

Bringing traditional sense to the big data craze!

ILO Big Data Workshop | September 19th 2019

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Agenda

1. Introducing Emsi
2. The 'why' and 'how' of Emsi LMI
3. Closing thoughts



1. Introducing Emsi

WHO ARE EMSI AND WHY DO WE DO WHAT WE DO?

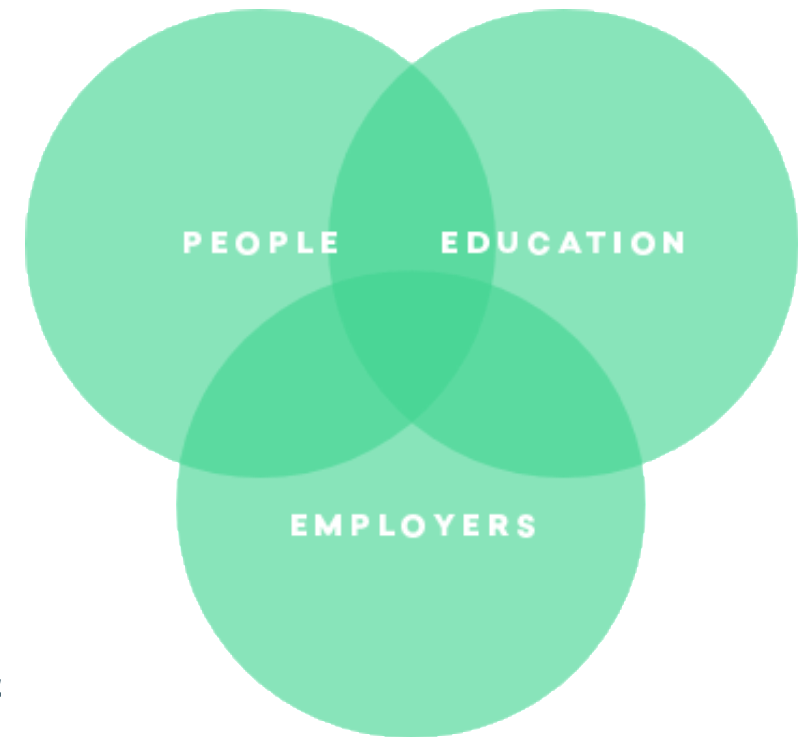


Our mission

Use labour market data to drive economic prosperity through informing and connecting three critical audiences:

- **People**, who are looking for good work
- **Employers**, who are looking for good people
- **Educators**, who are looking to build good programs and engage students

This vital connection takes place in the context of regional economies.



Who we serve

Education	Economic Development	Employment
Aligning tertiary and higher level curriculum and driving student and employer engagement	Driving economic growth through nurturing local economic ecosystems	Identifying talent pools and understanding localised labour dynamics
Software		
Data/API		
Consulting		



Our home



Our Mission

Our mission is to improve lives by forging clearer and more purposeful pathways between education and employment.

