Growing smart, inclusive and sustainable economies: a complex adaptive ecosystem approach

Barbara Colledge
Aim

Development of an holistic framework
city region analysis
complex adaptive eco system approach
Frame of analysis

- exploration of the dimensions of smart, inclusive and sustainable economies
- development of a framework utilising the complex adaptive ecosystem model.
- consideration of the institutions and agents of this complex adaptive ecosystem
smart, inclusive, sustainable economies – Europe 2020

Economy

Growth
smart

- Innovation
- Enterprise
- Economy
- Specialisation
- Growth
- Investment
- Education
inclusive

Inclusion & Cohesion

Health

Equity & Justice

Social

Employment

Poverty reduction

Quality of Life
sustainable

- Competitive
- Efficient
- Environmental
- Employment & Skills
- Quality of Life
- Green
- Ecology

- Quality of Life
- Green
- Ecology
mutually reinforcing

- Smart
- Inclusive
- Sustainable
An integrated framework

Sustainable development – EES and Time

Sustainable communities/societies

Sustainable cities and regions

Complex adaptive eco systems

Integration and Co-ordination
Influences

• spatial, locational or context factors (Martin 1999)
• socio-institutional contexts and embeddedness of regional economic development (Martin 1998).
• Institutions (Amin & Thrift; Healey)
• Political interests & power hinder or influence action (Storper 2013)
• cultural contexts influence outcomes (Storper 2013)
• Complex adaptive ecosystems (Martin & Sunley 2014)
Dimensions

• Constant evolution (Brenner)
• Integrated system (Martin & Sunley)
• Institutions
• Agents and Networks
• Power and Politics
• People – actions, values, ambitions

• Time and Space
• Place
• Process
• Constant evolution
• System
Martin and Sunley 2014 Towards a Developmental Turn in Evolutionary Economic Geography
Development Systems Theory

- **Developmental system**: organism-environment co–evolve
- **Deep Contextualisation**: entities and influences
- **Constructionist interactionism**: Multiple interacting causes
- **Contingent Developmental History**: spatial, historical, interaction
- **Extended Inheritance**: reconstruction at each generation
- **Emergence**: form emerges from interaction of components and environment
- **Self Organisation**: pattern and order of system
Evolutionary Development Biology

• **Robustness**: ability to maintain functionality when disruption occurs

• **Plasticity**: Ability to adjust to respond to mutations and environment

• **Niche Construction**: ability to modify, shape or control own environment to ensure evolutionary success

• **Evolvability**: capacity to evolve, variation to enhance survival or reproduction
Territorial organisation

- Places (cities and regions) and State
- Lefebvre and Harvey
- “Each geographical scale is a complex, socially contested territorial scaffolding upon which multiple overlapping forms of territorial organisation converge, coalesce and interpenetrate” p5
Dimensions of Framework

- Economic, Social and Environmental
- Place/Context Dimensions: Location, Infrastructure and Technology, Spatial and Scalar, Connectivity.
- History
- Temporal Dimensions: Time Horizons (short, medium or long term), Life-cycles, Trajectories (Past, Present and Future)
- People Dimensions: Skills, Culture, Behaviours, Beliefs and Perceptions, Connectivity
- Governance Dimensions: Leadership, Power, Institutions, Territorial State, Connectivity
Development of Framework

- Holistic framework to integrate these concepts and dimensions
- Applied at city-region level initially
- Proposition – can apply at different scales given territorial organisation and capital - including level of institution or firm
Contact

Barbara Colledge
Dean of Quality
Leeds Beckett University
b.colledge@leedsbeckett.ac.uk