Creating Digital Opportunity
April 2016
Mapping Canada in Asia
What is the CDO data set?

- Based on CanAsia Map
- CDO subset of high tech firms
- Sorted by 3 Digit NAICS code
- 192 companies
  - 43 Large Firms (> or equal to 500 employees)
  - 149 SMEs (< 500 employees)
CDO firms in Asia: mostly SMEs!

- Employee head counts provided in aggregate
- Sample size still small (under 200 companies)
- 2/3 of firms employ 51-500 people in total
Large firms in manufacturing and SMEs in software

<table>
<thead>
<tr>
<th>Industry Category</th>
<th>SMEs</th>
<th>Large Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other (NAICS 200&amp;400s)</td>
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<tr>
<td>Services (NAICS 500s)</td>
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<tr>
<td>Manufacturing (NAICS 300s)</td>
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</tbody>
</table>
Manufacturing dominates among Large Firms

- By NAICS code
  - 541: Prof and Tech Services (this includes software)
    - 10 Companies
  - 334: Computer and Electronic Manufacturing
    - 10 Companies
Software dominates among SMEs

- By NAICs code
  - 541: Prof and Tech Services (this includes software)
    - 64 Companies
  - 334: Computer and Electronic Manufacturing
    - 33 Companies
  - 41 Companies fall into Other
    - 12 NAICs Categories represented by only 1 company
SMEs : Ontario leads in HQs

• 149 SMEs in CDO Dataset
  • Ontario
    • 70 Companies
  • British Columbia
    • 29 Companies
  • Quebec
    • 24 Companies
First stop in Asia: China/HK

Location of First Entry for Large CDO Firms
- China & HK: 41%
- India: 15%
- S. Korea: 28%
- Japan: 13%
- ASEAN: 3%

Location of First Entry for CDO SMEs
- China & HK: 48%
- India: 22%
- S. Korea: 20%
- Japan: 9%
- ASEAN: 1%
Average Year of Entry

• Even though China has far more firms, Japan was originally the favorite first destination for CDO firms.
Large and Small: After China/HK, then...

Date/Sequence of Entry: Large Firms

- **China/HK**
  - 22 Firms
  - First Entry Location
  - Second Entry Location (# of Firms)
    - China then Japan (5)
    - China then ASEAN (4)
    - China only (7)

- **ASEAN**
  - 15 Firms
  - First Entry Location
  - Second Entry Location (# of Firms)
    - ASEAN then Japan (4)
    - ASEAN then India (3)
    - ASEAN only (4)

- **Japan**
  - 8 Firms
  - First Entry Location
  - Second Entry Location (# of Firms)
    - Japan then ASEAN (4)
    - Japan then China/HK (2)
    - Japan only (0)

Date/Sequence of Entry: SMEs

- **China/HK**
  - 73 Firms
  - First Entry Location
  - Second Entry Location (# of Firms)
    - China then ASEAN (15)
    - China then Japan (6)
    - China/HK only (46)

- **ASEAN**
  - 34 Firms
  - First Entry Location
  - Second Entry Location (# of Firms)
    - ASEAN then India (8)
    - ASEAN then Japan (5)
    - ASEAN only (13)

- **Japan**
  - 30 Firms
  - First Entry Location
  - Second Entry Location (# of Firms)
    - Japan then China/HK (5)
    - Japan then South Korea (5)
    - Japan only (8)
Examining 129 CDO Firms:
with Operations in Asia plus EU and/or USA
First market entry
The story is different between large firms and SMEs

First Entry Location (Large Firms)
- Europe (EU): 36%
- United States: 56%
- Asia: 8%

First Entry Location (SMEs)
- United States: 34%
- Europe (EU): 29%
- Asia: 37%
Large Firms First Entry by Sector: Asia-US-EU

number of firms

- Other Services (500s)
- Other Manufacturing (300s)
- 517 - Telecommunications
- 335 - Electrical Equipment Manufacturing
- 333 - Machinery Manufacturing
- 334 - Computer & Electronic Manufacturing
- 541 - Professional & Technical Services

Asia | Europe | United States
SME First Entry Location by sector: Asia-US-EU

number of firms

- 333 - Machinery Manufacturing
- 335 - Electrical Equipment Manufacturing
- 517 - Telecommunications
- 511 - Publishing Industries
- 334 - Computer & Electronic Manufacturing
- 541 - Professional & Technical Services

Asia | Europe | United States
Large firms vs SMEs: noticeable differences in next markets

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<td>36 Firms</td>
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<tr>
<td>Asia</td>
<td>Europe</td>
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<tr>
<td>3 Firms</td>
<td>30 Firms</td>
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Industry Case Studies

Software vs High Tech Manufacturing Industries
<table>
<thead>
<tr>
<th>Large Companies</th>
<th>Small and Medium Enterprises (SMEs)</th>
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<tbody>
<tr>
<td>D2L</td>
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<td>Descartes</td>
<td>Aversan</td>
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<td>Corel</td>
<td>REDknee</td>
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<td>Mxi</td>
<td>ACCULOGIC</td>
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<tr>
<td>Accedian Networks</td>
<td>BLUECAT</td>
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</tbody>
</table>
CDO: Software Locations in Asia

NAICS 541 - Professional and Technical Services

- China/HK Offices
- India Offices
- S. Korea Offices
- Japan Offices
- ASEAN Offices

- Total # of Locations
- Average Year of Entry

- Large Total # of Locations
- SME Total # of Locations
- Large Avg Year of Entry
- SME Avg Year of Entry
NAICS 334 –
Computer & Electronic Manufacturing

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<td>smtc - manufacturing partner to innovators</td>
<td>MITEL - Production Technology Experts</td>
</tr>
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<td>creation TECHNOLOGIES</td>
<td>ROSS</td>
</tr>
<tr>
<td>Working together to build the future</td>
<td>Blackberry</td>
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<td></td>
<td>Celestica™</td>
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<td></td>
<td>Averna</td>
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<td>DragonWave</td>
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<td>Norsat International Inc.</td>
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CDO: High Tech Mfg Locations in Asia

NAICS 334 - Computer & Electronic Manufacturing

- China/HK Offices
- India Offices
- S. Korea Offices
- Japan Offices
- ASEAN Offices

Legend:
- Large
- SME
- Large Avg Year of Entry
- SME Avg Year of Entry
Next Steps

• GVC mapping to follow Canadian expertise in the digital economy: e.g. BC digital media cluster
• Expand dataset to incorporate US- and EU-based CDO firms
• Interviews with selected NAICS 334 and 541 firms: GVC participation, major clients, priority markets

Deanna Horton and Jonathan Tavone