Developing a Winning Business Model

Brian S. Silverman
J.R.S. Prichard and Ann Wilson Chair in Management
Rotman School of Management
University of Toronto
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silverman@rotman.utoronto.ca
Today

- What is a business model?

- Why does one need a business model?

- What does a good business model look like?
Why do I need (to waste time developing) a business model?

- Why?

- Because scientists/engineers think like scientists/engineers

Scientists/engineers are notoriously:

- Smart
- Logical
- Rational
- Practical
- Fair-minded
- Proud of their work

... and that’s the problem

- Business development is different than technology development and requires a (slightly) different skill set
But what about Ralph Waldo Emerson?

- “Build a better mousetrap, and the world will beat a path to your door”

- Two problems
  1. He never said it.
  2. The research doesn’t support it.

- The basic mousetrap (1897)

- How much innovation in mousetraps since then?
Mousetrap innovation

- Since USPTO’s founding in 1828, how many mousetrap patents in U.S.?  
  - 4,400 patents (Hargadon, 2010)

- How many new mousetrap patent applications each year currently?  
  - 400 as of the mid-1990s (Hope, 1996)  
  - 40 of these are granted

- How many out of these have made money?  
  - 20 out of the 4,400
"The protruded length of each retractable biting portion is automatically adjusted. Hence, the captured mouse will not bleed, so it is sanitary."
A high-voltage output circuit is connected to killing plates which are activated with a high-voltage pulse train when a pest interrupts the infrared beam signal...
Electrocuting Mousetrap with Automatic Chamber-Clearing Mechanism

An electronic mouse trap is provided having multiple kill and automatic killing chamber clearing capabilities. The trap includes an elevated killing chamber, notably mounted on a base that houses a reflection bar positioned under the chamber and which has an entrance pathway that provides mice with access to the chamber. Upon completion of a killing cycle and the killing of a mouse, the chamber is automatically reset by a gear motor assembly, held in a vertical position that is slightly below the floor of the chamber. The chamber rotates approximately 180 degrees so as to be inverted, allowing the dead mouse to fall downward onto the reflection bar. Once the chamber has been lowered and the mouse removed by gravity, the gear motor receives the initiation signal and returns the chamber to its upright position wherein it is ready to initiate the killing cycle for another mouse.

20 Claims, 25 Drawing Sheets
Each pest control device includes a pest sensor and a wireless communication circuit to transmit information from the corresponding sensor. The devices also configure to define a local wireless communication network.
Why don’t these innovations succeed?
Successful development of a technology-based venture rests on three foundations:

- Markets
- Technologies
- Value Creation
- Organizational Capability
- Competitive Understanding

...or rests on answering three key questions

The “business model” is the logic by which you answer these questions

- **Markets**
  - How will we create value?

- **Technologies**
  - Do we have the organizational capabilities necessary to deliver it?

- **Can we capture this value in the face of competition?**
…or rests on answering three key questions

Markets
How will we create value?

Technologies

Do we have the organizational capabilities necessary to deliver it?

Can we capture this value in the face of competition?

The “business model” is the logic by which you answer these questions

WTP

Mfg
Deliv
Mktg
Svee
Sales

WTP

WTP

WTP

cost

cost

cost
Business model logic – questions to ask

- Customer value proposition
  - what value do we create for the buyer?

- Technology and operations management
  - what organizational capabilities must we assemble?

- Go-to-Market plan
  - at what level of profit can we attract customers, given likely competitive responses?
Customer value proposition: What do buyers value?

- Customers care about benefits, not technological prowess

- Customers might not receive any benefit from an invention
  - Examples: whiteners in detergent; aircraft that can fly halfway around the world

- Customers value benefits over technological elegance
  - Example: my buddy Vito (Microsoft vs. Apple)

- Aside: Why do entrepreneurs often overestimate the benefits that customers see in their product/service? Let’s go to the research…
So how can you identify what buyers value and how much they value it?