Our Affiliates

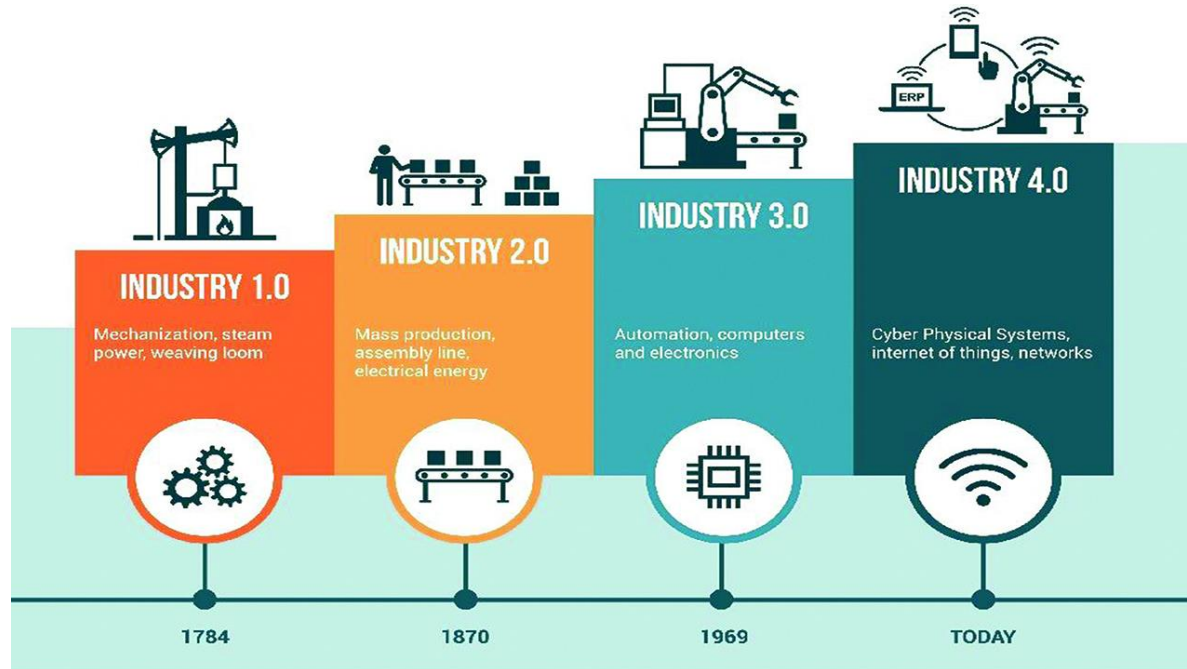


The 'why' and 'how' of Emsi LMI

WHAT CALLS US TO OUR MISSION AND HOW DO WE
DELIVER AGAINST IT?



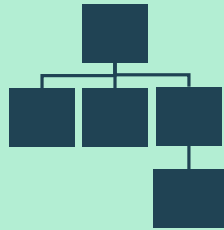
The global skills/talent challenge



A need for rapidly evolving clarity and understanding – data to illuminate choice



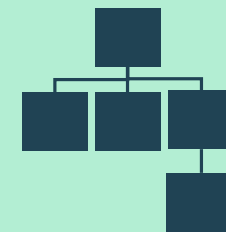
Emsi's data building blocks



Structured data

Purposefully collected and collated data which comes in neat, tidy structure. This is typically data from government statistical surveys and official returns.





Structured data

Strengths v limitations

Strengths

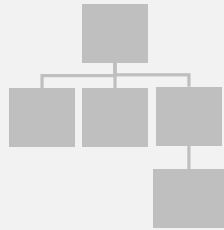
- ❖ Captures complete workforce
- ❖ Consistency across geography and time
- ❖ Standardised, interoperable structure

Limitations

- ❖ Time lag when published
- ❖ Infrequent updates
- ❖ Standard structure seldom changes and becomes outdated
- ❖ Holes created through suppressions
- ❖ Data availability/quality

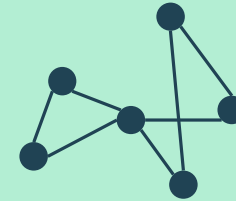


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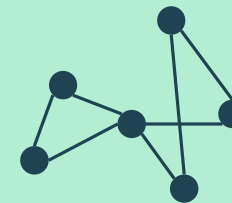


Big data

Extremely large scale data captured from some transactions rather than as a specific data collection exercise.

Harvesting and processing job postings, worker profiles etc from different web-based sources.





Big data (postings)

Strengths v limitations

Strengths

- ❖ More detail beneath standard coding system (e.g. job titles, skills, employers, locations, emergent labour market)
- ❖ More detailed search functionality and grouping
- ❖ More frequently updated
- ❖ Stronger global coverage

