

Diffusion of innovations

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The study of the **diffusion of innovation** is the study of how, why, and at what rate new ideas spread through cultures.

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Theories of Innovation Diffusion

French sociologist Gabriel Tarde originally claimed that sociology was based on small psychological interactions among individuals, especially imitation and innovation.

Diffusion of innovations theory was formalized by Everett Rogers in a 1962 book called *Diffusion of Innovations*. Rogers stated that adopters of any new innovation or idea could be categorized as innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%) and laggards (16%), based on a bell curve. Each adopter's willingness and ability to adopt an innovation would depend on their awareness, interest, evaluation, trial, and adoption. Some of the characteristics of each category of adopter include:

- innovators - venturesome, educated, multiple info sources, greater propensity to take risk
- early adopters - social leaders, popular, educated
- early majority - deliberate, many informal social contacts
- late majority - skeptical, traditional, lower socio-economic status
- laggards - neighbours and friends are main info sources, fear of debt

Rogers showed these innovations would spread through society in an S curve, as the early adopters select the technology first, followed by the majority, until a technology or innovation is common.

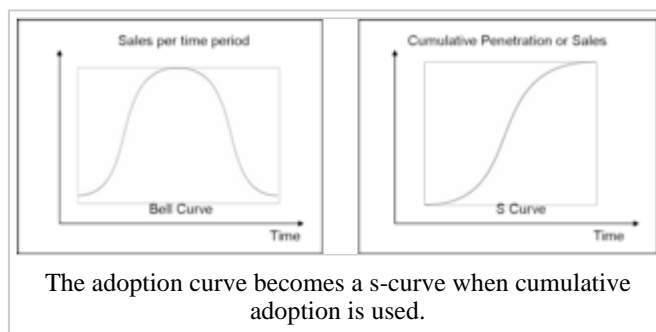
The S-Curve and technology adoption

The speed of technology adoption is determined by two characteristics p , which is the speed at which adoption takes off, and q , the speed at which later growth occurs. A cheaper technology might have a higher p , for example, taking off more quickly, while a technology that has network effects (like a fax machine, where the value of the item increases as others get it) may have a higher q .

As can be seen in the technology adoption chart, as time has gone on, both p and q seem to be increasing.

Caveats and Criticisms

A number of other phenomena can influence innovation adoption rates. One of these is that customers often adapt technology to their own needs, so the innovation may actually change in nature from the early adopters to the majority of users. A second is that disruptive technologies may radically change the diffusion patterns for established technology by starting a different



competing S-curve. Finally, path dependence may lock certain technologies in place, as in the QWERTY keyboard.

See also

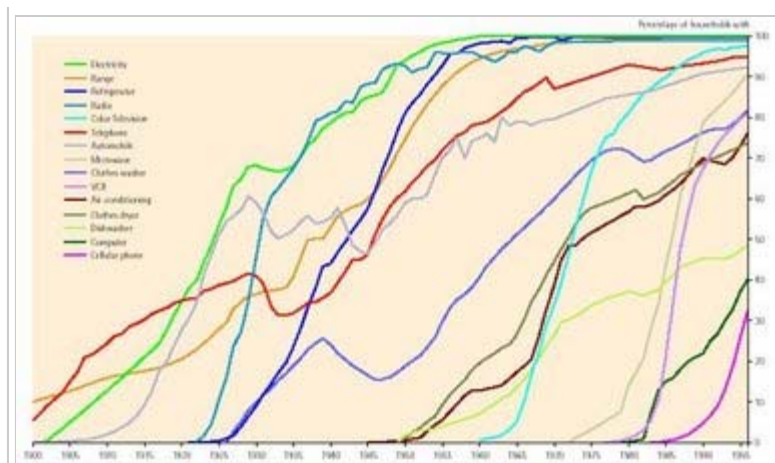
- Crossing the Chasm
- Diffusion
- Diffusion (business)
- Disruptive technology
- Meme
- Opinion leadership
- Path dependence
- Percolation
- Technology acceptance model
- Technology lifecycle
- Two-step flow of communication
- Logistic function

External link

- Federal Reserve of Dallas 1996 Annual Report on Innovation (<http://www.dallasfed.org/fed/annual/1999p/ar96.pdf>)
- The Pencil Metaphor on diffusion of innovation particularly ICT in education (<http://www.teachers.ash.org.au/lindy/pencil/pencil.htm>)

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Categories: Innovation | Diffusion | Marketing | Product management | Anthropology | Memetics



The diffusion curves of many household innovations, from the Federal Reserve Bank of Dallas, 1998

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