

ECONOMICS OF INNOVATION

Lecture 3: Innovation, Demand and Consumption

Consumers and innovation: demand and supply

We will focus on:

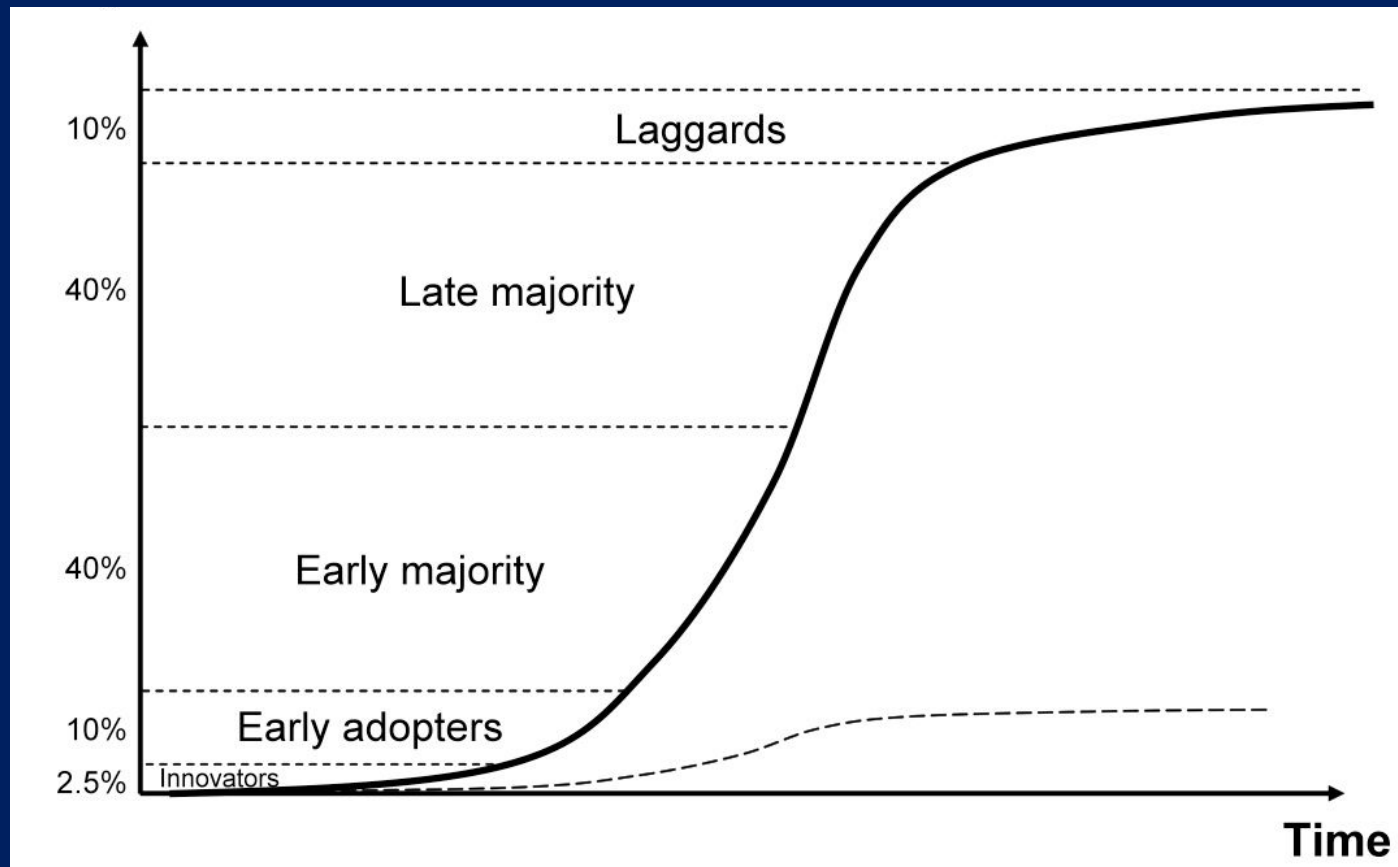
1. The diffusion of innovations
2. The demand of innovation: consumers types

