DID THEY STAY OR DID THEY GO?
Digital talent and ICT anchor firm restructuring in Waterloo region

Creating Digital Opportunity Annual Meeting, Ottawa, Canada, April 30, 2015

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DID THEY STAY OR DID THEY GO?

1. Entrepreneurial eco-systems and labour markets
   • The case of Blackberry / Kitchener-Waterloo
2. What can we do differently? Using novel data sets
3. What did we find? Pilot study results
4. Where are we going? Next steps
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Blackberry Stock Prices, 1999-present

Source: Yahoo Finance. [Author’s calculations]
Inside the fall of BlackBerry: How the smartphone inventor failed to adapt

SEAN SILCOFF, JACQUIE MCNISH AND STEVE LADURANTAYE
The Globe and Mail
Published Friday, Sep. 27 2013, 7:03 AM EDT
Last updated Wednesday, Nov. 06 2013, 10:09 AM EST

Why BlackBerry has a fighting chance at a comeback

RAY SHARMA
Contributed to The Globe and Mail
Published Thursday, Mar. 05 2015, 2:46 PM EST
Last updated Friday, Mar. 06 2015, 7:05 AM EST

INNOVATE OR DIE
The end of BlackBerry as we know it

RYAN CALIGIURI
Special to The Globe and Mail
Published Tuesday, Feb. 03 2015, 5:00 AM EST
Last updated Wednesday, Feb. 04 2015, 10:45 AM EST

THE FIRM IN THE REGION, THE REGION IN THE FIRM
DEBATE THIS: INNOVATION IN EDUCATION
Innovation in Waterloo won’t die with BlackBerry
FERIDUN HAMDULLAHPUR
Contributed to The Globe and Mail
Published Tuesday, Oct. 08 2013, 7:00 AM EDT
Last updated Wednesday, Oct. 09 2013, 11:19 AM EDT

STARTUPS
Waterloo circuit-board makers raise $70,000 in 35 minutes on Kickstarter
JARED LINDZON
Special to The Globe and Mail
Published Tuesday, Feb. 10 2015, 1:03 PM EST
Last updated Tuesday, Feb. 10 2015, 1:24 PM EST

Kitchener’s Clearpath Robotics gets cash boost to meet high demand
SHANE DINGMAN
The Globe and Mail
Published Wednesday, Mar. 18 2015, 8:00 AM EDT
Last updated Wednesday, Mar. 18 2015, 3:19 PM EDT
“One of the great myths is that this sort of environment could be created by executive fiat. That’s impossible. This community has been creating role models – we’re talking about role models of enterprise and innovation, small businesses -- we’ve been doing it for over 100 years … It’s incorrect to suggest that somehow a Research in Motion created this environment. **Research in Motion is a reflection of this environment.**”

Larry Smith, University of Waterloo (CBC News, November 18, 2013)
• What is the nature of inter-firm, inter-industry/cluster, and geographic mobility for digital talent?

• What is the impact and influence of key events (e.g. global economic downturn, demise/restructuring of local anchor firm) on
  • the dynamics of the local labour market for digital talent?
  • new firm formation and entrepreneurship by digital talent?

• What are the geographic and industrial dimensions of practice-based networks and knowing communities amongst digital talent?
• Understanding regional economic change
  • Path dependence and regional evolution / resilience
  • Role of ‘regional culture’, institutions and organizational action in shaping trajectories
  • Exogenous shocks provide windows for change in regional economic trajectory (Martin and Sunley 2010)
  • Studying regions by studying firms (Markusen 1994)

• Cluster genesis and entrepreneurial spark
  • Government lab or anchor firm closures release talent into the local economy resulting in innovation, new firm formation, etc. (e.g. Feldman and Francis 2005)
  • Growing interest in ‘entrepreneurial eco-systems’ that create the conditions for new venture creation
• Labour market mobility and innovation
  • High levels of labour market mobility contribute to knowledge circulation and innovation

• Evidence from Silicon Valley’s ICT cluster
  • inter-cluster mobility: ‘Brain circulation’ (Saxenian 2006)
  • intra-cluster mobility: Localized knowledge spillovers embedded in regional labour markets (Angel 1991; Almeida & Kogut 1999)

• Modified/tempered by extent to which industries are related (Boschma et al. 2014)

