Game changer: Changing mindsets and nurturing creativity

Singapore Economic Policy Forum 2017

October 20, 2017

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Committee on the Future Economy (CFE)

1. Deepen and diversify our international <u>connections</u>

2. Acquire and utilise deep <u>skills</u>

3. Strengthen <u>enterprise</u> capabilities to <u>innovate</u> and scale up

4. Build strong <u>digital</u> capabilities

5. <u>Develop</u> a vibrant and <u>connected</u> city of opportunity

6. Develop and implement <u>Industry</u> Transformation Maps (ITMs)

7. Partner each other to enable <u>innovation</u> and growth
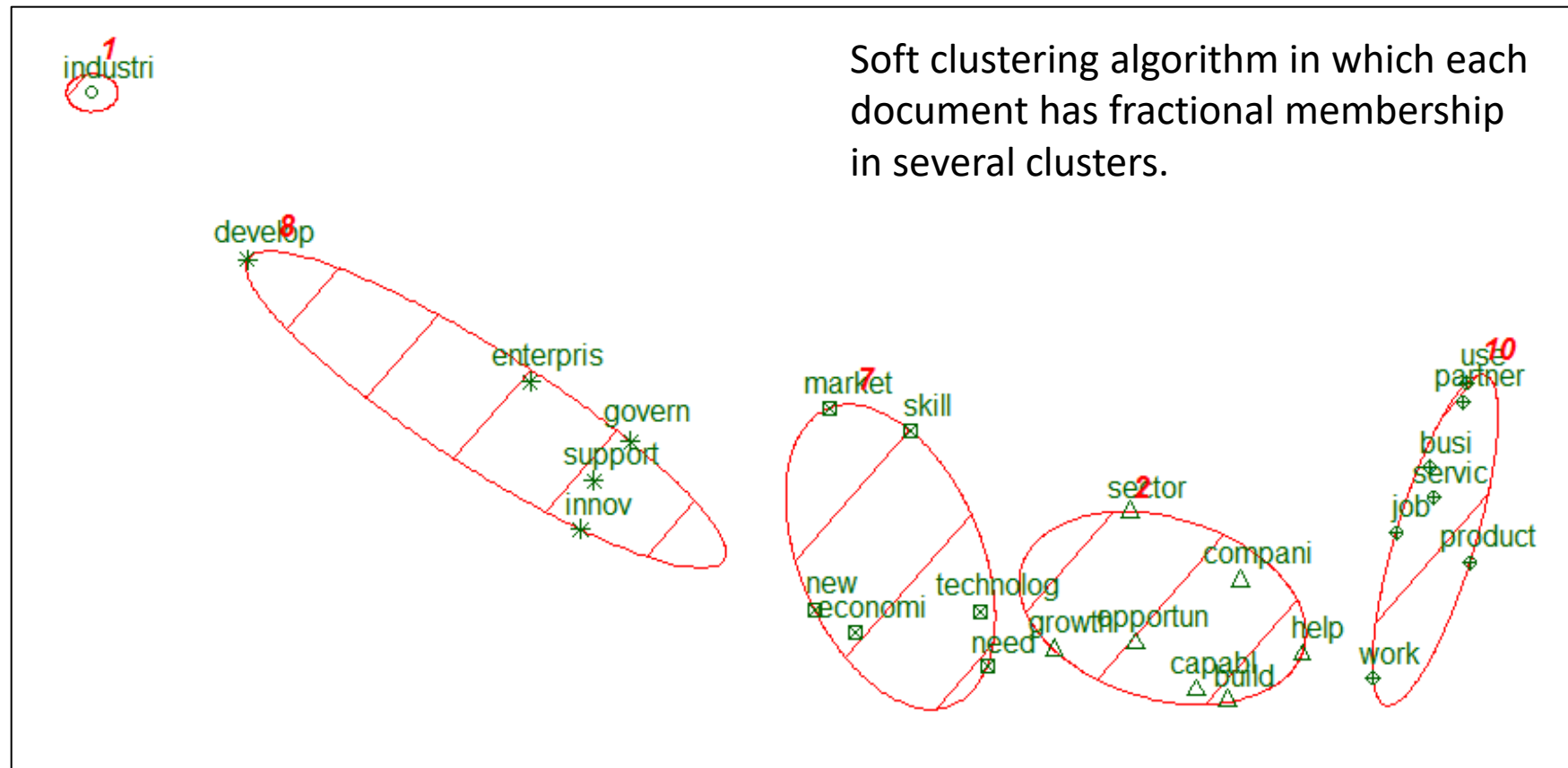
High Frequency Words in the CFE Report