One rule of thumb and four tools for thinking about buyer value

- **Rule of thumb:**
  - Allocentrism

- **Tools:**
  - Value curves
  - Scenarios
  - Economic valuation
  - Surveys/focus groups
Rule of thumb: Allocentrism

- Put yourself in the shoes of the buyer
  - Observe buyers in action
  - Do what buyers do
  - Talk to buyers

- Examples
  - Bloomberg
  - User-generated innovations (tennis rackets; medical devices, etc.)

- Aside: this is one of the big secrets of successful strategy!
  - (You would pay several thousand dollars for this insight at a business school)
Tool: Value Curves

[W.C. Kim & R. Mauborne, Blue Ocean Strategy]

Picture = “strategy canvas”
Line = “value curve”

Starbucks

Coffee shop

<table>
<thead>
<tr>
<th>Price</th>
<th>Quality</th>
<th>Selection</th>
<th>Personalization</th>
<th>Ambience</th>
<th>Lounging</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>
Value Curve of Formule 1 in French Low-Budget Hotel Industry

Key elements of product, service, and delivery
DELL value curve in personal computers

[Graph showing the relative level of technology quality, customization, after-sales support, speed of delivery, sales advice, and price for HP, IBM, Compaq, and Dell.]
Time out: Shall we try to develop a value curve?
Tool: Scenarios [G. Moore, Crossing the Chasm]

(NB: See examples of scenarios in G. Moore, Crossing the Chasm, and/or in the Harvard Business School case “Documentum,” HBS Case #502-026)
“Toy” example:
- My machine allows you to make twice as many spoons as her machine
- My machine uses 100,000 fewer kWh in electricity each year
  - Electricity costs 1 cent per kWh
- I should be able to charge up to two times the price of her machine, plus the discounted present value of $1,000/year

Real-world example: “Silverman” Injection Molding Company *
- Silverman charges $1.2 million for a plastic-bottle-making machine
- Rival charges only $1 million
- Is Silverman charging too much?

- Insert some math here…

- Buyer must pay $1.3 million plus $45,000/year to get same output from rival machine as from Silverman machine (in present value, roughly $1.5MM) → SILVERMAN INJECTION MOLDING CO. IS NOT CHARGING ENOUGH!

* Name of firm has been changed
Tool: Surveys & focus groups

- It is possible to find out how potential buyers are likely to respond to your invention through surveys and focus groups

- Key:
  - Ask right questions
  - Listen
  - Gain input from competent market researchers

- Approaches:
  - Qualitative
  - Quantitative (i.e., conjoint analysis)
Technology and operations management: how can you deliver on this customer value proposition?

- Every activity/policy is a potential opportunity to deliver customer value
  - Every activity is a potential opportunity to deepen uniqueness
  - Every activity is a potential opportunity to reinforce other activities
  - Example: EDLP at Wal-mart
  - Example: Dell’s cutting out conventional retail activities

- Assets/resources are required to support value-enhancing activities
  - Every investment in assets/resources is a potential opportunity
  - There is no limit to the creative ways in which you can access these assets

- Customers care about benefits, not activities or assets themselves (most of the time)
So how can you evaluate opportunities to deliver value?

One rule of thumb and two tools for thinking about assembling assets/activities to deliver value

- Rule of thumb:
  - Allocentrism

- Tools:
  - Value net
  - Appropriability/complementary assets framework

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Tool: Value Net (to make choices about how to access assets/activities)

- Focal firm
- Partnership potential of suppliers
- Collaboration with existing/potential competitors
- Partnership potential of buyers
- Collaboration with complementors
Tool: Value Net (to make choices about how to access assets/activities)

“Customer co-creation” at Volkswagen

Collaboration with existing/potential competitors

Focal firm

Partnership potential of suppliers

Collaboration with complementors

Partnership potential of buyers
Tool: Value Net (to make choices about how to access assets/activities)

