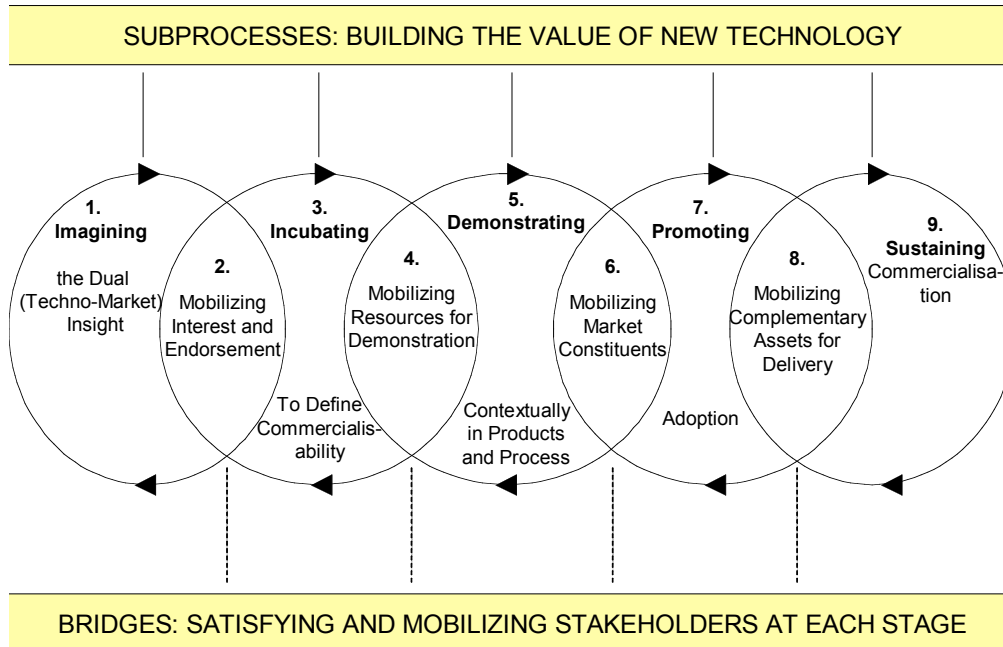


## Notes on a Model for the Commercialization of New Technology

- Vijay Jolly (1997)



Source: Jolly (1997)

Prof. Eric Olsen – Cal Poly / Hong Kong PolyU

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1. **Imagining:** The dual (techno-market insight)
  - a. Technology exploration: Generating new understanding: Probing new principles and mechanisms, scoping out properties, formulating new hypotheses → Arriving at a good model and/or proof of principle (decisive experiment).
  - b. Context of search: Initial context to start own research → Iterative search between technology and market → dual techno-market insight
  - c. Market exploration: Preliminary need → new needs identification → The need to be explored for commercialization.
2. **Mobilizing interest:** *Not large sums of money, nor the approval of a large number of people, but enough support to convert an insight into a project worth pursuing.*
3. **Incubating:** To define commercializability
  - a. Technology exploration: Exploring generically (process concepts, new algorithms, data, and heuristics) → Crossing a functional threshold (demonstrating principle in a prototype for a concrete application) → Multi-environmental demonstration (a more elaborated test of the technology in different applications under real world conditions)
  - b. Context of search: Generic need → product/process specific
  - c. Market exploration: Application search → Portfolio of concrete business opportunities.

4. **Mobilizing resources for demonstration:** *Money is often a key constraint. Equally important are context and capabilities. Context relates to concrete product opportunities and knowledge of what to demonstrate and how. Capabilities refer to the research infrastructure and skills required.*

5. **Demonstrating:** Contextually in products and processes. Context relates to the end product and no longer the technology.

**Stages in the Demonstration of a Technology in Products**

1. Assessment of the enabling technology's current capability and likely trajectory.
2. Preliminary ideas to focus on a class of products.
3. Pursuing parallel developments in complementary technologies.
4. Recognizing and defining concrete product ideas.
5. Product development.

6. **Mobilizing market constituents:** *Think systems! The key is to find out who the key influencers are and to work out a strategy for co-opting them in the delivery of technology and the creation of demand.*

7. **Promoting:** Adoption

Use a combination approach:

- a. Market discovery (pull): Read the market right initially. Identify ripe opportunities and niches that create a pull for the technology.
- b. Market creation (push): Active steps to create demand and reduce resistance.

8. **Mobilizing complementary assets for delivery:** *The challenge is to find a mode of commercializing technology so as to facilitate rapid market access while, at the same time, optimizing one's own return on the investments made. Contracts entered into with others for mobilizing the complementary assets the inventing organization lacks.*

Assets include:

- a. *Financial*
- b. *Managerial and technical personnel*
- c. *Product/technical know-how*
- d. *Product/market concept*
- e. *Privileged access to raw materials and components*
- f. *Equipment, tools, and process know-how*
- g. *Manufacturing capacity for intermediary products, subassemblies, and final products*
- h. *Acquired market access.*

9. **Sustaining commercialization and realizing long term value:** Generating long-term value by entrenching and expanding the use of the technology and retaining a lead in it. Sustaining commercialization is about realizing long-term value from the investments made in bring the technology to market, not about perpetuating the technology itself.

- a. Entrenching: making rapid progress in key facets of the technology, sustaining the interest of delivery partners, and creating dependence on the part of users.
- b. Expanding use: Change the features of the products that incorporate the technology → new market segments and/or seek new applications → new uses of technology.
- c. Retaining leadership: Dominate the most critical facets of the technology over a period of time (e.g. product, process, equipment, business model).