Open Services Innovation

Presentation of the Book

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The Economic Pressures on Innovation

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The Commodity Trap

- Own Market Revenue
- Internal Development Costs
- Internal Development Costs

Rising costs of innovation

Shorter Product Life in the Market

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The New Business Model of Open Innovation

- New Mkts
- Spin-off
- Licensing

New Revenues

- Own Market Revenue
- Cost and Time savings from leveraging External development

Closed Model

Open Innovation Business Model

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Motorola’s Razr
Initial Success

• More than 50 million units sold
• Motorola became world #1 handset manufacturer

• Then…. 
... The Trap Closes

- Motorola Krazr not a hit
- Nokia phones overtake Motorola
  - Becomes the new #1
  - Plus new entrants from Asia:
    - Samsung
    - HTC
- Motorola falls to #7 handset manufacturer today
Nokia’s Own Trap

• Nokia becomes world leader in handsets
• Global distribution, cost leader
• Strong position in emerging economies
• But…
…. The Trap Closes

• Basis of competition shifts from handset to applications and services
• Phones become gateway to multiple media and uses
• Apple, RIM and Google building significant platforms for third parties to build upon
  – Microsoft also trying to get back in
• Nokia remains #1 in units, but not in profit
Another Escape Route: Services

• Wrap services around your products
• Turn “products” into “solutions”
• Co-create innovations with your customers
• Use openness to get more from specialization
• Build platforms to attract others to add to your solutions
The shift toward services in the US

(A) Agriculture:

(G) Goods:

(S) Services:

actual

forecast

Source: http://www.nationmaster.com
OECD reports; IBM Corporation

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Definition of “Services”

• Root: servitium (slavery, see also servant)
• More usefully:

“A service is a change in the condition of a person, or a good belonging to some economic entity, brought about as the result of the activity of some other economic entity, with the approval of the first person or economic entity.” (Hill, 1977)
Paul Horn’s Problem

• More than half of IBM’s revenue is coming from its Global Services business

• Circa 2004, few if any IBM Research Staff were working on services innovation opportunities

• How to sustain Industrial Research, if that research is not relevant to more than half of the company’s business?
Innovation in Products and Technologies

≠

Innovation in Services
Porter’s Value Chain

Source: Michael Porter, *Competitive Advantage*, 1985
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This is Not New Thinking

• “What the customer buys and considers value is never a product. It is always utility – that is, what a product does for him.”
  – Peter Drucker, *Management: Tasks, Responsibilities, Practices*

• “People don't want to buy a quarter-inch drill. They want a quarter-inch hole!”
  – Ted Levitt, *Marketing Myopia*
Growth [and innovation] are Rooted in the Division of Labor

Adam Smith
The division of labor is limited by the extent of the market

George Stigler
Economic activity will move inside the firm whenever the transactions costs of using the market exceed those of using the firm (and vice versa).

Oliver Williamson
How Services Markets Can Grow

• Specialization can alter Transactions Costs

• Greater specialization can “tip” firms to take service activities out into the market, extending the division of labor possible (Stigler)
  – Paychex as an example

• This enables a powerful source of organic growth for services firms
  – Virtuous cycle: from Smith to Williamson to Stigler, back to Smith
The Virtuous Services Market Cycle

Larger market size enables more DoL

More specialization reduces transaction costs in the market

Lower transaction costs increase the market size

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Paychex

• Fifty years ago, every company paid its own workers
  – Payroll clerks
• Paychex began during the days of the mainframe computer
• Then PCs made computing ubiquitous
• But Paychex still grew, due to its superior knowledge and expertise in payroll
• Today, many companies employ a specialist firm to process their payroll
  – a market that did not exist 50 years ago
The Utilization Differential

• Assume your car is driven 12,000 miles/year
• Assume your average speed is 30 mph
• You are driving the vehicle for roughly 400 hours
  – There are 8,760 hours in a year
  – Therefore, your utilization is about 4.6%
• If your transportation were a service, that untapped 95.4% becomes a source of value
  – Share vehicle acquisition, operation, maintenance costs
  – A potential Economy of Scale
Diamler’s Car2Go Service

• Carsharing program: www.car2go.com
• Launched in Ulm, Germany in 2008; Austin, TX in 2010
• Ultra-convenient: no fixed station to pick up or drop off; no required return time
• No upfront commitment: no security deposit, monthly fee, reservation cost
UPS – Open Services Changes

Customers’ Processes

Customer Operations → Customer Shipping

UPS takes over customers’ shipping dept!
Is This a Good Deal for UPS?