1. develop
2. industry
3. enterprise
4. technological innovation
5. skill
6. government
7. support
8. new
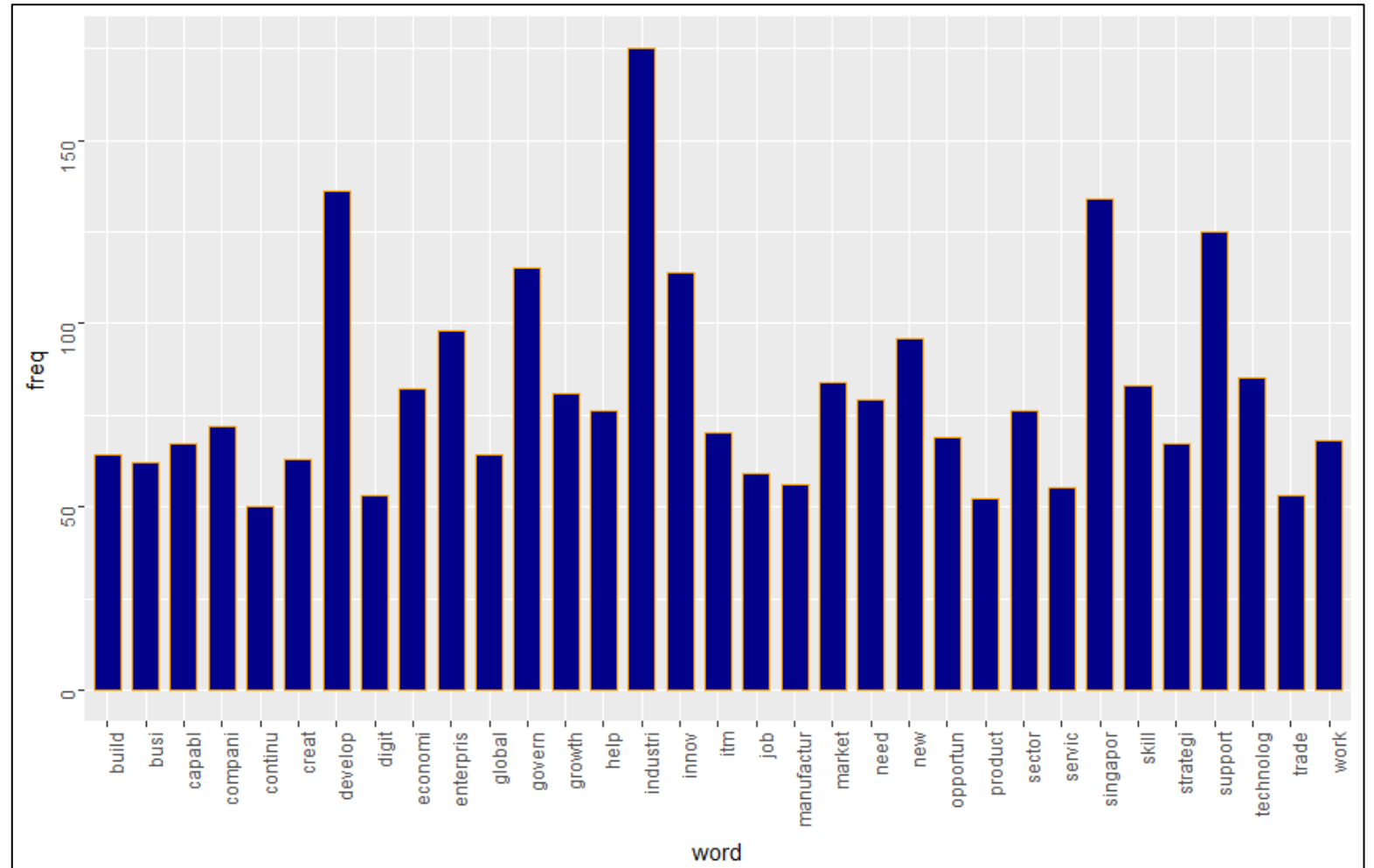
