### **Technology Strategy (MGMT 731)**

Karl T. Ulrich

Session 5:

Sources of Value and Patents

Definition of technology

Roles relative to technology

What is a technology strategy?

Incremental vs. radical innovations / H1, H2, H3 innovation

S-curves

Technology push and market pull

Drivers of diffusion rates

Rogers' categories of adoption / "crossing the chasm"

Industry patterns of entry/exit and the "dominant design"

Competence-enhancing vs. competence-destroying technologies

Disruption of incumbents - disruption from below and the "innovator's dilemma."

Drivers of value capture - appropriability and complementary assets

Patents as mechanism for appropriation

Standards as mechanism for appropriation

Timing of entry, first mover "advantage"

Open innovation, open tournaments

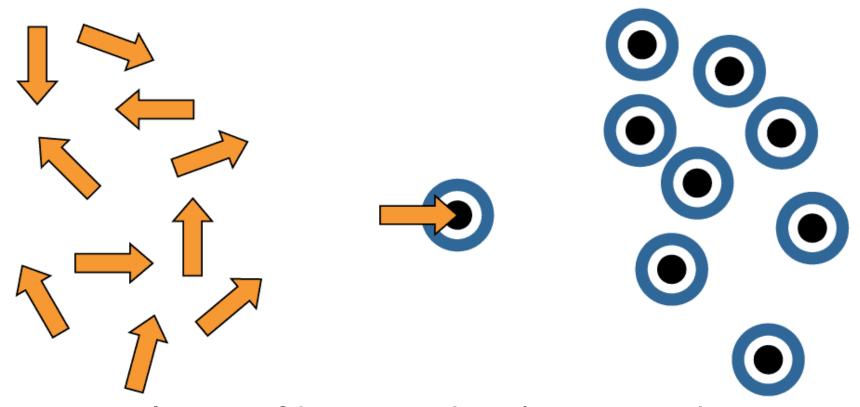
Make-buy decisions in innovation, establishing an innovation frontier

Technology ecosystems

Technology and society

# innovation

A new match between a solution and a need. In our context, technology is the solution.



In successful innovation the solution is worth more to the user than the cost of delivering it.

Who gets the value?

# **Drivers of Market and Bargaining Power**

# **Appropriability**

- Can the knowledge itself be controlled?
- If knowledge about a technology can be completely appropriated it means that no one else can use it or copy it, and so the knowledge is scarce/unique.
- Uniqueness is a key source of bargaining power.

## **Complementary assets**

- Does the technology require complementary assets for commercialization?
- Can these assets necessary to exploit the knowledge be controlled?

# **Approaches to Appropriability**

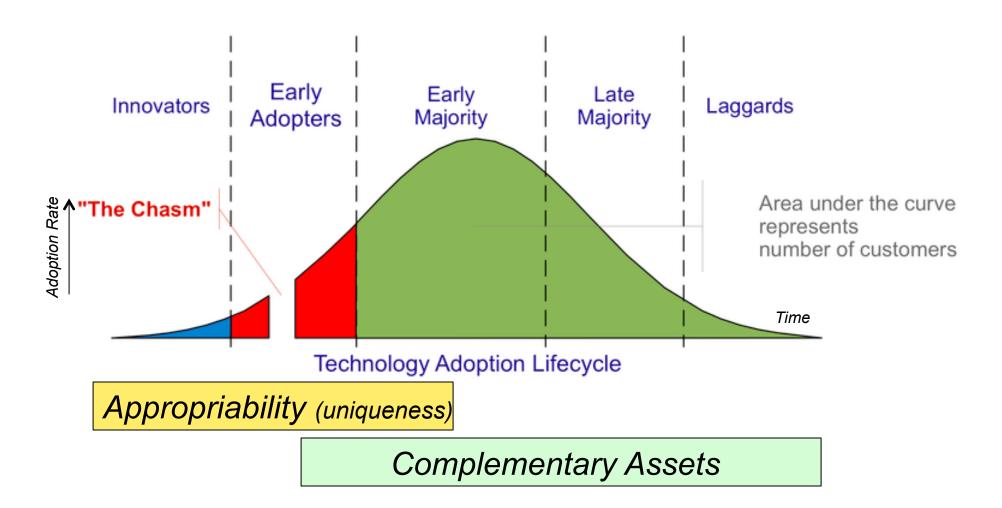
- Intellectual property protection
  - Patents (this session)
    - The right to exclude others from making, selling, or using.
    - •Finite length (20 years from application).
    - Must "teach" others through patent publication.
  - Copyrights
    - The right to prohibit literal copying.
- Secrecy
  - Trade secrets.
  - Non-disclosure and non-compete contracts
  - Complexity and "tacit" knowledge.
- Speed (i.e., temporary disequilibrium).
- Standards (next time).