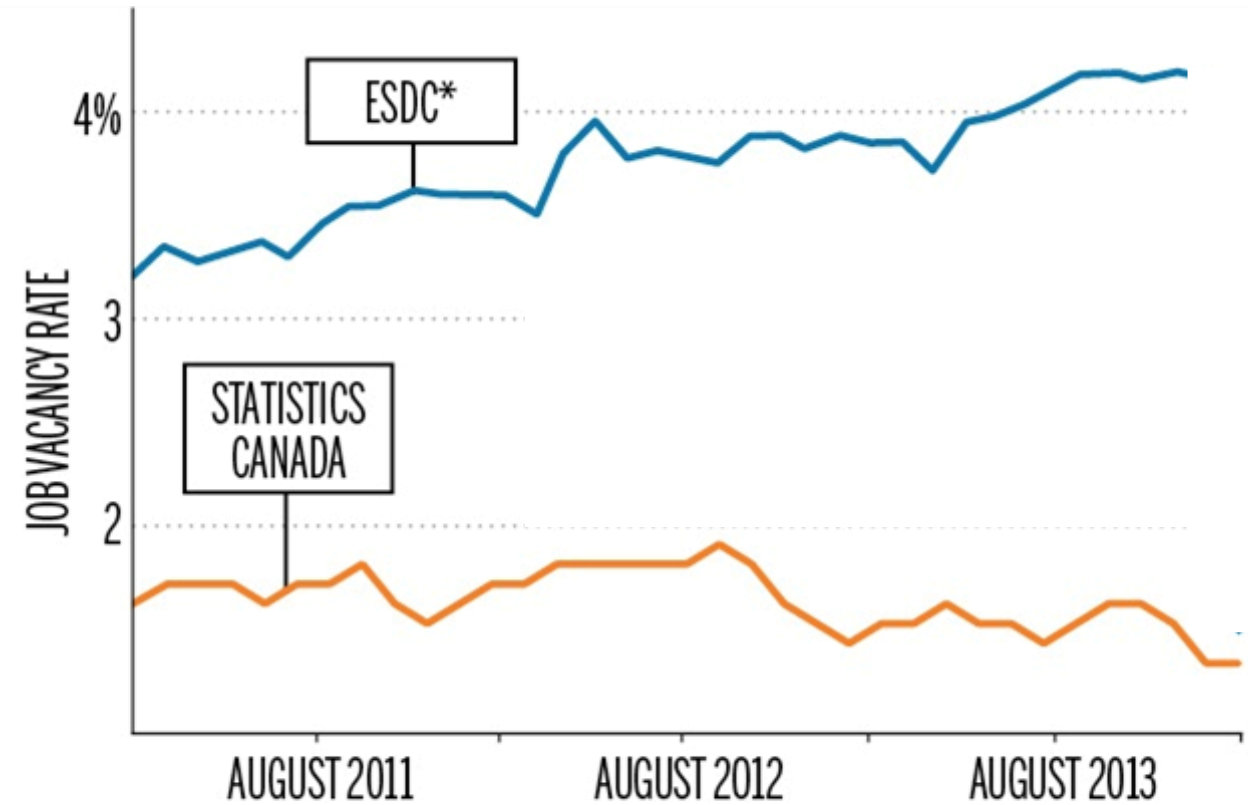
Limitations

- ❖ Not the whole labour market (churn and what is found)
- ❖ One posting does not equal one job (postings duplicated, and multiple hiring from single posting)
- ❖ Unstructured data
- ❖ Self reporting error/bias (localisation)



Be careful!

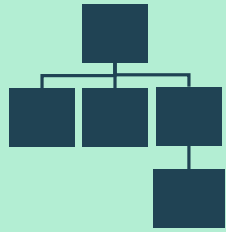
- Perceived skills gap encouraged Canadian Government to pass \$3bn jobs act – opened doors to greater immigration
- Resulted in significant increase in unemployment!!!!
- Further investigation identified some flawed postings sources
- When the source is removed...



*Based on Department of Finance Jobs Report, February 2014

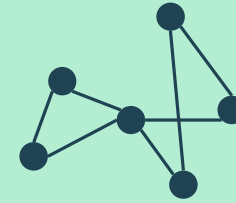


Strength through integration



Structured data

Top down planning data provides holistic overview of labour supply and demand



Big data

Bottom up data adding detailed context to drive tactical activity

Play to strengths

Limit weaknesses



Building layers of data

Structural labour market data categories



Emsi Skills



Emsi Skills

It's time for people, education, and work to speak the same language.