The diffusion of innovations

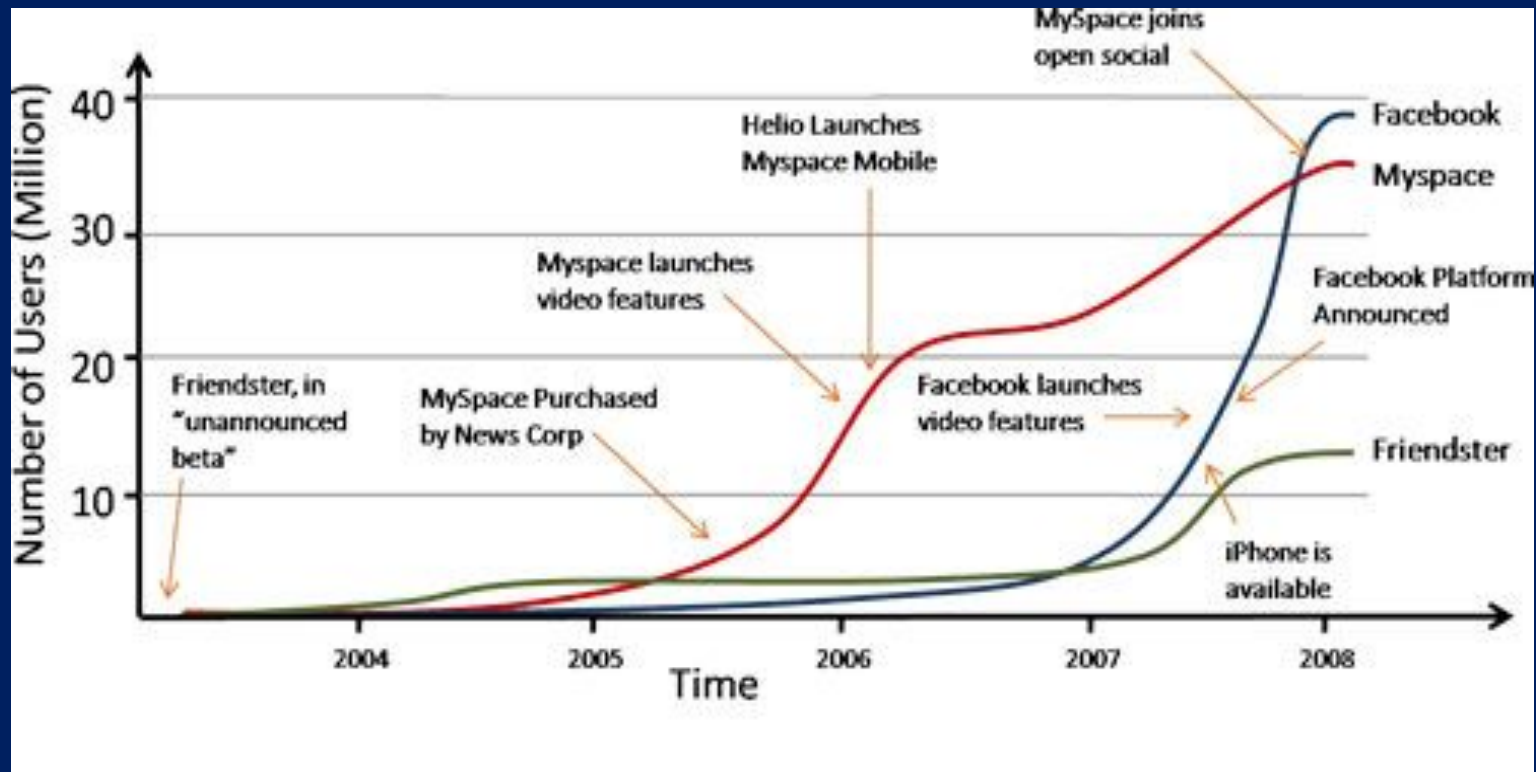
- ✓ Diffusion is the process by which innovations are adopted and used by **consumers**, or in the case of process innovations, by **other organisations**.
- ✓ Diffusion is the rate at which innovations are adopted
- ✓ Whether a product or a process, it takes a long time for an innovation to diffuse across users/consumers.
- ✓ The speed at which an innovation diffuses is critical to its (commercial) success.

