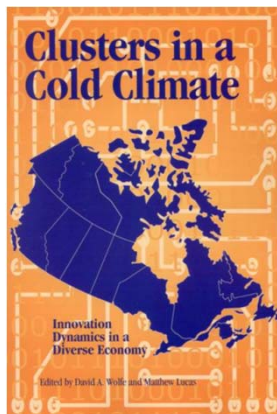




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# SASKATOON CAUSES AND EFFECTS OF ECONOMIC AGGLOMERATION

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# Saskatoon

- Great plains city
- CMA of 260K and market area of ~600K
- Some evidence of both clustering and creativity; world firsts:
  - Biotechnology: canola and GM canola, GM flax, 6-row barley, pulses, GM animal vaccines
  - Mining equipment for uranium and potash
  - Short-line farm machinery



## Saskatoon—a clustered, innovative, creative city?

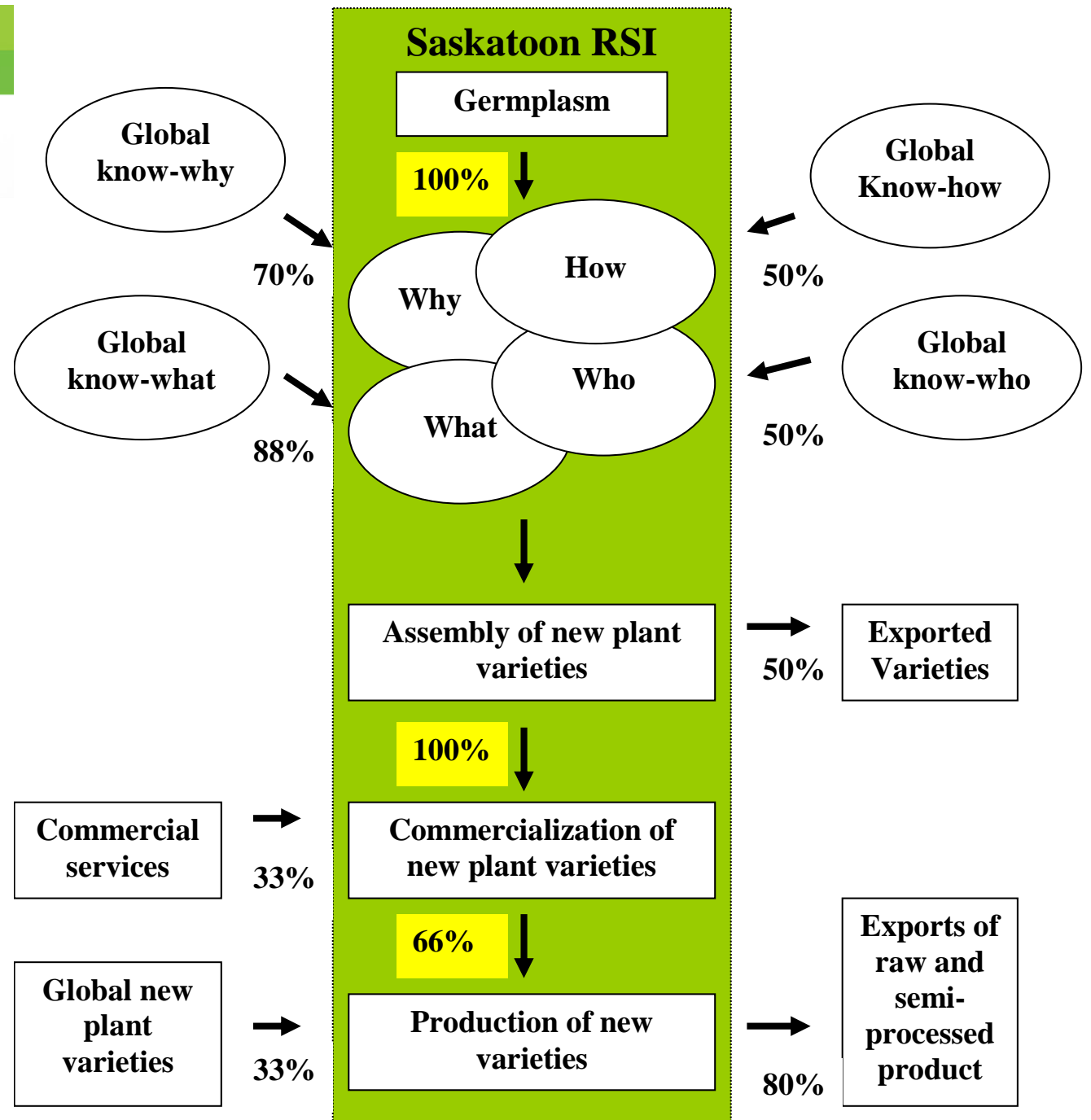
Key indicators	Period	Saskatoon	Canada
Population change	2001-6	3.5%	5.4%
	2006-8*	6.9%	5.8%
% foreign born	2006	7.7%	19.8%
% BA or higher	2006	19.4%	18.1%
PhDs per 1000	2006	13.1	6.9
Employment rate *	2007	70.9	63.5
% creative occupations	2006	33.9%	33.2%
% S&T occupations	2006	6.0%	6.6%
Bohemians/1000 in LF	2006	11.7	14.2
Number clusters	2006	3	255
% employment in clusters	2006	15.1%	22.1%

Sources: Spencer and Vinodrai (2006) and \*Statistics Canada

# Saskatoon's R&D entrepot

- Innovation process not linear—demand driven, knowledge-based, chain-link process
- Saskatoon operates like an entrepot:
  - imports inputs (e.g. basic knowledge and patentable technologies) mostly tax free
  - adds value locally (e.g. breed, commercialise, produce, market new varieties)
  - exports output (more than 80% of output goes to ROC and ROW; superior good)
- Example of global pipelines—local buzz

# Global pipelines & Local buzz



# Key questions

- Can governments make a difference?
- How do firms benefit?
- How do clusters attract firms and people?