Emsi is pleased to introduce a skills library to serve as a common language between people looking for work, work looking for people, and educational programs looking to connect people to the labor market.



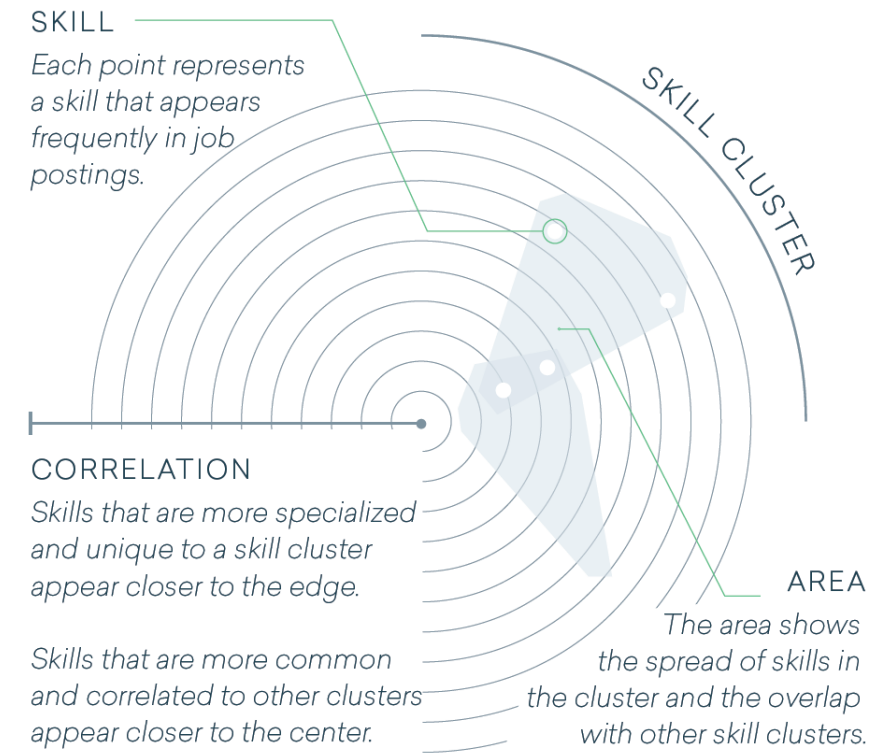
- Open skills library – 30,000 skills derived from millions of postings, resumes and profiles (plus ‘community’ input)
- API access - write job postings, resumes, and syllabi that are perfectly aligned to the labour market in real time.
- <https://skills.emsidata.com>



Emsi Skills Clusters

Visualising and connecting skills based on:

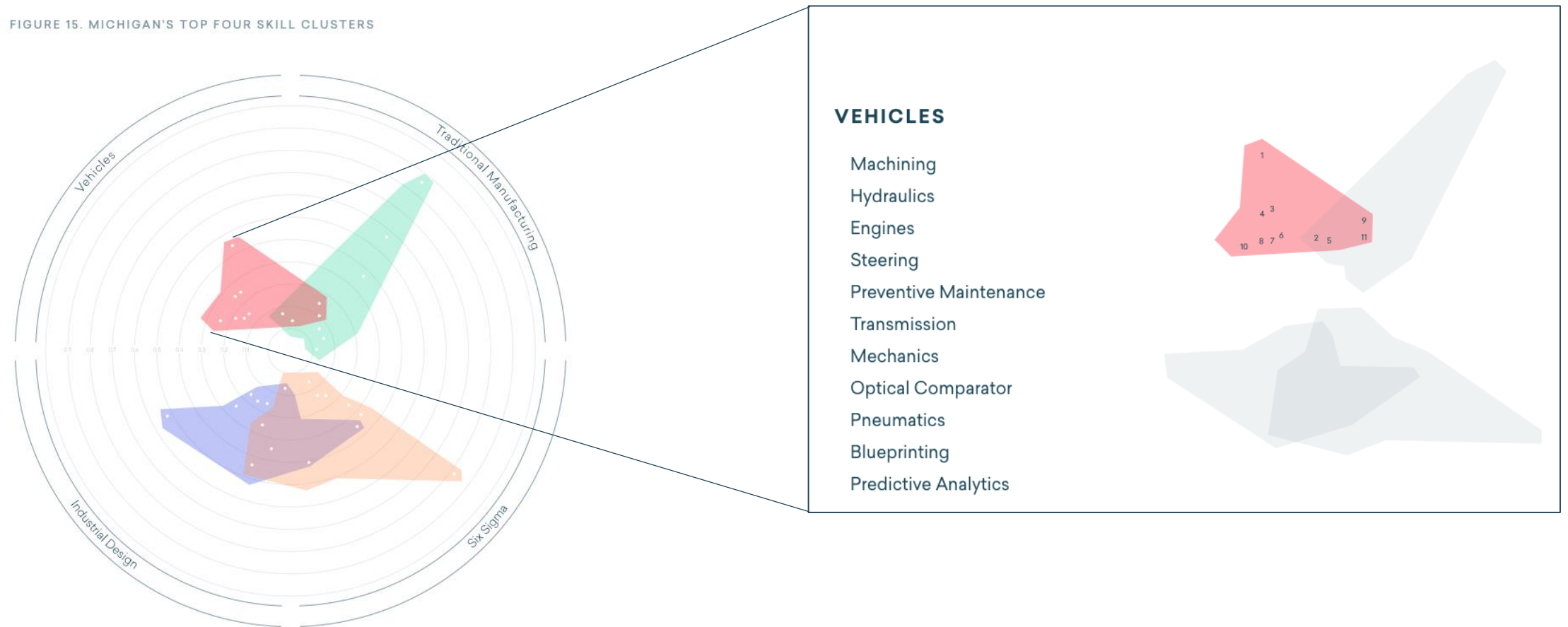
- **Prominence**
Frequency of skills in postings and profiles
- **Correlation**
Uniqueness of skills in postings and profiles
- **Overlap**
Identification of skills across multiple clusters



Manufacturing is not Dead

www.economicmodeling.com/manufacturing-is-not-dead/

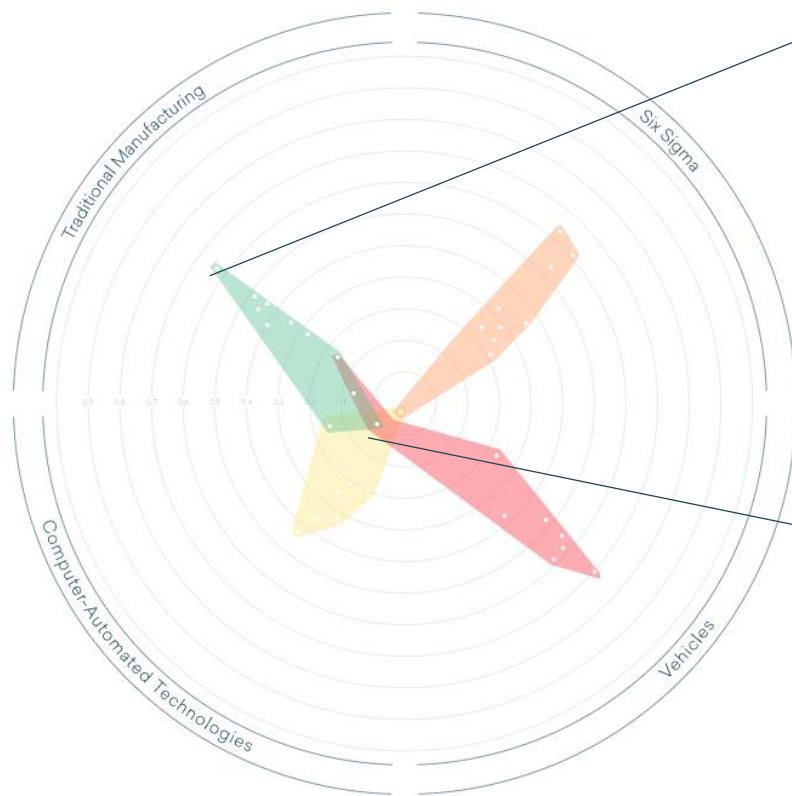
FIGURE 15. MICHIGAN'S TOP FOUR SKILL CLUSTERS



