An Age Old Question: Make or Buy

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Industry Case Learnings

- Background
- The Question
- Initial Hypothesis Tested
- Methodology
- Results
- References
Background
Boeing's 787 Dreamliner, their most ambitious project turned out to be an outsourcing nightmare.

- Components didn’t fit together properly.
- Electrical systems failure.
- Led to 3 yrs. delay.
- $1.2 bn over the budget.

General Motors

Split S15 bn contract for IT Services among Capgemini, Covisint, EDS, HP, IBM and Wipro.

- Multiple outsourcers encourage competition.
- System failure with one suppliers will not harm entire IT infrastructure.
- Short-term contracts minimizing long-term financial risks.

Licensed North American production to US-based Miller Brewing Company (1970s)

- $1.8 mn loss in revenues.
- Löwenbräu’s customer’s attractiveness fell.
- Product no longer had the catch of genuine German beer.

Partnered with Google for data research and clinical trial programs for robotic-assisted surgery pilot.

Pharmaceutical Industry:

- Expiring patents
- Tighter regulatory requirements
- Emergence of generic drugs and biosimilar
- Internal manufacturing for better control.
- Contract manufacturing non-core business like Packaging, Logistics.
The Question
The Objective

To determine the most appropriate method of product realization using a structured methodology for evaluating alternatives - internal manufacturing or external procurement of products or services.
Initial Hypothesis
Managers believe that quantities ordered vary with Boom/Bust cycles, which in turn varies external pricing.

Managers believe that external pricing rises during boom cycles and falls during bust cycles.

Managers believe that internal sourcing has a unified price that does not change with the Boom/Bust cycles.

Graph showing internal price fluctuations over a period of 5 years.
Methodology
The Assessment Factors

- Interviewed Insourcing Category managers and Global Sub-category managers.
- Interviewed the manufacturing managers to explore the flexibility in their operations.
- Interviewed the global suppliers and partners to assess supplier risks.
  — b. Site Selection process of a multinational CPG company.

Make-vs.-Buy Decision Factors

- Intrinsic Advantages
  - Strategic Factors
  - Technologic Factors
- Extrinsic Advantages
  - Market Factors
  - Economic Factors
Results
The Assessment Model
## Results: The Assessment Model

<table>
<thead>
<tr>
<th>Segment</th>
<th>Criteria</th>
<th>Weight</th>
<th>Evaluation Questions</th>
<th>Score</th>
<th>Weighted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrinsic Advantage</strong></td>
<td><strong>Strategic Factors</strong></td>
<td>5%</td>
<td>Does the product/technology fit the business strategy?</td>
<td>5</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10%</td>
<td>Is the product/technology core to the business?</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3%</td>
<td>Do we have the capacity to build the product?</td>
<td>3</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3%</td>
<td>Can we scale up the operations?</td>
<td>1</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3%</td>
<td>Do we have the skills to make the product?</td>
<td>5</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Technological Factors</strong></td>
<td></td>
<td>10%</td>
<td>Is the product design modular for parts assembly?</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10%</td>
<td>Is the manufacturing/delivery lead time from suppliers significant?</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3%</td>
<td>Is the product/technology patented? Can we entail the risks of IP Loss?</td>
<td>3</td>
<td>0.09</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3%</td>
<td>Do we have a technology differentiation to make the product inhouse?</td>
<td>5</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Extrinsic Advantage</strong></td>
<td><strong>Market Factors</strong></td>
<td>0%</td>
<td>How significant are the barriers to entry?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0%</td>
<td>Are the complementary assets available?</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4%</td>
<td>Can we achieve economies of scale with inhouse production?</td>
<td>1</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10%</td>
<td>Do we have alternate suppliers in the market?</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4%</td>
<td>Is the supplier market stable? What is the dependence risk?</td>
<td>5</td>
<td>0.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4%</td>
<td>What are the geopolitical risks involved?</td>
<td>3</td>
<td>0.12</td>
</tr>
<tr>
<td><strong>Economic Factors</strong></td>
<td></td>
<td>10%</td>
<td>What are the switching costs?</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8%</td>
<td>Do we need a significant investment upfront?</td>
<td>5</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>What are the transactional costs for supplier management?</td>
<td>5</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td>Is the currency exchange rate inflated for cross-country suppliers?</td>
<td>3</td>
<td>0.15</td>
</tr>
</tbody>
</table>

**Total**: 1.86

**Score**
- 5-Exorbitant
- 3-Substantial
- 1-Minimal
The 2x2 Assessment Matrix

Boeing 787 Dreamliner Score = 1.86, 1.96
Results: Analytical Model
Questions
<table>
<thead>
<tr>
<th></th>
<th><strong>Harvard Business Review – Strategic Sourcing – Make or not to Make</strong></th>
</tr>
</thead>
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| 2) | A research paper: SUPPLY CHAIN DESIGN: THE MAKE-BUY DECISION PROCESS  
(The Second World Conference on POM and 15th Annual POM Conference, Cancun, Mexico, April 30 - May 3, 2004) |
| 3) | Thesis Company’s Procurement document |
| 4) | Make Vs. Buy – Revisited by AT Kearney |
| 5) | Make or Buy by PwC: Three pillars of sound decision making |