Of wines and bottles: The radical approach to IC for Cities

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The rationale

Most Knowledge City definitions (and by extension, most approaches to IC) still regard knowledge as a (significant) resource that leverages the monetary output of a productive system (firm, community). Even when such view has been overcome, the assumption often prevails that an incremental approach may lead from, say, a digital city or an innovation cluster to a knowledge city. Our aim is to characterize and falsify those two fallacies, emphasizing by contrast a radical approach to IC.
You can't put new wine in old bottles

as much as

You can’t put IC into Industrial Capitalist Societies
or into Money-ladden Theories of The Firm

or

the radical approach to IC for Communities (and firms)
Contents

1. The received paradigm: Transitional Approaches to IC
2. The emerging paradigm: Radical Approach to IC
3. The disruption axiom
“It is an axiom of design that a system can perform that, and only that, for which it has been designed”

Bela Bánathy

“In order to solve a complex problem we must be able to think outside of the system within which we are operating”

Albert Einstein
1. The received paradigm: Transitional approaches to IC
The industrial capitalist society of the 19th and 20th Centuries is based on the assumption that the profitable performance of a firm depends on the optimal combination of material production factors and that the welfare of a nation can only be funded by means of the growth of its Gross Product: that the overall well being of a social system is a function of its material economic surplus.
Transitional approaches to IC

- IC is an intervening variable that contributes to increase productivity.
- IC is measured indirectly.
- IC is accounted as an addendum to financial states.
- IC categories are heterogeneous and acquire value significance insofar as they can be reduced to monetary terms.
- Financial growth is fed back into the production system.
- Social development depends upon economic growth.
Based on the Physics Economy

Laws of Physics

• Diminishing returns
• Scarcity
• Rivalry of goods
• Property
• Labour as muscular strength/coordination
• Labour/capital dichotomy
Which founds a view of KBD as...

“...a culture of innovation and competitiveness, where the greatest importance is given to R&D. Research, as a process of knowledge generation, supports innovation, productivity and economic improvement”

José N. González: Towards a knowledge-based development, 2006, p. 13

“...the need to promoting an accelerated and sustained productivity growth and of leveraging competitiveness through a new development model that privileges the use of knowledge”

Bernardo González-Aréchiga (ibid.)

p. 17
Incremental view of KCs

- **City concept**
- **Societal approach**
- **Knowledge (KM)**
- **Globalisation**
- **Sostenibility**
- **Knowledge-based Development**
- **Innovation**
- **R&D+I**
- **Collaboration**
- **Social Responsibility**
- **Networks**
- **Information Society**
- **Tecnopolis**
- **Creative class**
- **Knowledge worker**
- **ICT’s**
- **Service Society** (post-industrial) (80-90s)
- **Industrial Society** (up to 70-80s)

Source: MIK, 2006
2. The emerging paradigm: *Radical Approach to IC*
Counterexamples to physical economics

1. **Connectivity**: the sum value of a network increases as the square of the number of members.

2. **Intangibility**: the market value of a firm can greatly superseed a 100% of its book value.

3. **Non-decrementality**: the rent value of successive product units \( x_i, x_{i+1}, x_{i+2}, \ldots \), may not diminish as a function of iterations \( y_i, y_{ii}, \ldots, y_n \) of production cycle.

4. **Non-rivalry**: possession \( \alpha(q) \) of a good \( q \) by an agent \( \alpha \), does not exclude the simultaneous possession of that same good by agents \( \beta, \gamma, \ldots, \omega \), such that \( \beta(q) \land \gamma(q) \land \ldots \land \omega(q) \).

5. **Externalities**: Besides participating agents \( x, y \) in a transaction \( xRy \), non-participating agents \( u, v, \ldots, z \), can benefit as well.

6. **Non-differentiation capital/labour**: labour factor can simultaneously operate as capital factor.
Which call for a reinvention of...

- Economic Science: The value dynamics of human productive systems, or a *Knowledge Economy*

- Accountancy practices: The taxonomy of value categories, or a *Knowledge Capital System*

- Management systems: The principles to organize value production of knowledge-based firms and communities or *KM* and *KBD*

  *i.e.*

- An entirely new (formal) game:
  - New boundaries
  - New elements
  - New rules
Radical approach to IC

• Each capital category is worth on its own; each has distinctive value
• Financial capital has a specific representation and exchange value
• The set of capital elements of an entity determine as a whole its Net Future Value
• A complete, consistent and homogeneous value structure is required: a Capital System™
• A Capital System™ is a taxonomy containing the entire value dynamics of a productive entity
• An Integrated Value Report™ computes and displays the Net Future Value of an entity
Based on Behavioral Economy

- Constant returns
- Abundancy
- Non-rivalry
- Distributed property
- Work as analytic/emotional intelligence
- Capital/labour interdependence

Laws of Psychology
Where a KC is understood as...

**Knowledge City** (defⁿ): an urban community in which its citizens undertake a deliberate and systematic intitiative to found its future development on the identification and dynamic balance of its capital system
3. The Disruption axiom
This is NOT an incremental change

It is tempting to follow this road: e-library, e-learning, e-health care, e-participation, e-civil society, etc. But will converting every organization into an e-organization result in the transition of a society to a Knowledge Society (k-society)? That would be tantamount to assuming that at a certain level, the quantitative accumulation of “e-“s would switch into a “k-“, a qualitative leap that, on reflection, is rather difficult to take.

UN Department of Economic and Social Affairs, 2005
NOT an incremental transition

- **City concept**
  - Societal approach
  - Knowledge (KM)
  - Globalisation
  - Sostenibility
  - Knowledge-based Development
  - Collaboration
  - Social Responsibility
  - Network
  - Innovation
  - ICT’s
  - R&D+I
  - ´Information Society´
  - ´Knowledge Society´

- **Tiempo**
  - 1970-80
  - 1980-90
  - 1990-2000
  - actual

- **Knowledge city (KC)**
- **Digital City**
- **Tecnopolis**
- **Service City**
- **Industrial City**

Source: MIK, 2006
A “border crossing approach”...

“This argument proposes that immaterial and material assets should be regarded in the future as being of equal weight and needing to be balanced in new ways in all areas of leadership and management activity. Finally, this requires addressing the theme on a different level. It is to be viewed not as a subordinate or partial function of management or administration, but as a comprehensive and interdisciplinary leadership task”

Bernhard Von Mutius(2005), p.152
“IC is viewed as knowledge about knowledge, knowledge creation and how such processes might be leveraged into value”

Jørgensen, 2006
Pre-paradigmatic accountancy

(F+IC) theory:

INDUCTIVE
- experiential
- assymetric

and

DYCHOTOMIC

Financial states + IC addendum
Paradigmatic accountancy

New Theory of Firm:

DEDUCTIVE -completeness -consistency

and

Homogeneous

Integrated value states

(Pete Mondrian: Composition No. 2)
Conclusion: the radical view

The Knowledge Society of the 21st Century shall be based on the assumption that the holistic and sustainable development of a community is based upon the dynamic balance of its unique value universe and that such balance can only be funded on the identification and development of its capital system.
“It is the totality of change in a country that matters…
Development is about putting all the component parts in place…together and in harmony…

…too often we have focused on the economics, without a sufficient understanding of the social, the political, the environmental and the cultural aspects of the society”

James D. Wolfensohn
(in Ellerman et. Al, 1998)
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References

References


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