



Sustainable
Competitiveness:
Make it Happen

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Emerging clusters in the urban economy: **Towards antifragile ecosystems**

Break-out session

Rotterdam, 10 April 2014



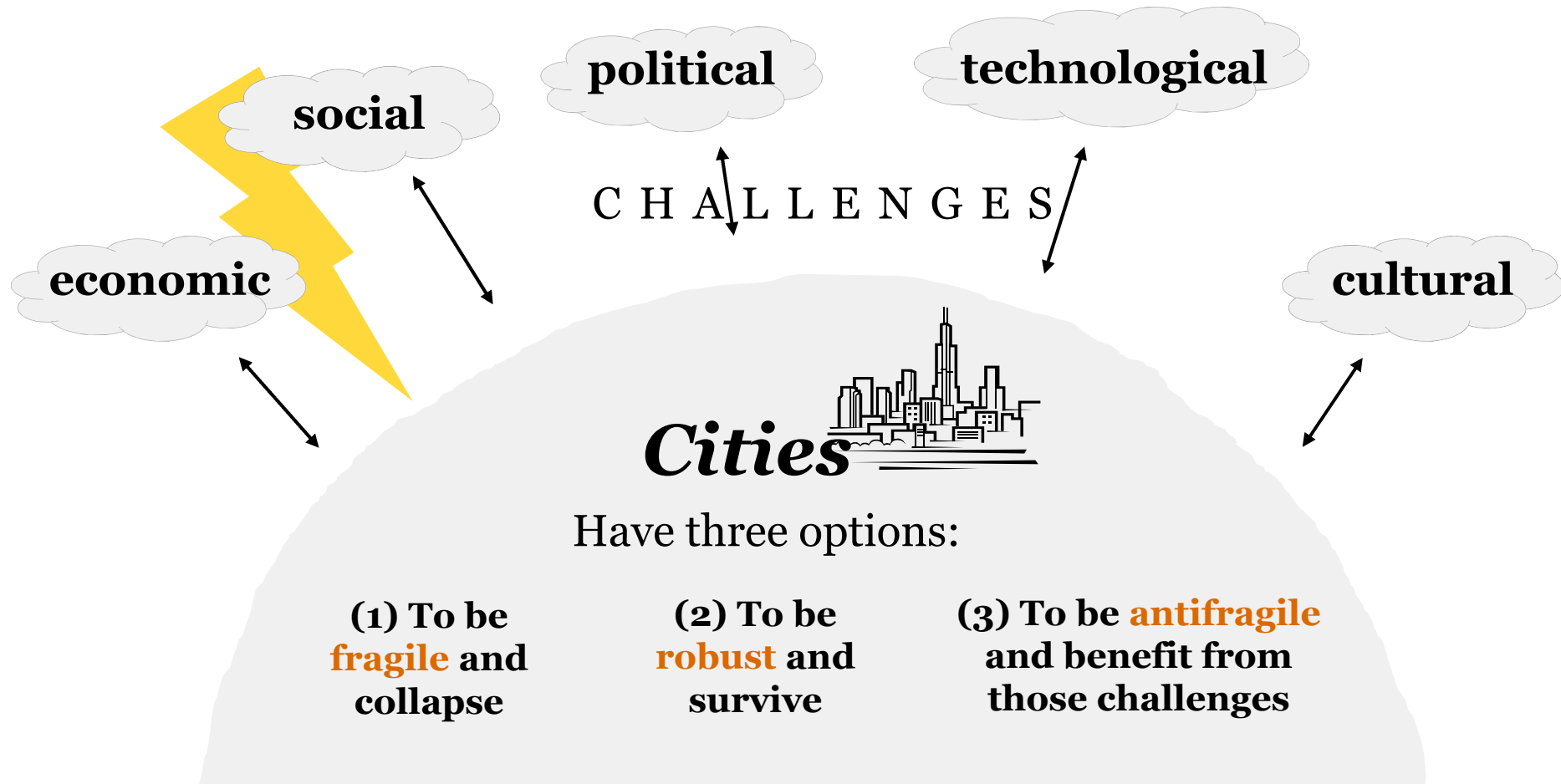
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Cities as ecosystems

- An **ecosystem** is a community of living organisms in conjunction with the nonliving components of their environment, interacting as a system. Tansley (1934); Molles (1999), p. 482; Chapin *et al.* (2002), p. 380; Schulze *et al.* (2005); p. 400; Gurevitch *et al.* (2006), p. 522; Smith & Smith 2012, p. G-5

On the picture: The Lilypad floating city by Belgian architect Vincent Callebaut

Constant need to deal with grand challenges



For a full overview see: <http://www.innovation-cities.com/innovation-cities-global-index-2012/7237>

Antifragility: Benefiting from grand challenges



For a full overview see: <http://www.innovation-cities.com/innovation-cities-global-index-2012/7237>

Antifragile ecosystems: the essence

- Antifragile ecosystems are ecosystems that are designed to ***take advantage of volatility or so called “black swan events”*** .
- Black swan events are ***large and dramatic shifts in our economic and social systems***.
- Black swan events are suggested to ***drive the most significant opportunities and results in business, and yet are virtually impossible to model or predict***.