Latent topic modeling ("bag of words")
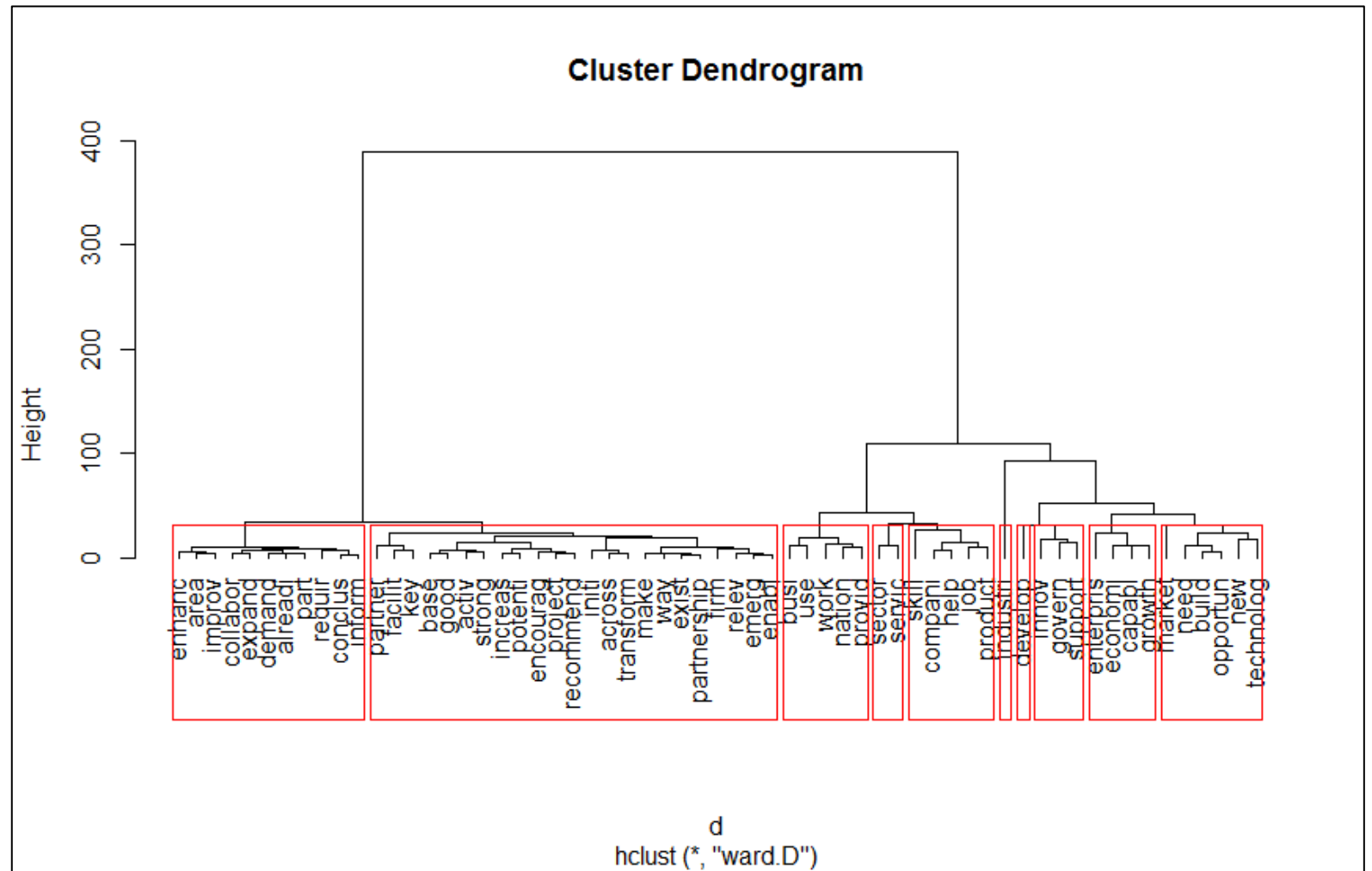
- need
- technology
- skill
- market
- new
- economy