Diffusion of successful innovations follow a common path (**S curve**)

Percentage of customer/user groups

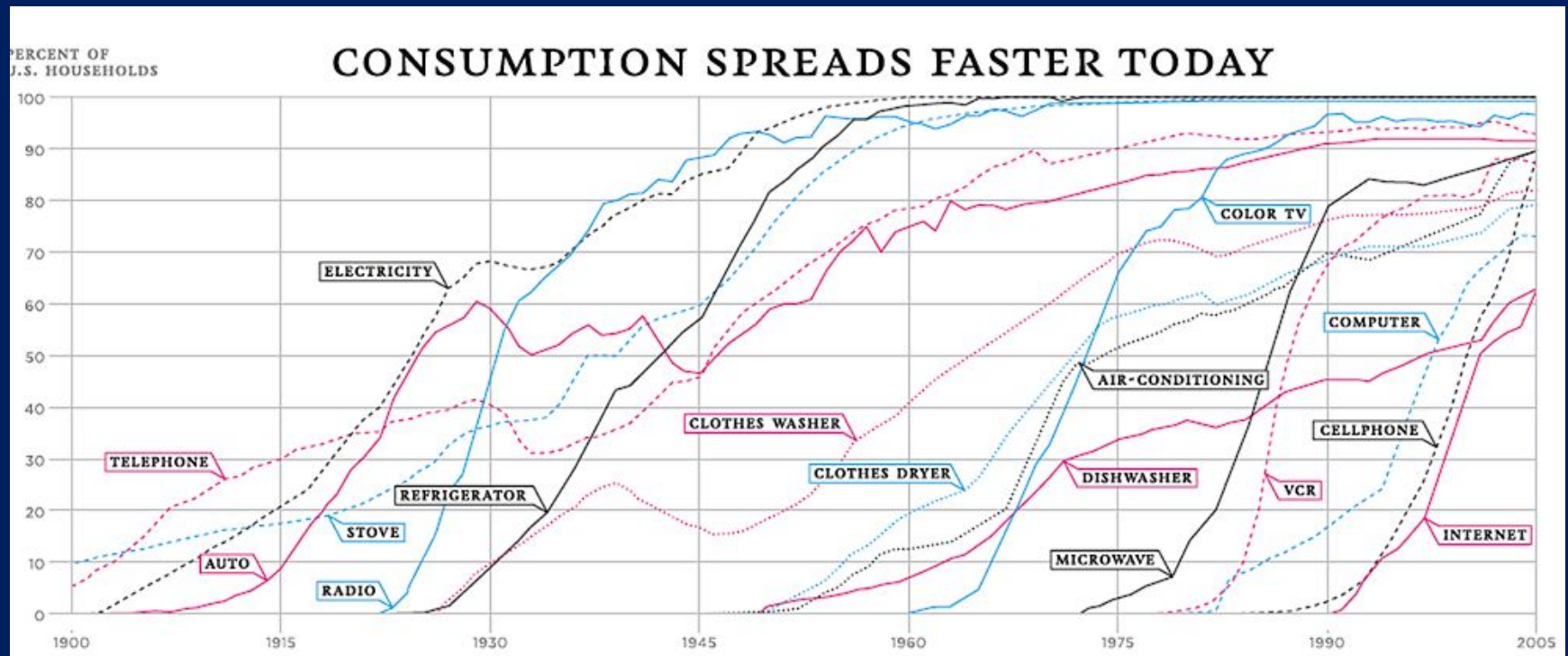


Diffusion of online social networks



(<http://sephskerritt.com/2008/03/05/market-diffusion-of-online-social-networks/>)

Diffusion of various innovations



<http://andrewgelman.com/2012/04/08/technology-speedup-graph/>

Drivers of the diffusion of innovations

1. RANK Approach

Firms can be ranked in terms of the benefits to be obtained from the use of the new technology, assuming that adopters are different in some important dimensions (Size, Age, etc.)

