Innovation as language action

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- Innovation
- Innovation vs. invention
- Characteristics of innovations
- Innovation is difficult
  - but some (few!) people make it work regularly
- Frameworks for understanding innovation
- A generative framework: Personal foundational practices
Source

Innovation is a hot topic

- Lists of top innovations in magazines

- Numerous innovation awards

- Amazon.com: 11800 books with "innovation" in title

- Several famous bestselling books on innovation:
  - Christensen: The innovator's dilemma
    - "disruptive technologies"
  - Foster, Kaplan: Creative destruction
    - Sustained competitiveness requires continuous re-construction and hence innovation
  - Rogers: The diffusion of innovation
    - innovators, early adopters, early majority, late majority, laggards
Definition "innovation"

- **Definition:**
  *Innovation means that a group adopts a new practice*

- Conforms to the usage by important authors, e.g. Everett Rogers, Peter Drucker, Harold Evans

- This definition is operational:
  - observable
  - executable

- "Practice" refers to
  - habits, routines, and other forms of embodied recurrent actions
  - that are chosen and performed without conscious thought.
Innovation vs. invention

• Invention is different from innovation.
  • Invention means to create something new,
  • but does not require that anyone accept or adopt it.

• Most inventions never become (or lead to) innovations
• Many innovations are not brought about by the inventor
Invention vs. innovation

- Carl Benz's first car was an invention
- but only Henry Ford's Model T brought the innovation
  - it was sufficiently cheap, reliable, available
Invention vs. innovation

- Johann Philipp Reis invented the telephone 1860
  - others followed soon: Elisha Gray, Antonio Meucci
- Alexander Graham Bell did it again 1876, but then founded the Bell Telephone Company
Innovation goes beyond invention

- An inventor turns a possibility into an idea, artifact, or process
  - and proposes that others consider it.
- An innovator turns the possibility into an offer for adoption
  - and then follows it through to adoption.
Characteristics of innovations

- Most innovations are **not** unusual, good, big, fast, or radical

- Usualness:
  - Most innovation comes from everyday attempts at improving things

- Size (number of adopters):
  - All sizes are common
    - e.g. a workgroup of 4 adopting a new email practice or a town of 40,000 adopting a new system of one-way streets
  - Look for innovations half the size and you find 4 times as many

- Speed (how many adopt how fast):
  - People have very different adoption speeds
    - Rogers: early adopters, early majority, late majority, laggards
  - Depends on many attributes of the innovation itself and of the reason for adoption
    - e.g. economic advantage, self-esteem, lifestyle, survival, reputation
Characteristics of innovations (2)

• Radicalness:
  • Only very few innovations are truly radical
  • e.g. language, religion, settledness, enlightenment/nation-states, theory of infection, electricity, internet
Innovation is difficult

- Despite the advice from ten thousand authors, 96% of innovation initiatives fail

- Only 1 in 100 patents ever recover the patent fees, only 1 in 500 recover all invention costs
  - Peter Drucker

- Many people attempting innovation are unsatisfied with existing advice

- However, there are people who are regularly successful at innovation
  - What is the secret of their success?
Theses

• Successful innovation is performed by following certain practices

• These practices can be trained and learned
  • presented in the form of a generative framework

• Technical capabilities are not at the heart of these practices
Frameworks for understanding innovation

• Theoretical frameworks
  • describe what factors might drive innovation and how they might interact
  • e.g. (?) Peter Drucker's Principles of Innovation

• Empirical frameworks
  • describe what appears to happen during innovation processes
  • e.g. Everett Roger's diffusion model

• Generative frameworks
  • describe what to do to make innovation happen
    • how to learn it, what skills to build, etc.
  • e.g. the framework by Denning/Durham presented here, called "Personal Foundational Practices"
Basis: Language-action philosophy

• The theoretical basis for the framework
• A branch of linguistic philosophy (started around 1940)

• Central claim:
  • Purposeful actions and interpersonal coordination are the results of commitments people make in conversations.
    • includes verbal and non-verbal interaction

• Consequence:
  • To achieve certain outcomes, we only have to adapt communication practices accordingly: language action
    • Note: ~90% of the cues to which people respond are non-verbal, even in active dialogues
Research method

• For identifying language action that facilitates innovation, the authors analyzed narrative stories of innovators
  • as published in books of Billington, Evans, Rogers, Tedlow, etc.

• They ignored differences
  • e.g. in personality, style, humor, character, charisma, extroversion, optimism/pessimism

• and concentrated on identifying recurring practices
The generative framework: "Personal Foundational Practices"

- 1 to 3: invention
- 4 to 6: adoption
- Not sequential steps!
  - more like parallel processes
- Each practice has both verbal and non-verbal aspects
1 Sensing possibilities

• Key aspects:
  • Sensing and articulating opportunities and their value in a community.
  • Seeing possibilities in breakdowns.
  • Being sensitive to disharmonies.