Antifragile ecosystems: the essence

- Not only are antifragile ecosystems able to withstand such black swan events, but they **become even stronger and more successful** in response to economic and social calamities.
- Such systems put in place ***a favourable environment for***
 - **the development of new business models and radical innovations,**
 - **their testing under real-life conditions, and**
 - **their integration into existing value chains or the shaping of new ones.**
- Antifragile systems imply having ***structures and processes that can evolve and get smarter.***

Based on Taleb N.N. (2012) Antifragile: Things That Gain from Disorder

Question for discussion

***How to create and sustain
antifragile ecosystems in the
cities of the future?***

Elements of antifragile ecosystems

ALERTNESS

The ability of a system to **constantly monitor internal and external** (economic, social, cultural, political, technological etc.) **developments**; awareness of the latest trends and the ability to act on them rapidly

AUTONOMY OF COMPONENTS

The ability of a system to **accept the failure of specific components without the collapse of the whole system** (i.e., less successful businesses die, while successful businesses keep thriving; both developments make the system even stronger); the system is antifragile while smaller units are fragile

FLEXIBILITY

The ability of a system to **respond to potential internal or external changes** affecting its value creation, **in a timely and cost-effective manner**; the ease with which the system can respond to uncertainty in a manner to sustain or increase its value creation



ANTIFRAGILE ECOSYSTEMS

DISRUPTIVE BUSINESS DEVELOPMENT

The ability of a system to **encourage practitioners to disrupt their own areas of specialisation/expertise** (in essence these new disruptive areas compete with the 'old' ones offered by the system practitioners) thereby rapidly acting on the trends and setting the trends themselves

CONTINUOUS EXPERIMENTATION

The ability of a system to offer an environment in which **practitioners are able to run experiments to learn as rapidly as possible**; the system participants are encouraged to try out various strategies, approaches, products and services, business models etc. without a fear of failure

SYSTEMIC THINKING

The ability of a system to **unite its participants under a common 'umbrella'**; everybody in the system knows the goals of the system and makes sure their work is directly contributing towards these goals

Example



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Singapore: Turning vulnerability into opportunity

Session: Emerging clusters in the urban economy

Rotterdam, 10 April 2014

Sarah Lidé
Government & Public
Services
PwC



Creative exercise

Working out the key features of antifragile ecosystems
(in 6 teams)

Alertness

1 The ability of a system to **constantly monitor internal and external** (economic, social, cultural, political, technological etc.) **developments**; awareness of the latest trends and the ability to act on them rapidly

Flexibility

2

The ability of a system **to respond to potential internal or external changes** affecting its value creation, **in a timely and cost-effective manner**; the ease with which the system can respond to uncertainty in a manner to sustain or increase its value creation

Continuous experimentation

3 The ability of a system to offer an environment in which **practitioners are able to run experiments to learn as rapidly as possible;** the system participants are encouraged to try out various strategies, approaches, products and services, business models etc. without a fear of failure

Systemic thinking

4

The ability of a system to **unite its participants under a common ‘umbrella’**; everybody in the system knows the goals of the system and makes sure their work is directly contributing towards these goals

Autonomy of components

5 The ability of a system **to accept the failure of specific components without the collapse of the whole system** (i.e., less successful businesses die, while successful businesses keep thriving; both developments make the system even stronger); the system is antifragile while smaller units are fragile

Disruptive business development

6 The ability of a system to **encourage practitioners to disrupt their own areas of specialisation/expertise** (in essence these new disruptive areas compete with the ‘old’ ones offered by the system practitioners) thereby rapidly acting on the trends and setting the trends themselves

Role of policy makers

- Policy makers should focus on ***promoting cross-sectoral cluster collaboration and incubation using appropriate business support instruments to facilitate entrepreneurship, internationalisation activities and cluster excellence.***
- Specific attention needs to be paid to ***the issue of “systemicness” of cluster policies*** meaning that not only individual tools and instruments will need to be promoted, but a whole policy mix with a set of tools and instruments likely to have the highest impact when combined for this purpose.
- Policies need to be ***forward-looking, outward-looking, evidence-based and inclusive.***

Closure of the session

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