all thank *Seattle Business* magazine for picking up the mantle and hosting these Tech Impact Awards

Context

- I don't want to tell you exactly how long ago I moved to Seattle from the east coast – it would make me feel even older than I look
- But “technology” at the time was Boeing and the John Fluke Manufacturing Corporation. Microsoft was a dozen people in Albuquerque
- Times sure have changed!
 - Seattle is the cradle of PC software, through Microsoft
 - We invented desktop publishing, at Aldus
 - We pioneered streaming media, at RealNetworks
 - We drove the revolution in electronic retailing across the broadest imaginable range of sectors – companies like Amazon, Expedia, Getty Images, Drugstore, Zillow and Redfin
- Today ...
 - We also have one of the nation's most vibrant game industries
 - And a hugely successful mobile app sector
 - We have a cluster of successful infrastructure companies, like F5 and EMC-Isilon
- And because of our incredible talent pool, and our incredible environment, and our incredible collaborative culture ...
 - California companies like Google, Facebook, Twitter, eBay, Zynga, Salesforce, and LinkedIn – and companies from elsewhere like Chicago's Groupon – have opened engineering offices here
 - And California startups like Tableau are choosing to locate here

Looking forward

- Looking to the future, I think we're facing an incredibly exciting decade
 - We own the cloud – with major companies like Amazon, Microsoft, and a good slice of Google, and a huge number of newer companies like Opscode and Skytap
 - We have the potential to own “big data” – analytics – which is the next frontier
 - Startups are back – the entire nation had a pretty grim few years in that arena, but it didn't mean that people had stopped having ideas, it just meant that they weren't getting funded, so there's a backlog

Big Data

- Let me say a few words about “big data” and analytics – the area where I’m spending my time these days
- You see the impact in your daily lives:
 - In recommendation systems
 - In credit card fraud detection
 - In speech recognition systems, such as Siri
 - In secret government surveillance of American citizens (!)
- From the computer science perspective, dramatic improvements in technology and algorithms are enabling us to make everything “smart”:
 - Smart homes – for example, the power, water, and environmental sensor systems pioneered by our startups Zensi and SNUPI
 - Smart cars – not just self-driving cars, but intelligent transportation systems enabled by companies like INRIX
 - Smart health – why is your body not instrumented as well as your car?
 - Smart robots – robots that operate in unstructured environments rather than bolted to floor
 - Smart crowds – Foldit
 - Smart interaction – like Microsoft’s amazing Kinect
 - Smart scientific discovery – where I spend my time – today, every field is transitioning from data-poor to data-rich
- It’s an incredibly exciting time, and there’s huge opportunity – technical opportunity, and entrepreneurial opportunity

We cannot be complacent!

- Let me conclude with a few words about what we need to do to ensure that our future as bright as it truly can be
- Leslie had suggested I talk about workforce, which I’ll do, but I want to start a bit more broadly
- I just returned from a retreat for tech leaders and policymakers held every other year by the Technology Alliance
- The TA was founded 15 years ago by Bill Gates Sr. Bill understood:
 - Our region had no real strategy for the 21st century
 - Our strategy is “Bill Boeing moved here, Bill Gates was born here, it’s a nice place to live”
 - Just about every public policy that supports a thriving 21st century economy is broken!
 - As a city and region and state, we need to think about what we need to do in order to continue to excel
- What came out of the past few days – not surprisingly – is that workforce is the #1 problem that every tech company is facing
 - Increasingly, it’s going to cause companies to locate elsewhere

- There are two ways to address this:
 - Start blowing our own horn – make Seattle the most attractive place in the country for smart people to locate
 - Improve our education system, so that our own kids are prepared to participate in our tech industry
- We need to do both of these things, but I'm going to focus on the latter
- While we rank among the top few states in the employment of engineers and computer scientists, we are solidly in the bottom half of the states in the production of those people – in graduating them from our colleges and universities:
 - Washington ranks 45th among the 50 states in production of engineering degrees relative to engineering occupations
 - We rank 46th in science and engineering graduate program participation relative to our population
 - We rank 35th in the awarding of bachelors degrees per capita
 - And most of the 50 states are not states we compete with
 - Our competition isn't Idaho and Montana and Alaska
 - It's California and Massachusetts and New York
 - We rank #1 among the states, per capita, in the importation of bachelors-educated individuals
 - The truth is that we have a higher education system designed for the 1970s – for the manufacturing economy
- But the problems begin much earlier:
 - Of 100 students who enter 9th grade in Washington, only 77 graduate on time
 - And only 37 go on to enroll directly in a 2-year or 4-year college – regardless of where that school is located
 - In Massachusetts, 83 graduate on time, and 61 enroll directly in college – that's 61 in Massachusetts vs. 37 in Washington
 - In the 21st century, where an increasing number of jobs require at least *some* college education, you can think of this as a manufacturing process that has a 63% defect rate!
 - And for some reason we put up with it!
 - Looking even earlier in the pipeline, according to the National Assessment of Educational Progress, only 34% of our state's 4th graders are “proficient” in reading – the foundation for later learning
- Two more statistics, at the risk of drowning you in data:
 - Our state ranks 42nd among the 50 states in per-pupil expenditure for K-12 education
 - We rank 49th in the nation – next to last – in per-student funding for higher education: the sum of tuition and state support
 - No one would assert that money is the only necessary ingredient for success, or that there's a strict correlation between expenditures and results. But at the extreme (which is where our state is positioned), it's clear that you're starving the baby
- So we do have a really bright future ahead of us as a tech sector – but we can't let the brightness blind us to the fact that we also have some work to do if we're going to continue to grow, and if the kids who grow up here are going to be first-class participants
- Let's celebrate our accomplishments, and at the same time, let's commit to making the choices that will create the brightest possible future – for our region, and for our kids