# **Complementary Assets**

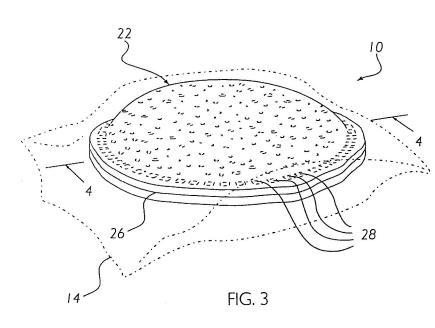
- Complementary assets are those assets necessary to translate an innovation into commercial returns.
- Complementary assets can only be a source of strength if they are VRIN: Gillette<sup>®</sup>
  - valuable
  - rare
  - inimitable
  - non-substitutable
- Things you own or control
  - Brand name
  - Distribution channels
  - Customer relationships
- ■Things you can *do* 
  - Manufacturing capabilities
  - Sales and service expertise
  - Ability to capture customer information

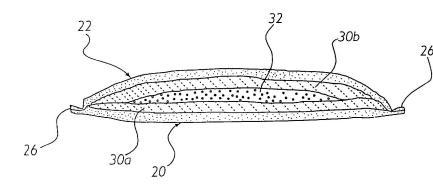


# Relative Importance of *Appropriability* and *Complementary Assets*



**Source:** Image from Wikipedia, based on categories of Everett Rogers, with addition of "chasm" by Geoffrey Moore.





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defined n inner 25 luce the 26. The er filling surface with the 30 1 to the portion with the and the led onto 35 of the e bread ling the neously 22. The er bread n of the ead porplate **12** 45 FIG. 2 of he upper rounding

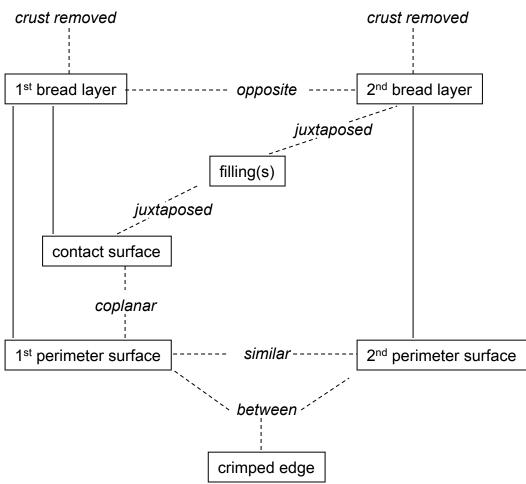
in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

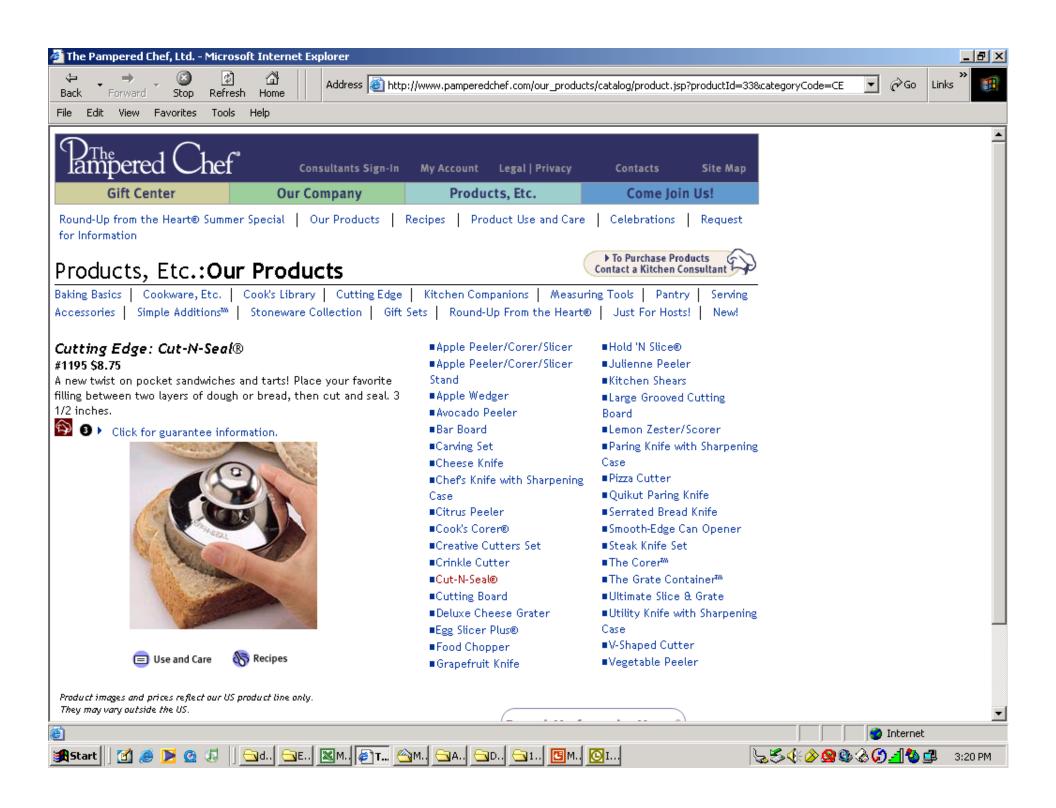
#### We claim:

- 1. A sealed crustless sandwich, comprising:
- a first bread layer having a first perimeter surface coplanar to a contact surface;
- at least one filling of an edible food juxtaposed to said contact surface;
- a second bread layer juxtaposed to said at least one filling opposite of said first bread layer, wherein said second bread layer includes a second perimeter surface similar to said first perimeter surface;
- a crimped edge directly between said first perimeter surface and said second perimeter surface for sealing said at least one filling between said first bread layer and said second bread layer;
- wherein a crust portion of said first bread layer and said second bread layer has been removed.
- 2. The sealed crustless sandwich of claim 1, wherein said crimped edge includes a plurality of spaced apart depressions for increasing a bond of said crimped edge.
- 3. The sealed crustless sandwich of claim 2, wherein said crimped edge is a finite distance from said at least one filling for increasing said bond.
- neously 4. The sealed crustless sandwich of claim 3, wherein said eby the 40 at least one filling comprises:
  - a first filling;
  - a second filling;
  - a third filling; and
  - wherein said second filling is completely surrounded by said first filling and said third filling for preventing said second filling from engaging said first bread layer and said second bread layer.

#### Claim 1:







#### Claim 1 of the Amazon.com 1-click patent:

A method of placing an order for an item comprising:

under control of a client system,

displaying information identifying the item; and

in response to only a single action being performed, sending a request to order the item along with an identifier of a purchaser of the item to a server system;

under control of a single-action ordering component of the server system,

receiving the request;

retrieving additional information previously stored for the purchaser identified by the identifier in the received request; and

generating an order to purchase the requested item for the purchaser identified by the identifier in the received request using the retrieved additional information; and

fulfilling the generated order to complete purchase of the item whereby the item is ordered without using a shopping cart ordering model.







#### Honeywell Patent 7,584,899 (issued September 8, 2009)

22. An HVAC controller comprising:

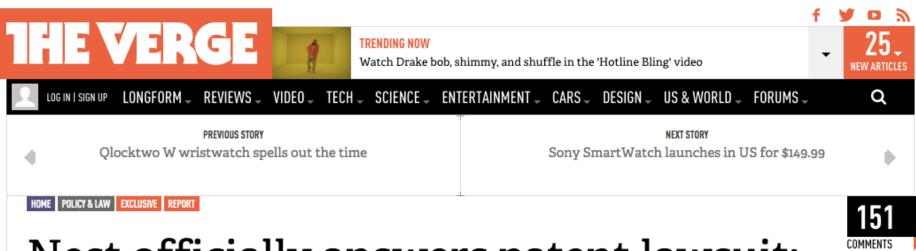
a controller housing having a front face with a central region;

a liquid crystal display disposed in the central region displaying an operating parameter of the HVAC controller; and

a rotatable interface member extending around the central region of the controller housing, the rotatable interface member being rotatable relative to the central region,

wherein rotation of the rotatable interface member can be used to adjust the operating parameter that is displayed on the liquid crystal display.





# Nest officially answers patent lawsuit: 'Honeywell is worse than a troll'

By Nilay Patel on April 12, 2012 09:00 am 🐱 Email 💆 @reckless





# (12) United States Patent

(54) METHOD AND APPARATUS FOR

DATABASE AND SYSTEM

CONSTRUCTING A NETWORKING

Weinreich et al.

(10) Patent No.: US 6,175,831 B1 (45) Date of Patent: Jan. 16, 2001

"Six Degrees"
Patent
Purchased by Reid
Hoffman and Mark
Pincus for \$700k in
2003.

(75)	Inventors:	Andrew P. Weinreich; Mark R.
		Salamon; Shoshana Zilberberg; Nicole
		D. Berlyn; Leeann Mitchell; Cliff
		Rosen; Adam Seifer; Justin Green, all
		of New York; David Haber, Great
		Neck; David Samuels, Atlantic Beach;
		Ron Chibnik, New York; Scott
		Clifford, East Moriches, all of NY
		(US); Chandrasekhar Boddu,
		Piscataway, NJ (US)

- (73) Assignce: six degrees, inc., New York, NY (US)
- (\*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.
- (21) Appl. No.: 08/785,559
- (22) Filed: Jan. 17, 1997
- (51) Int. Cl.<sup>7</sup> ...... G06F 17/30
- (52) U.S. Cl. ...... 707/10; 707/130; 707/104; 345/333; 364/918

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				Herz et al 455/2
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S. Elliott—Ad-Supported E-Mail Service Opens For Business—Apr. 22, 1996 (The New York Times "CyberTimes") (2 pp).

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#### (57) ABSTRACT

A networking database containing a plurality of records for different individuals in which individuals are connected to one another in the database by defined relationships. Each individual has the opportunity to define the relationship which may be confirmed or denied. E-mail messaging and interactive communication between individuals and a database service provider provide a method of constructing the database. The method includes having a registered individual identify further individuals and define therewith a relationship. The further individuals then, in turn, establish their own defined relationships with still other individuals. The defined relationships are mutually defined.

#### 36 Claims, 33 Drawing Sheets