2. STOCK Approach

The larger the number of users the lower the gross benefits from adoption

3. ORDER Approach

The firm's position in the adoption order determines its gross return from adoption. Firms high in the adoption order get greater return than those lower down in the adoption order

Drivers of the diffusion of innovations

4. EPIDEMIC Approach

Diffusion spreads across the population like a disease based upon information acquisition and contact.

5.EVOLUTIONARY Approach

Diffusion is the outcome of competitive selection across technologies

6.Marketing approach (see also 4)

Diffusion is the outcome of advertising and information dissemination.

The demand for innovation

Marketing

e.g. Information acquisition approach
(Bass 1969)

Economics

e.g. Consumer preferences
(Deaton and Mullebower 1980)

Types of Consumers

Consumers are not a homogeneous group.

Six Types of Consumer

- Economic Consumer
- Veblen/Bourdieu Consumer
- Marshall Consumer
- Douglas Consumer
- Galbraith Consumer
- Routine Consumer

Economic Consumer

- Fixed, pre-determined wants, which the consumer knows in detail
- If all consumers were economic consumers there would be little market risk in innovation
- Consumer is a skilled optimiser but is asocial (consumes in private)
- Given same prices and income, (s)he will never vary consumption
- Interested in innovations that reduce price or increase a sought-after feature of a good
- Otherwise, not interested in innovation

Veblen Consumer

- Veblen's concept of "conspicuous consumption"
- Desires **distinction** through visible consumption of expensive items
- Bourdieu consumer is similar, but seeks distinction with more modest expenditure
- Veblen and Bourdieu consumers are interested in innovation to the extent that these give an opportunity to show distinction, e.g. Rolls Royce

Veblen consumers upon the launch of iPhone 5



Nike making an appeal to Veblen consumers with their customized shoes

EXPRESS YOUR IDENTITY

CREATE YOUR OWN NIKE FREE iD

However close to barefoot you like
your run to **feel—your reasons
are exclusively your own.** Run

Free, **your way.**



Marshall Consumer

- “In every stage of his progress he is destined to contrive and invent, to engage in new undertakings; and when these are accomplished, to enter with fresh energy upon others.”
(McCulloch, 1864, quoted in Marshall, 1927)
- Marshall consumers are interested to **explore** what innovations can do for them, but they are not uncritical in their consumption of innovations (see Von Hippel, 2005)

Marshall Consumers- the creative consumer

	UK	USA	Japan	France
% of consumers modifying consumer products	4.50%	2.80%	3.70%	6.10%
% of consumers creating consumer products	2.10%	2.90%	1.70%	4.60%
% of consumer-innovator applying to protect innovation (eg patents)	2%	-	-	1.90%

Von Hippel E., Ogawa S. & De Jong J. (2011) The age of the consumer-innovator, MIT Sloan Management Review, Fall,53, 1, 27-35.

Douglas Consumer

- “the real moment of choosing is ... choice of **comrades** and their way of life”
(Douglas, 1983)
- Douglas consumers may be cautious about consuming innovations that might seem to cast doubt on their **peer group** loyalty
- But they may find innovation and imaginative ways to confirm **group loyalty**
- And if the group leader(s) adopt(s) an innovation, then other Douglas consumers may follow rapidly

Galbraith Consumer

- “As a society becomes increasingly affluent, wants are increasingly created by the process by which they are satisfied producers may proceed actively to create wants through advertising and salesmanship. Wants thus come to depend on output.”
(Galbraith, 1958)
- Mass market and advertising
- Galbraith consumers need encouragement from marketers to give innovations a try

Routine Consumer

- Just sticks to familiar consumption items (“tried and tested”)
- Does not optimise
- Not influenced by advertising
- Does not seek distinction
- Does not seek novelty
- Not influenced by peer pressure
- Liable to be very suspicious of innovations

Other Types of Consumer

Ethical consumer

- Green consumer
 - Consumption choices with reference to effects on sustainability

- Ruskin consumer
 - Consumption choices with reference to effects on producing labour

Ethical Consumption and Innovation



- Can you think of examples of companies innovating to appeal to the ethical consumers?