“Virtual telecom” at Bharti Airtel

- Partnership potential of suppliers
- Collaboration with complementors
- Partnership potential of buyers
- Collaboration with existing/potential competitors
- Focal firm

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Dell and the Value Net

Dell direct business model

- Collaboration with existing/potential competitors
- Partnership potential of suppliers
- Collaboration with complementors
- Bypassing of immediate buyers
- Collaboration with ultimate buyers
Linking assets/activities to the delivery of customer value

High

Relative Level

Low

HP, IBM, Compaq

Dell

Technology quality

Customization

After-sales support

Speed of delivery

Sales advice

Price

Mfg

Sales

Mktg

Deliv

idea

Partnership potential of suppliers

Collaboration with existing/potential competitors

Focal firm

Partnership potential of buyers

Partnership potential of suppliers
### Tool for thinking about accessing assets:
#### Appropriability/Complementary assets framework [Teece 1986]

**How should an innovator try to access assets?**

<table>
<thead>
<tr>
<th>Appropriability Regime</th>
<th>Tightly held</th>
<th>Freely available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tight</td>
<td>Innovator Divided b/w Innovator and Complementary Asset Owner</td>
<td></td>
</tr>
<tr>
<td>Loose</td>
<td>??? Complementary Asset Owner</td>
<td></td>
</tr>
</tbody>
</table>

**How to organize?**

<table>
<thead>
<tr>
<th>Appropriability Regime</th>
<th>Tightly held</th>
<th>Freely available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tight Partner with Complementary Asset Owner</td>
<td></td>
<td>Access complementary assets via open market</td>
</tr>
<tr>
<td>Loose Can you buy or rent compl. assets without revealing how valuable they are to you?</td>
<td></td>
<td>Access complementary assets via open market</td>
</tr>
</tbody>
</table>
Go-to-market plan: Will we be profitable, given competitors’ responses?

- Competitors will not sit still
  - Yet we often are surprised when they respond

- It is often possible to assess the magnitude of response
  - Economic motivations
  - Psychological motivations
  - Procedural cues
  - Behavioral cues
So how can you anticipate success given competitors’ future responses?

One rule of thumb and two tools for thinking about this

- **Rule of thumb:**
  - Allocentrism

- **Tools:**
  - Resource assessment (VRIO)
  - Competitor analysis
Tool: Resource assessment (VRIO)  

Assess the sustainability of each key activity/asset— it may be unique today, but will it be unique tomorrow?

A key source of sustainability can be the system of activities in which an activity is embedded.

Example: Dell

<table>
<thead>
<tr>
<th></th>
<th>Valuable?</th>
<th>Rare?</th>
<th>Inimitable?</th>
<th>Organized properly?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Just-in-time production capability</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Supplier relationships</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>On-line ordering capability</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Strong innovation skills</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tool: Competitor analysis

Economic motivations
Psychological motivations
Procedural cues
Behavioral cues

Holland Sweetener Corporation

NutraSweet

Enter

Stay out

Fight

Accommodate
Do I have a good business model? [Casadesus-Masanell & Ricart, 2011]

Ryanair’s Business Model Then

This depiction of Ryanair’s business model in the 1980s highlights the airline’s major choices at the time: offering excellent service and operating with a standardized fleet. The airline was forced to redesign its business model in the face of stiff competition.

Does the logic make sense?

Are the underlying assumptions plausible?

Are there positive feedback loops? (to support growth and profit)

Is it robust to likely competitive responses?
A good business model will (probably have to) evolve over time

Ryanair’s Business Model **Now**

Ryanair’s current business model rests on the key choices of offering customers low fares and providing nothing free. The rigid consequences include a reputation for fair fares and low fixed costs. Ryanair’s choices are aligned with its goals, generate cycles that reinforce the business model, and are robust given that it has been operating as a low-cost airline for 20 years.
Additional resources