Technology skills needed in the market in the new economy.

Soft clustering algorithm in which each document has fractional membership in several clusters.

Latent topic modeling *continued*

- skills
- help
- jobs
- companies
- productivity

Technology skills that help workers get jobs and companies increase productivity.

Root word term correlations

skill							
classif	enter	nexus	**adapt**	profession	worker	job	**meaning**
0.96	0.96	0.96	0.93	0.91	0.90	0.89	0.89

- *adapt* refers to "enable Singaporeans to adapt and thrive in a continually changing job market"
- *meaning* refers to "meaningful careers for Singaporeans"

A needed policy focus on how to develop <u>deep</u> skills

- Text analytics: *Technology skills that help workers get meaningful jobs and companies increase productivity in a continually changing economy.*

- CFE report: "Acquire and utilise <u>deep</u> skills"
  - Deep is defined in *Oxford Dictionary* as extending far down from the top or surface.

Some game-changing questions presented for discussion

1. **Should acquisition costs for skills shift toward companies?**

- Are employers willing to provide opportunities for skills development and training for their employees?

  - Various polls report that local businesses are least concerned about upgrading the skills of workers. Only 20% of SMEs are believe it is important (SBF, 2017)

  - *Mittelstands* in Germany have a survival rate of 90% in the last 25 years because they invest heavily in practical and theoretical training (Simon, 2017).

Some game-changing questions presented for discussion *continued*

1. **Should acquisition costs for skills shift toward companies?**

- Can employees on their own develop deep skills if jobs are changing throughout their lifetimes?

  - Time (47%), lack of employer support (30%), and lack of motivation (20%) as barriers to start in the journey of continuous learning (ISCA, 2016).

  - *[It] is the psychological conviction of job and income security that underlies...cheerful willingness on the part of the employees to accept continuing changes in technology and processes, and to regard increasing productivity as good for everybody.* (Drucker, 1971).

  - WSG In-House Training Scheme an excellent start

Some game-changing questions presented for discussion *continued*

2. **Should individual mindsets for skills development shift from employment- and promotion-focused to performance-focused?**

- Promoting a culture and new institution in which workers believe they must continuously train so that they can do their jobs better and better, no more and no less.

  - Workers must necessarily be made to feel empowered, taught the foundational skills and given the edifice which they can build upon to teach oneself to improve one's own productivity.

  - Reduces job mismatch (extreme specialisation) by allowing workers to develop a set of deep functional skills around their jobs (Malone, Laubacher, & Johns, 2011).

  - Lifetime training and development of deep skills key ingredients for producing innovation (e.g., 10,000 hours coding rule, grandmasters practice craft daily)

From vicious to virtuous circles…

- A *SkillsFuture* tripartitism harking back to the old ways of companies taking care of employees, employees doing their part, and Government playing a support role. Not the other way around.

- Nurturing creativity and entrepreneurialism.