# 1. Can governments make a difference?

**Ho: Public Sector adds value through:**

- Physical, transportation or communication infrastructure
- Financing key
- Specialized research institutions and universities
- Specialized training or education institutions
- Act as key suppliers or customers
- Government support policies or programs

## Findings (Procyshyn, 2004)

- Central public actors provide significant functions to the region/cluster.
- Little evidence that public sector agencies can proactively identify innovative firms
- Also appears difficult for central actors to attract innovative firms.
  - Only 3 (out of 8) organizations
  - with three (out of 40 possible) functions
  - are significantly connected to innovative firms.



## 2. How do firms benefit?

- Ho: Firms generate value by exploiting cluster features
- Findings: Karwandy (2008)
  - Weakly significant effects: unique local assets and capabilities; local presence of key competitors; and extent of knowledge exchanges
  - Rejected effects: local presence of key customers, consultants and suppliers; specialized labour force or service providers; membership in networks and associations
- Implications: place and processes offer some effect

# 3: How do clusters attract firms & people?

## Ho:

- Porter (1998) argues clusters attract competitive firms, increasing industrial base
- Florida (2002) argues clusters inextricably connected with HQP, which provide basis for local innovation

**Data:** industry survey and talent survey

# Findings: Why do firms locate?

Phillips and Khachatourians, 2001	N = 28	%
Proximity to competitors/ partners	14	50%
- <i>collaborators</i>	11	39%
- <i>competitors</i>	8	29%
Access to skilled labour	7	25%
Access to market	6	21%
Location of key scientists	5	18%
Role of government	5	18%
Access to labs, etc	4	14%

In global canola industry, competitors less of an attraction than collaborators.

# Talent: job v. community, 2007

Correlation between talent scores and:	Correlation coefficient	Statistical significance
<b>Salary</b>	<b>0.245</b>	<b>99</b>
<b>Cutting edge work in the field</b>	<b>0.234</b>	<b>95</b>
<b>Affordable living</b>	<b>0.219</b>	<b>95</b>
<b>Restaurants/nightlife</b>	<b>-0.335</b>	<b>99</b>
<b>Proximity to family</b>	<b>-0.347</b>	<b>99</b>
<b>Proximity to friends</b>	<b>-0.383</b>	<b>99</b>

Source: Phillips and Webb 2008.

# City attributes that support creativity

	# cites	Specific attributes cited
Industry & Institutions	26	<ul style="list-style-type: none"> <li>• Inclusiveness; large scientific community; competition and cooperation</li> <li>• Biotech industry</li> <li>• <b>Research infrastructure (university, CLSI, federal labs)</b></li> </ul>
Community Culture & Amenities	31	<ul style="list-style-type: none"> <li>• Size; amenities; lifestyle; pace; cost; sense of community</li> <li>• Cultural events; affordable and accessible activities</li> <li>• Rural/agrarian/small town virtues (friendly, accepting, volunteerism)</li> </ul>
None	20	Negative features: isolation; conservatism

Source: Phillips and Webb 2008.

**Correl=+0.3 with talent @ 99%**

# Employee mobility (Phillips & Webb)

- Does economy enable mobility between sectors?
  - 10 point scale (1=none; 10=high)
  - 58 responses with average of 6.5 (STDEV 1.6) that the economy facilitates mobility
- Does respondent use knowledge gained in other sectors in current work?
  - 10 point scale (0=never; 10=frequently)
  - 62 responded with average 6.6 average (STDEV 2.2)
- No significant correlation between the responses and the talent index or between talent index and entrepreneurship.

# Conclusions & policy implications

- Agglomerations are: (a) real; (b) interconnected with global R&D and markets (pipelines/buzz); and (c) not easy to exploit
- The public sector has limited capacity to select and or support “innovative” firms
- Firms selectively access benefits—special place and special process benefits
- Social inclusion part of attraction BUT evidence mixed
  - no statistically identifiable correlation between TALENT and tolerance, creative synergies or entrepreneurial engagement
  - TALENT + correlated to industrial/innovation infrastructure

# Key references

- Karwandy, J. 2008. Perspectives on industrial clustering and the product, resource and knowledge based views of management. Unpublished M.Sc. Thesis, U.Sask. [http://library.usask.ca/theses/available/etd-10302008-095930/unrestricted/Perspectives\\_on\\_Clustering\\_Karwandy\\_Thesis\\_Oct\\_2008.pdf](http://library.usask.ca/theses/available/etd-10302008-095930/unrestricted/Perspectives_on_Clustering_Karwandy_Thesis_Oct_2008.pdf)
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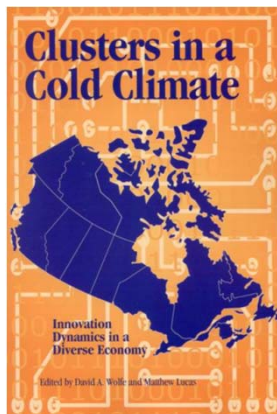




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