• Characteristic breakdowns:
  • Blindness. Inability to move from sensing to articulation, to hold the thought, or to see opportunities in disharmonies.

• Example:
  • In the 1980s, Tim Berners Lee sensed a disharmony between the actual direction of the Internet (email and file transfer) and its promise (sharing of all human knowledge).
Tim Berners Lee

- born 1955
- Proposed WWW at CERN in 1989
  - then developed HTML, HTTP, browser, editor, httpd
  - http://www.w3.org/History/19921103-hypertext/hypertext/WWW/TheProject.html
  - http://info.cern.ch/ went online 1991
2 Envisioning new realities

- **Key aspects:**
  - Speculating about new worlds in which an opportunity is taken care of and about the means to get there.

- **Characteristic breakdowns:**
  - Inability to tell vivid, concrete, compelling stories or to design plans of action.

- **Example:**
  - Tim Berners Lee envisioned a system wherein anyone could hyperlink any document to any other; a mouse-click would cause the system to retrieve a linked document from any location.
3 Offering new outcomes

• Key aspects:
  • Proposing new rules and strategies of play that produce the new outcomes.
  • Listening to concerns then modifying proposals for better fit.
  • Establishing credibility in one's expertise to fulfill the offer.

• Characteristic breakdowns:
  • Missing awareness of and respect for customers.
  • Inability to listen, to enroll people, to articulate value, or to see people as fundamental in the process.
  • Unwillingness to modify proposals in response to feedback.

• Example:
  • Berners Lee offered to build such a system at CERN in 1990
4 Executing plans and tools

• Key aspects:
  • Building teams and organizations.
  • Carrying out action plans for reliable delivery.

• Characteristic breakdowns:
  • Failure to manage commitments, satisfy customers, deliver on time, or build trust.

• Example:
  • Berners Lee executed in 1991 by putting together programming teams to develop good Web software and make it available for anyone to use.
5 Adopting new practice

- **Key aspects:**
  - Demonstrating value of proposed adoption.
  - Becoming aware of power structures and community interests.
  - Aligning action plans for coherence with existing practices, concerns, interests, and adoption rates.
  - Recruiting allies. Overcoming resistance.

- **Characteristic breakdowns:**
  - Failure to anticipate opposition and differing adoption rates
  - Failure to articulate and demonstrate the value.

- **Example:**
  - Berners Lee stimulated adoption by visiting many sites and conferences to tell people about his system
  - In 1993, this inspired UIUC student Marc Andreessen to write Mosaic, the first graphical browser. The WWW spread like mad.
6 Sustaining integration into surroundings

- Key aspects:
  - Developing supporting infrastructure.
  - Aligning new practices with environment, standards, incentives.
  - Assessing related innovations for negative consequences.
  - Abandoning bad innovations.
  - Discontinuing after end of useful life.

- Characteristic breakdowns:
  - Failure to plan for support and training, to change enabling tools and systems, or to align incentives with the new practices.

- Example:
  - In 1994, Berners Lee founded the World Wide Web Consortium (W3C) to support sustainable integration of the Web in systems worldwide and to preserve the Web in the public domain by creating open software and standards.
7 Leading with care, courage, value, power, focus, destiny, and speech act fluency

- Key aspects:
  - Declaring new possibilities in ways that people commit to them.
  - Moving with care, courage, value, power, focus, sense of larger purpose (destiny), fluency of speech acts.

- Characteristic breakdowns:
  - Inability to listen for concerns, offer value, work with power structures, maintain focus, operate from a larger purpose.
  - Inability to perform speech acts skillfully.

- Example:
  - Berners Lee recruited ever-larger numbers of followers.
  - He articulated a small set of guiding principles for Web development and stuck with them.
  - He refused to let the Web "go private" or to become wealthy from his own invention, considering the cause as too important.
Meta-practice: Attending to non-verbal communication

- **Key aspects:**
  - Working with the non-verbal aspects of communication and commitment.
  - Ascending the ladder of competence.
  - Connecting with people. Producing trust.
  - Developing an open and inviting "presence."
  - Blending with concerns, energies, and styles of others.

- **Characteristic breakdowns:**
  - Inability to read and respond to body language, gesture, etc.
  - Failure to recognize and overcome one's own conditioned tendencies.
  - Failure to engage in regular practice in the other practice areas.

- **Example:**
  - Meet any successful innovator and watch out for these features.
Summary

- Innovation occurs when a group adopts a new practice
- Invention and innovation are different things
  - and require different skill sets
- Innovation comes about by communication (language action)
- The language-action framework helped identify seven practices that constitute the innovation skill set
  - Sensing possibilities
  - Envisioning new realities
  - Offering new outcomes
  - Executing plans and tools
  - Adopting new practice
  - Sustaining integration into surroundings
  - Leading with care, courage, value, power, focus, destiny, and speech act fluency
Thank you!