Generativity

Supporting innovation

Supporting Innovation

- An II is constantly evolving, and without further innovation, any II will die.
- Generativity is a key concept to comprehend IIs and their evolution
- How can an II support Innovation?
- If so, how can the mechanisms be described?

Innovation

Invention vs Innovation

- Invention is to come up with something completely new
- Innovation is to combine existing artifacts in a new way

Definition of Generativity

Generativity is a system's capacity to produce unanticipated change through unfiltered contributions from broad and varied audiences.

- **Unanticipated change**
- **Unfiltered contributions**
- **Broad and varied audiences**

Capacity for Leverage

A generative technology makes difficult jobs easier.

The more effort a device or technology saves - compare a sharp knife to a dull one - **the more generative it is.**

The greater the variety of accomplishments it enables - compare a sharp Swiss Army knife to a sharp regular knife - **the more generative it is**."

Adaptability

Adaptability refers to how easily the system can be built on or modified to broaden its range of uses.

A technology that affords hundreds of different, additional kinds of uses beyond its essential application is more adaptable and, all else being equal, more generative than a technology that offers fewer kinds of uses. The emphasis here is on uses not anticipated at the time the technology was developed.

Ease of mastery

A technology's ease of mastery reflects how easy it is for broad audiences to understand how to adopt and adapt it.

Ease of mastery also refers to the ease with which various types of people might deploy and adapt a given technology, even if their skills fall short of full mastery.

Accessibility

The easier it is to obtain access to a technology, along with the tools and information necessary to achieve mastery of it, the more generative it is.

Barriers to accessibility can include the sheer expense of producing (and therefore consuming) the technology, taxes, regulations associated with its adoption or use, and the secrecy its producers adopt to maintain scarcity or control.

Transferability

Transferability indicates how easily changes in the technology can be conveyed to others.

With fully transferable technology, the fruits of skilled users' adaptations can be easily conveyed to less-skilled others.

Reinforcing

The five qualities of leverage, adaptability, ease of mastery, accessibility, and transferability often **reinforce one another**.

And the **absence of one** of these factors may prevent a technology from being generative.

Is this generative?

- Paper
- Internet
- Fixed phone lines
- Facebook

Teamwork

Discuss generativity related to your projects

Teamwork status

- Interviews
- Scope
- Referencing

Generative Architectures

- is bootstrappable, adoptable, adaptable and extensible;
- fits with generative development collectives; and
- has a generative fit with user communities.

(Innovation, adoption, and scaling)

Generative architectures need to be

1. Bootstrappable, i.e. the architecture needs to make it possible to build the II in the first place. To achieve this, the solutions need to be simple and the architecture needs to enable the II to be developed by a small organization of low (organizational) complexity.

2. Aligned with the structures of an appropriate organization responsible for the operations of the II, i.e. the architecture needs to be operationable.

3. Flexible to enable experimental architecting and adaptable to new requirements as the II matures and scales.

4. Extensible to allow for new innovations extending the II.

Generative Collective

Analyzing generative group activities against the backdrop of an increasingly connected world, this theory development paper introduces the concept of "generative collectives" as a new framework for classifying internet-based collectives and a novel theoretical lens for explaining why some internet-based groups are more generative than others. Generative collectives are groups of people with shared interests or goals who mutually engage in rejuvenating, reconfiguring, reframing and revolutionizing acts. We submit that any type of collective has the capacity to be generative; however, some collectives are more generative than others. We explore two core structural dimensions of generative collectives and provide a framework for classifying these collectives and their respective levels of entropy as a proxy for their collective generative capacity. Subsequently, we derive and illustrate four archetypes of generative collectives, which can help account for the varying levels of generativity in different groups. Finally, implications for future research and practice are discussed.