Manufacturing is not Dead

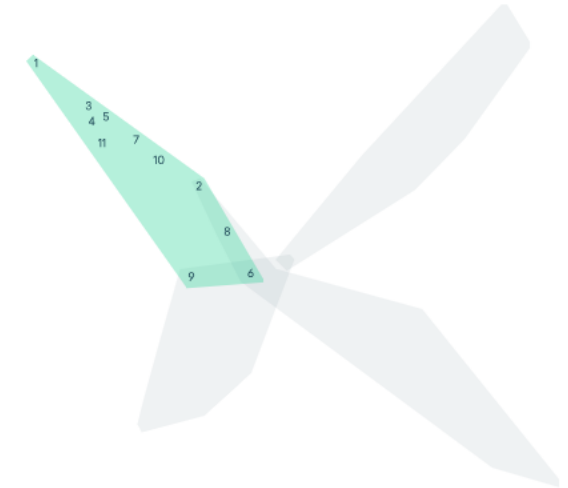
www.economicmodeling.com/manufacturing-is-not-dead/

FIGURE 27. TENNESSEE'S TOP FOUR SKILL CLUSTERS



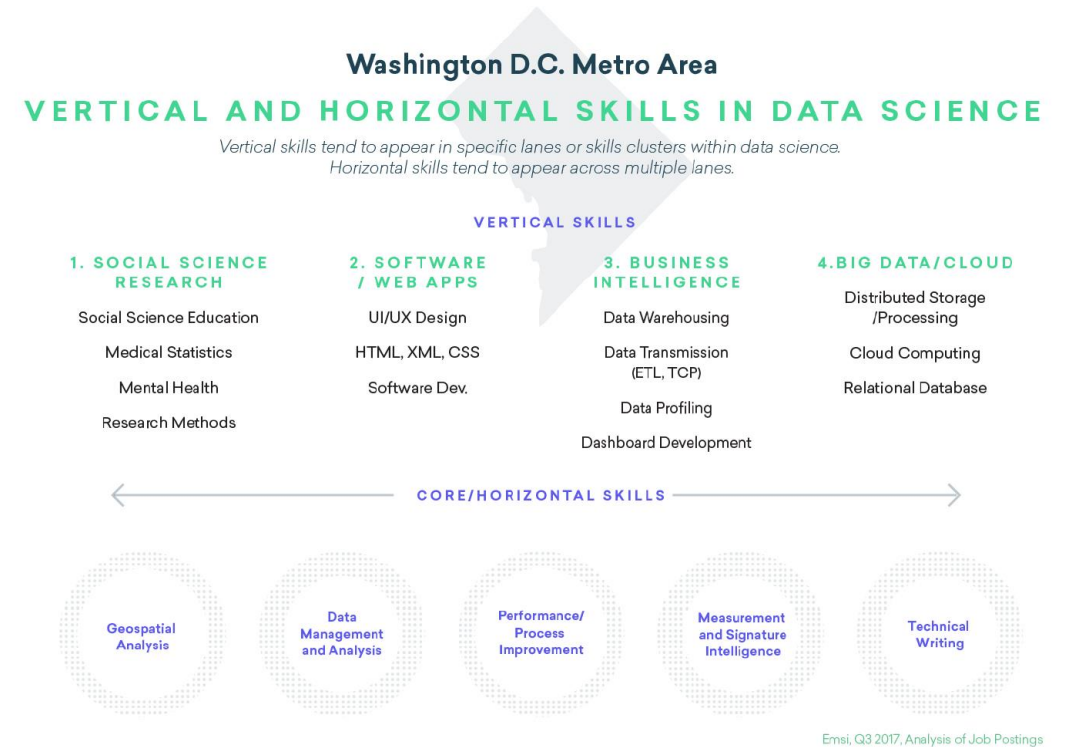
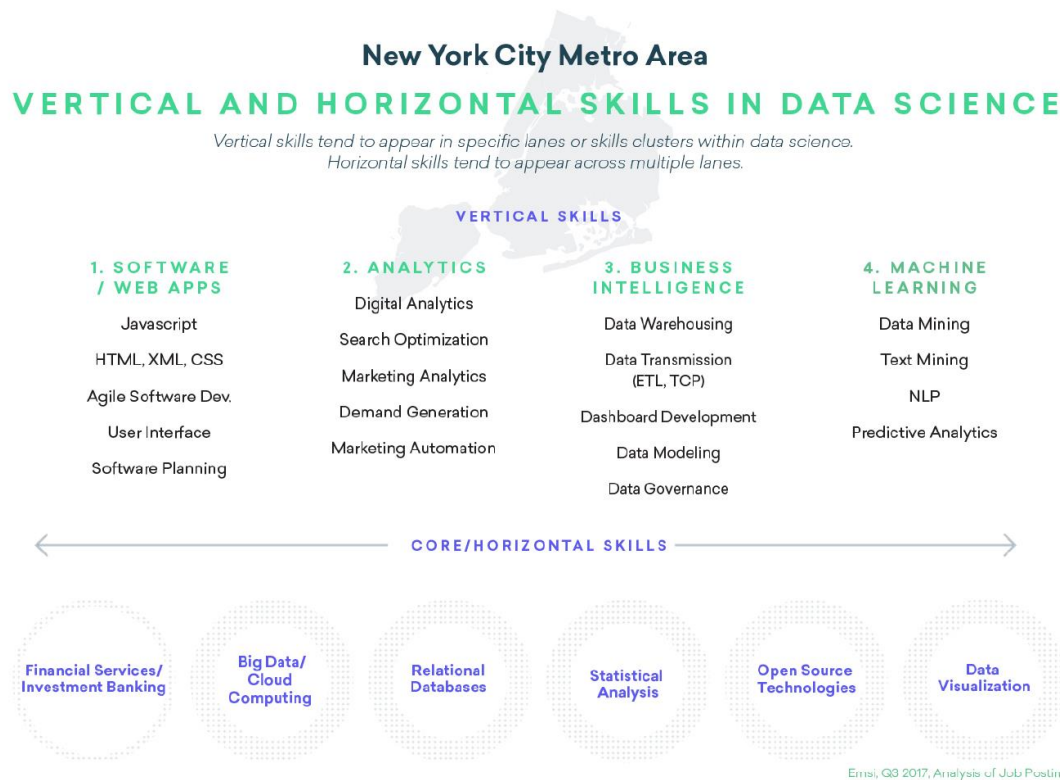
TRADITIONAL MANUFACTURING

Metal Inert Gas (MIG) Welding
Welding
Gas Metal Arc Welding
Brazing (Metal Work)
ARC Welding
Machining
Oxy-Fuel Welding and Cutting
Fabrication
Computer Numerical Control (CNC)
Blueprinting



Should We Offer a Data Science Program?

www.economicmodeling.com/data-science-research/



Going global!

- Scaling the principle beyond our *core* regions:
 - Combining available government and profiles data
 - Emsi Skills provides consistent global comparison
 - High-level view of global talent (23 key labour clusters)
Tech | Engineering | Sales/Marketing | Office Professional | Health | Science
- A platform for growth:
 - c. 35 countries (and growing)
 - Working on demand data through integration of job postings
 - Increasing labour categories
- For latest updates: www.economicmodeling.com/global/



