

Creating Digital Opportunity

Digital industries in Vancouver and their competitiveness in global markets

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What is a digital industry?

- Virtually every product, process or service involves the use of digital technologies. But point of sale equipment, car computers etc. In the “Internet of Things” do not really imply that that product or service comes from a digital industry
- We choose to define a computer as a device that can be programmed, using discrete states (zeros and ones), to emulate another device – a Turing machine . One could include include quantum computing with more than zeros and ones...
- A digital industry is an industry that either builds such machines, or prepares the programs for such a machine

Digital industries are not the same as conventional industries

- For many digital industries, the output is IP, not a physical product.
- The major input is human capital; thus the policy issues for government surround the creation, attraction and retention of human capital
- Vancouver is a “sticky” labour market. How do we keep it sticky?
- The creation of new firms is what creates increased employment – any economy needs replacements to cover the losses resulting from business failures and still have enough new jobs to promote economic growth. How do we support new firms?

Software vs. Hardware

- Vancouver has very little manufacturing in the digital industries
- We can argue that the software component of digital industries is inherently “democratic”. Software firms have very little in the way of barriers to entry as opposed to manufacturing firms
- But there is another side: the labour force in software firms, by their very nature of being flexible, are usually hired on short-term contracts, often with little or no social benefits. It can be argued that this environment is “exploitative”

The non-manufacturing digital industries

- There are a number of Games/Animation/Visual effects/Software (GAVS) clusters in Canada beside Vancouver, such as Montreal and Toronto
- But what is in the “S” and what are the digital activities that, at least in Vancouver, we know very little about. What is the ecology of the digital cluster in Vancouver?
- In other cities there are other digital industries that are poorly mapped, such as the resource-related digital industries on the Prairies
- All GAV clusters appear to be intrinsically unstable / chaotic.
- Employment patterns are no longer hierarchical. Everyone is a contractor

A Possible Taxonomy for Software Industries

- Games
- Animation
- Visual Effects
- Device control software (e.g. drones)
- Business management software
- System control software (e.g. transportation systems)
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- Software that supports manufacturing

The dark matter of the digital universe in Vancouver

- How do we define these non-GAV industries? What fosters the creation of these industries?
- How can all levels of government in Vancouver support and enhance its unique competitive advantages: location, environment, quality of life, particularly in terms of its innovative links to the Pacific Rim?
- Are its digital industries competing only with other North American regions, or is Vancouver intrinsically part of the global economy?

The CPROST CDO plan

- Define the digital ecology of Vancouver
- A survey of experts (the GEM methodology)
- Interviewing a representative sample of firms, not-for-profits, educational institutions and government stakeholders
- Analysis:
 - is there a specific “Pacific advantage”?
 - what is the role of culture and diversity in this ecology?

Innovation and Entrepreneurship

- An innovator is by definition an entrepreneur, and entrepreneurship is a good indicator of innovation. The Global Entrepreneurship Monitor (GEM) consortium was set up in 1999 to collect data on entrepreneurship around the world and report it on a comparative basis
- The GEM National Experts Survey (NES) methodology permits us to interview a panel of experts, selected according to our criteria. In this case we propose to interview a sample of experts from the digital industry sector, but using the GEM questionnaire
- This will allow us to compare expert attitudes about a number of factors that directly affect the industry, and compare them against both a panel of BC experts drawn from across the economy and a panel of national experts, again drawn from across the national economy

Expert opinions, BC and Canada, 2013 (Liekert scale 1 – 5)