Learning consumer

- Recognition that something is an acquired taste and a taste worth acquiring
- Demand grows as consumer acquires the taste – learns how to appreciate the product/service

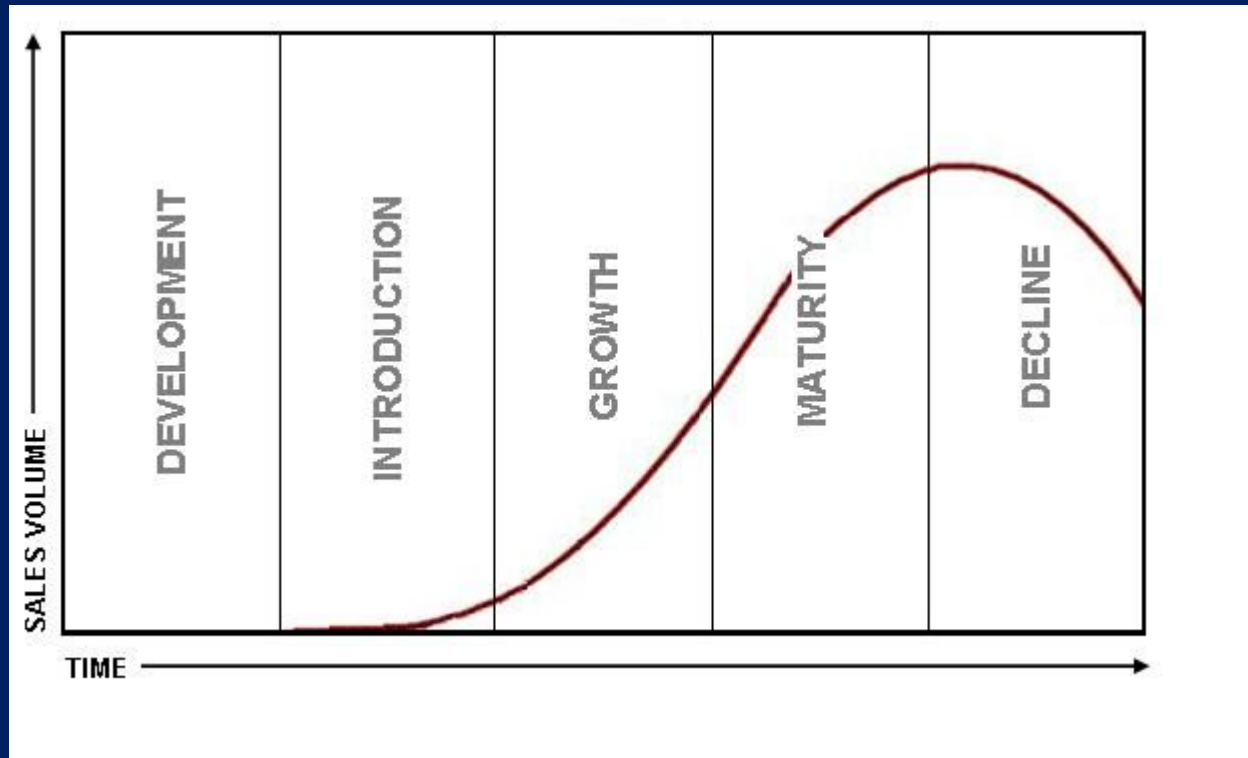
Innovation and Learning consumers

- **Educating** is an important consideration when it comes to promoting innovations at early stages to learning consumers

Dutiful consumer

- Consumption as a duty
- Duty to whom, or to what?
 - Country (?)
 - Science (?)

Different Types of Consumers and Product Life Cycle



Let's match different stages of the product life cycle and different types of consumers

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Summary

1. **Diffusion of innovations**
2. **Customers types**