• Deeper relationship with the customer
• More responsibility for UPS
• UPS learns more about its customers’ total shipping needs
  – vs. those given to UPS in the past
  – Opportunity for economies of scale
• Greater visibility into customer’s processes that precede shipment
  – Opportunity for economies of scope
Is This a Good Deal for UPS’ Customers?

• Internal resources freed up for higher use that differentiates company

• UPS knows more about shipping than any of its customers
  – Deeper specialization
  – Better career paths for its people

• Thanks to utilization and specialization, not a zero sum game
Amazon – Open Services Creates Economies of Scope

• Amazon allows third party merchants its own tools to create Amazon web pages
  • Fulfillment by the third party
  • Billing and collection by Amazon
• Creates consistent shopping experience for users
• Increases “share of wallet” for Amazon, with no merchandising risk!
• Makes Amazon.com a more attractive Internet destination for shopping for many items
Amazon Web Services – Open Services
Creates Economies of Scale

- Amazon hosts other companies’ web sites
  - Converts fixed server farms to variable costs for customers
  - Increases Amazon’s utilization of its servers
  - Lowers Amazon’s own costs as a result
- Rapidly growing and profitable business for Amazon
- Raises the bar for its competitors
An Iberian Example: El Bulli
The El Bulli Platform

- Ferran Adria studies molecular gastronomy, working with Herve This, a French physical chemist
- Adria brings this to El Bulli, restaurant is the Lab
- Adria launches many business experiments
  - Borges: oils, snacks
  - Lavassa: coffee
  - NH Hoteles: FastGood, Nhube
  - Iberian Airlines (with FastGood)
- Careful not to dilute the El Bulli brand
Figure 1 - Evolution of Semiconductor Business Networks
TSMC’s Open Innovation Platform

- TSMC has >50% share of foundry capacity WW
- External suppliers of design and process IP design for TSMC first
  - TSMC has vast internal library of IP
  - TSMC tests and validates third-party IP on its processes
- Open Innovation Platform: TSMC now certifies that designs compliant with its Platform will yield first time through the process
- Tremendous competitive barrier to overcome
What to do Monday Morning...

- Elevate the importance placed on services in your organization.
- Identify the utility of your offering to your customers. How can you enhance it?
- Experiment with tools like service blueprinting to articulate and enhance your service offering.
- Search for underutilized assets in your organization, and ways to unlock their value.
- Create a platform that intertwines your product and your service. Invite others to participate, both customers and third parties.
  - Look for platforms you can join, to expand your business.

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HENRY CHESBROUGH
Author of the bestselling book, Open Innovation

OPEN Services INNOVATION
RETHINKING YOUR BUSINESS TO GROW AND COMPETE IN A NEW ERA
Backup
# Top Ten Nations in 2003 by Labor Force Size

*\( A = \text{Agriculture}, \ G = \text{Goods}, \ S = \text{Services} \)*

<table>
<thead>
<tr>
<th>Nation</th>
<th>% WW</th>
<th>% A</th>
<th>% G</th>
<th>% S</th>
<th>25 yr %</th>
<th>delta S</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>21.0</td>
<td>50</td>
<td>15</td>
<td>35</td>
<td>191</td>
<td></td>
</tr>
<tr>
<td>India</td>
<td>17.0</td>
<td>60</td>
<td>17</td>
<td>23</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>U.S.</td>
<td>4.8</td>
<td>3</td>
<td>27</td>
<td>70</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.9</td>
<td>45</td>
<td>16</td>
<td>39</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>3.0</td>
<td>23</td>
<td>24</td>
<td>53</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>2.5</td>
<td>12</td>
<td>23</td>
<td>65</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>2.4</td>
<td>5</td>
<td>25</td>
<td>70</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>2.2</td>
<td>70</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Banglad.</td>
<td>2.2</td>
<td>63</td>
<td>11</td>
<td>26</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>1.4</td>
<td>3</td>
<td>33</td>
<td>64</td>
<td>44</td>
<td></td>
</tr>
</tbody>
</table>

>50% (S) services, >33% (S) services

Source: [http://www.nationmaster.com](http://www.nationmaster.com)

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OECD reports; IBM Corporation
6 Stages:

1. Undifferentiated business model
2. Differentiated business model
3. Segmented business model
4. Externally aware business model
5. Integrated business model
6. Platform business model
<table>
<thead>
<tr>
<th></th>
<th>Selection of Vehicle</th>
<th>Delivery of Vehicle</th>
<th>Maintenance of Vehicle</th>
<th>Information &amp; Training</th>
<th>Payment/Financing</th>
<th>Protection/Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car Purchase or Lease</td>
<td>Customer chooses</td>
<td>Customer picks from dealer stock</td>
<td>Customer does this</td>
<td>Customer does this</td>
<td>Customer, dealer or third party</td>
<td>Customer provides</td>
</tr>
<tr>
<td>(Product focused approach)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxi</td>
<td>Supplier chooses</td>
<td>Customer is picked up</td>
<td>Supplier does this</td>
<td>Supplier does this</td>
<td>By the ride, based on time and distance</td>
<td>Supplier provides</td>
</tr>
<tr>
<td>Enterprise Car Rental</td>
<td>Customer chooses from local stock</td>
<td>Customer picks up, or is picked up</td>
<td>Supplier does this</td>
<td>Supplier does this</td>
<td>By the day</td>
<td>Customer is responsible</td>
</tr>
<tr>
<td>Zip Car</td>
<td>Customer chooses from local stock</td>
<td>From ZipCar locations</td>
<td>Supplier does this</td>
<td>Supplier does this</td>
<td>By the hour</td>
<td>Customer purchases from supplier</td>
</tr>
</tbody>
</table>
Services Platforms

• How can you sustain differentiation in services?
  – Little or no IP
  – Observable experiences
  – Therefore, easy to copy (?)
Services Platforms

• How can you sustain differentiation in services?
  – Little or no IP
  – Observable experiences
  – Therefore, easy to copy (?)

• Service Platforms can sustain differentiation
  – Platform: a multi-sided market
  – The company’s technologies become the basis for others’ technologies and innovations
  – The company is able to shape the direction of evolution
  – Others invest their money, making your service more valuable (value multiplier): iFund
By understanding and accelerating work evolution, Service Science will impact productivity of human-tool systems.

<table>
<thead>
<tr>
<th>Human System</th>
<th>Tool System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborate (incentives)</td>
<td>Augment (tool)</td>
</tr>
<tr>
<td>Delegate (outsource)</td>
<td>Automate (self-service)</td>
</tr>
</tbody>
</table>

Help me by doing some of it for me (custom)
Help me by doing all of it for me (standard)

Organize People (Socio-economic models with intentional agents)
Harness Nature (Techno-scientific models with stochastic parts)

Example: Call Centers

Collaborate (1970)
Experts: High skill people on phones
Tools: Less skill with FAQ tools

Augment (1980)

Delegate (2000)
Market: Lower cost geography (India)

Automate (2010)
Technology: Voice response system

Source: IBM Research
Why Technology Commercialization is Hard to Manage: Mapping Across Domains

Technical Inputs: e.g., feasibility, performance

Business Model
- market
- value prop.
- offering
- how paid
- costs/margins
- scale
- assets

Economic Outputs: e.g., value, price, profit

Measured in technical domain

Measured in social domain

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Engineering Business Models

• Given path-dependent effects and cognitive limits on search....

• Can organizations develop processes to construct, refine, and pro-actively change their business models?
Other Companies Studied

- IBM
- Xerox
- GE Aircraft Engines
- Johnson & Johnson
- Music industry
- KLM Airlines (Holland)
- Ericsson (Sweden)
- TSMC (Taiwan)
- London Tube/Alstom (UK)
- Asian Paints (India)
- ShaanGu (China)
- SSIPEX (China)
- El Bulli (Spain)
Blueprint for Common Restaurant, Mikko Järvilehto – Innovation in Services and Business Models Course

Physical Evidence
- Ad/Website
- Restaurant exterior
- Parking
- Employees desk and dress
- Interior, Table and tableware
- Drink and Food menu
- Employees memo
- Supply of food & drinks
- Bill
- Pay options
- Restroom
- Restaurant exterior
- Parking

Customer Actions
- Make reservation
- Arrive at restaurant
- Ask for table
- Go to table
- Receive menu
- Order drinks and food
- Eat
- Order Bill
- Pay
- Visit Toilet
- Leave

Onstage Contact Employee Actions
- Greet & Check reservations
- Escort
- Deliver menu
- Write order
- Deliver Food
- Deliver Bill
- Use payment system

Backstage Contact Employee Actions
- Make reservation for guest
- Take food Order
- Prepare Food
- Payment system

Support Processes
- Reservation system
- Table Chart
- Prepare Food
- Payment system

Line of Interaction
Line of Visibility
Line of Internal Interaction

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