Diffusion of innovations

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

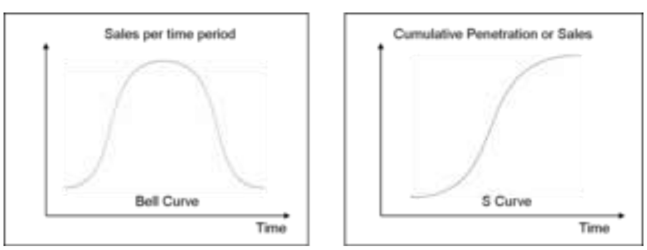
Diffusion of innovations theory was formalized by Everett Rogers in a 1962 book called *Diffusion of Innovations*. Rogers stated that adopters of any new innovation or idea could be categorized as innovators (2.5%), early adopters (13.5%), early majority (34%), late majority (34%) and laggards (16%), 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 also proposed a five stage model for the diffusion of innovation:

1. *Knowledge* - learning about the existence and function of the innovation
2. *Persuasion* - becoming convinced of the value of the innovation
3. *Decision* - committing to the adoption of the innovation
4. *Implementation* - putting it to use
5. *Confirmation* - the ultimate acceptance (or rejection) of the innovation

[edit] The S-Curve and technology adoption



The adoption curve becomes a s-curve when cumulative adoption is used.

Rogers theorized that 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 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*.

[edit] Caveats and Criticisms

Critics of this model have suggested that it is an overly simplified representation of a complex reality. 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.

[edit] See also

- Technology Adoption LifeCycle
- Diffusion
- Diffusion (business)
- Disruptive technology
- Early adopter
- Meme
- Opinion leadership
- Path dependence
- Percolation
- Technology acceptance model
- Technology lifecycle
- Two-step flow of communication
- Logistic function
- Bass diffusion model
- Crossing the Chasm
- TRIZ

[edit] References

- Rogers, Everett M. (1962). *Diffusion of Innovation*. New York, NY: Free Press.
- Rogers, Everett M. (2003). *Diffusion of Innovation*, *Fifth Edition*. New York, NY: Free Press. ISBN 0-7432-2209-1.