• National context / economic system matters (Vinodrai 2013; Storz et al. 2014)
• Innovation, creativity and governance in Kitchener-Waterloo
  • Builds on Innovation Systems Research Network’s (ISRN) project on ICT clusters (Wolfe, Bramwell, Nelles) and city-regions (Bathelt, Nelles, Spigel, Vinodrai)
    • 150 interviews between 2007 and 2012
  • Importance of RIM/Blackberry as a conduit for global talent
  • Limited mobility of talent between firms
    • Stands in stark contrast to the Silicon Valley model
  • Role of university technology-transfer somewhat overstated (except in form of co-op education), but strong start-up support system / culture
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• Need for alternative datasets to cover areas missed by more traditional sources
  • Lack of longitudinal data, esp. at high geographic / sectoral resolution

• LinkedIn profiles contain information on location, employment history, job titles, educational attainment

• Incentive for individuals to keep data accurate and up to date, especially in occupations / industries with high labour mobility
• Feldman and Lowe (2015)
  • Use LinkedIn to capture founder educational and career history data
  • Part of a broader digital data effort to understand organizational/institutional influences on firms / regional economy

• Jiang et al. (2014) & Fracas et al. (2014)
  • Use LinkedIn to follow career trajectories and credit rating behaviour of analysts who worked at three major rating agencies (Moody’s, S&P, Fitch)

• Mandel (2014)
  • Use LinkedIn’s Economic Graph (under development) to calculate regional ‘connectedness’ and associations with regional growth patterns
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Total Sample
n = 401

Worked in Waterloo
116

- Working @ Large Tech Firm
  23
- Working in Other Industries
  13
- Founded Startup
  4
- Working @ Startup
  14

Still @ Blackberry
36

Left Waterloo
26

- Toronto
  17
- United States
  5
- Rest of Canada
  4

Never in Waterloo
285

PRELIMINARY / PILOT RESULTS
<table>
<thead>
<tr>
<th>Geography**</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterloo</td>
<td>90</td>
<td>77.6</td>
</tr>
<tr>
<td>Toronto</td>
<td>17</td>
<td>14.7</td>
</tr>
<tr>
<td>Rest of Canada</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>United States</td>
<td>5</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>116</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employer / Sector**</th>
<th>Count</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackberry</td>
<td>36</td>
<td>31.0</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>4</td>
<td>3.4</td>
</tr>
<tr>
<td>Work for a start-up</td>
<td>14</td>
<td>12.1</td>
</tr>
<tr>
<td>Tech industry</td>
<td>39</td>
<td>33.6</td>
</tr>
<tr>
<td>Other industries</td>
<td>23</td>
<td>19.8</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>116</td>
<td>100.0</td>
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** Preliminary results. Treat with caution.
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<table>
<thead>
<tr>
<th>Employer / Sector**</th>
<th>Local</th>
<th>Non-local</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackberry</td>
<td>36 (31.0%)</td>
<td>0 (0%)</td>
<td>36 (31.0%)</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>4 (3.4%)</td>
<td>0 (0%)</td>
<td>4 (3.4%)</td>
</tr>
<tr>
<td>Work for a start-up</td>
<td>14 (12.1%)</td>
<td>0 (0%)</td>
<td>14 (12.1%)</td>
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<tr>
<td>Tech industry</td>
<td>23 (19.8%)</td>
<td>16 (13.8%)</td>
<td>39 (33.6%)</td>
</tr>
<tr>
<td>Other industries</td>
<td>13 (11.2%)</td>
<td>10 (8.6%)</td>
<td>23 (19.8%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>90 (77.6%)</strong></td>
<td><strong>26 (22.4%)</strong></td>
<td><strong>116 (100%)</strong></td>
</tr>
</tbody>
</table>
• Former Blackberry/RIM workers appear to be staying in the region
  • Limited evidence of entrepreneurship and new firm formation
    • Lower TEA rate (3.4%) as compared to Ontario (8.5%) estimates from Global Entrepreneurship Monitor
    • Mostly (but by no means exclusively) remaining in the (local) tech sector

• Limited evidence of ‘brain drain’ to the United States or elsewhere
  • Embedded in Waterloo/Toronto region
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• Modify and enhance analysis
  • Use LinkedIn, D&B, Crunchbase APIs to enhance information
  • Differentiation by gender, ethnicity, type of talent (managerial, technical)
  • Integrate temporal data on career history / entrepreneurial activity
    • Demonstrate impact of / change in response to economic shocks and key firm decisions

• Extend research to other areas (i.e. broader regional tech sector, other regions/clusters) and investigate potential as measure for ‘entrepreneurial ecosystems’

• Engage with LinkedIn re: data access
• Thanks to:
  • Social Sciences and Humanities Research Council (SSHRC)
  • Faculty of Environment, University of Waterloo
  • Deborah Huntley, Munk School of Global Affairs, University of Toronto

• Contact us:
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• Cover photo source
  • http://fusion.net/story/45438/the-life-death-and-rebirth-of-blackberrys-hometown/