3. Closing thoughts

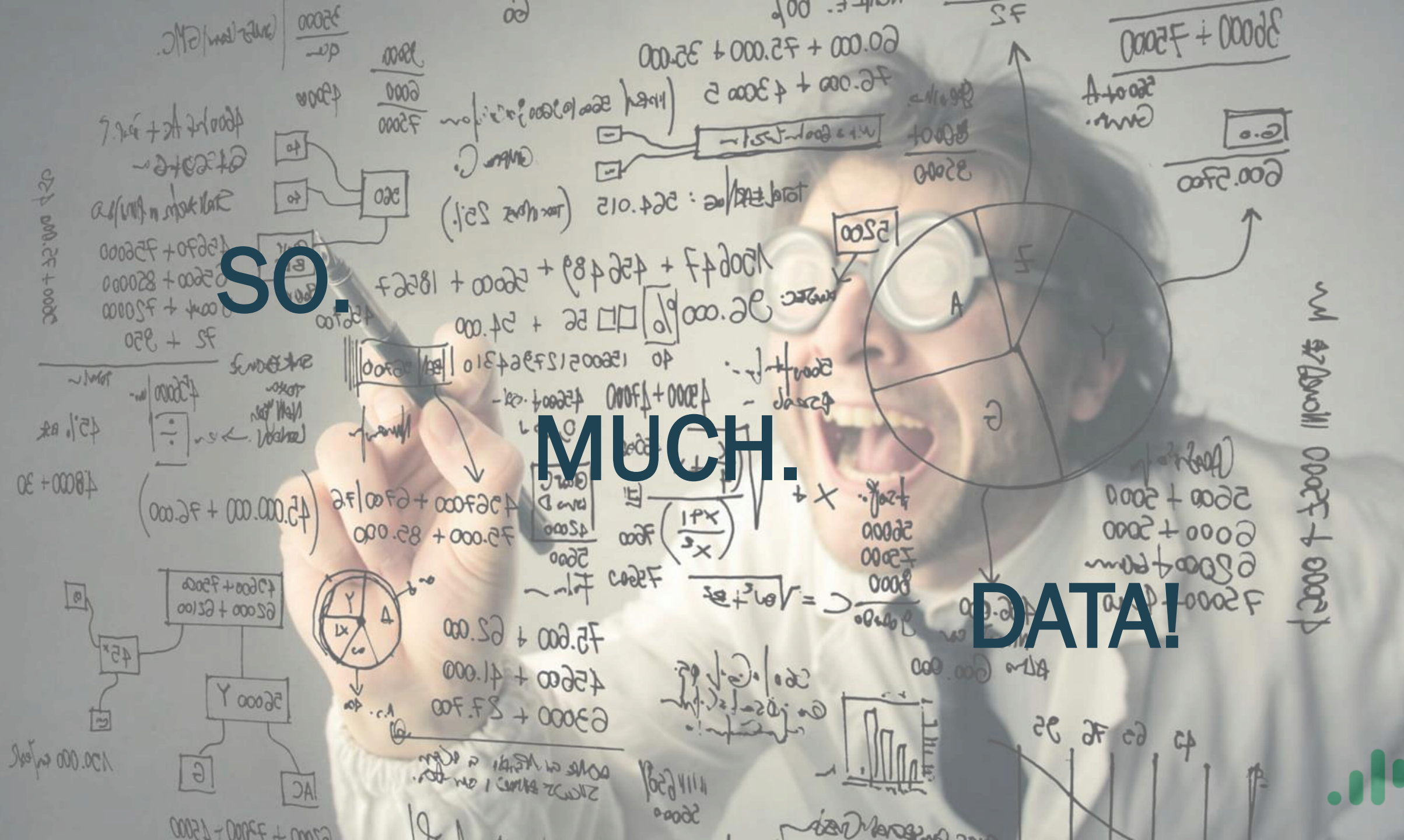
A FEW KEY OBSERVATIONS TO SHARE



so.

MUCH.

DATA!



It's what you do with it that counts!

1. Harnessing the power of big data by anchoring to structural data
 - Create focus and keep the bigger picture in mind
 - Recognise that big data is not the whole story – test and validate big data trends
2. Empowering decision-makers is key
 - Visualisation and integration of data is critical to adoption
 - Education of decision-makers in understanding and use of data is critical
3. Understanding demand is just one side of the story
 - Create a new language of skills achievement to reflect skills demand
 - Micro-credentials and digital badging to match skills and clusters



Thank you

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