International Competitiveness and Innovation

Case Study: Amazon
Amazon.com was born in 1995. The name reflected the vision of CEO Jeff Bezos, to produce a large-scale phenomenon like the Amazon river; today it sells over US$10 billion worth of goods each year. Amazon’s original goals set the standard for the dot-com boom – grow at any cost, reach a critical mass at which network externalities kick in, and finance that growth through equity market and bank capital. This strategy was often referred to as ‘competing for eyeballs’, the scramble for customers’ attention which would create the virtuous cycle of positive feedback which in turn would fuel growth.

Amazon’s initial market was books, and its competitors were book superstores run by chains such as Barnes & Noble. On paper, the Amazon model certainly looked superior (see Table 6.2).

But as with many other dot-coms, it didn’t work out as well as anticipated. By around the year 2000 some analysts were predicting Amazon’s bankruptcy. Bezos hustled to reinvent the company, and to this day, his reinvention has not paused.

The problem that confronted Bezos in 2000 was that his internet-disintermediated business model – which he had predicted would be ultra-efficient – turned out actually to be more expensive than that of traditional retailers such as Circuit City and Best Buy. Once the sums included the company-wide costs of fulfilling orders, promoting sales and finding new customers, the margin in Amazon’s consumer electronics business became a negative 42 per cent. Every $1 of consumer-electronics revenue shipped out of the door cost Amazon $1.42. Compare that with profits and gross margins at Best Buy, which are 3 per cent and 23 per cent; at Circuit City Group they are 2 per cent and 21 per cent. Gross margin for the consumer electronics business at Amazon was 8 per cent.
The problem was simple. At a store, the customer actually has the merchandise in hand, and once past the cash register, the store has no more involvement with that inventory (except perhaps to restock). But Amazon’s work would just begin once the customer made a purchase; it faced the logistical problems of any delivery service or mail-order house. Amazon’s business was plagued with high levels of split shipments and long hauls, resulting in higher-than-expected fulfilment inefficiencies.

Table 6.2: Amazon versus Barnes & Noble (c. 1998)

<table>
<thead>
<tr>
<th></th>
<th>Amazon</th>
<th>Barnes &amp; Noble</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of stores</td>
<td>1 website</td>
<td>1011</td>
</tr>
<tr>
<td>Number of employees</td>
<td>1600</td>
<td>27,000</td>
</tr>
<tr>
<td>Titles per superstore</td>
<td>3.1 million</td>
<td>175,000</td>
</tr>
<tr>
<td>Total sales</td>
<td>$542 million</td>
<td>$3.1 billion</td>
</tr>
<tr>
<td>Sales per employee per year</td>
<td>$375,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Sales growth (last quarter of 1998)</td>
<td>306%</td>
<td>10%</td>
</tr>
<tr>
<td>Book returns</td>
<td>2%</td>
<td>30%</td>
</tr>
<tr>
<td>Inventory turnover per year</td>
<td>24%</td>
<td>3%</td>
</tr>
<tr>
<td>Operating income in 1998</td>
<td>-$29.2 million</td>
<td>$147.3 million</td>
</tr>
</tbody>
</table>
In the fiscal year 2000, Jeff Bezos gave up on ‘network effects’. FedEx may have loved Amazon’s network, but the payoff to Bezos was less certain. Amazon’s share of the market was simply too small to take advantage of any network effects. This was also the year that Amazon suffered its identity crisis – the firm that had once been the darling of dot-com investors, and had established the ground rules for internet competition, was struggling just to survive.

Bezos quickly shifted his view of the Amazon business model to that of a ‘fee for service’ model. The more interesting question concerned who actually would be billed the fee – who Amazon saw as a paying customer. Of course there were the retail customers that would seek out books, CDs, consumer electronics and so forth. But Bezos also followed eBay’s lead in encouraging small retailers to use its services. Particularly on books and CDs, the price of used or discounted titles from Amazon’s partners was displayed along with Amazon’s own price, and Amazon, for a fee, would handle all parts of its partners’ transactions. Amazon also began to provide its services to other large retailers with a recognized brand, but no internet presence – Toys ‘R’ Us was the most prominent of these recognized brands. The approach was beginning to look like traditional retailing in the age of ‘big box’ stores - offer the maximum selection of merchandise (in Amazon’s case perhaps 6 to 7 million items) under one roof.
In its 2005 annual report, Amazon describes the services it provided, many above and beyond traditional retailing services, which allowed the company to stay competitive:

We work to earn repeat purchases by providing easy-to-use functionality, fast and reliable fulfilment, timely customer service, feature rich content, and a trusted transaction environment. Key features of our websites include editorial and customer reviews; manufacturer product information; Web pages tailored to individual preferences, such as recommendations and notifications; 1-Click® technology; secure payment systems; image uploads; searching on our websites as well as the Internet; browsing; and the ability to view selected interior pages and citations, and search the entire contents of many of the books we offer with our ‘Look Inside the Book’ and ‘Search Inside the Book’ features. Our community of online customers also creates feature-rich content, including product reviews, online recommendation lists, wish lists, buying guides, and wedding and baby registries.
From 1998 onward, Amazon had adopted another characteristic of physical retailers – an obsession with performance metrics. Bezos called it a ‘culture of metrics’. He made sure that responsible employees had the latest inventory availability information, delivery date estimates and options for expedited delivery, as well as delivery shipment notifications and update facilities – and furthermore that they were evaluated on how well they managed these statistics. This focus on the customer has translated into excellence in service, with the 2004 American Customer Satisfaction Index giving Amazon.com a score of 88, which was at the time the highest customer satisfaction score ever recorded in any service industry, online or offline.

Rather than guessing, Bezos also developed an obsession for customer satisfaction metrics for the Amazon website. Each site was closely monitored with standard service availability monitoring (for example, using Keynote or Mercury Interactive) site availability and download speed. Interestingly it also monitored per-minute site revenue upper/lower bounds. These effectively constituted an alarm system similar to those in a nuclear power plant. If Amazon’s revenue from a site fell below $10,000 per minute, alarms would go off. Furthermore there were internal performance service level agreements for web services where a certain percentage of the time, different pages must return in a specific number of seconds. As
with employees, the web service providers were responsible for these targets and could be dropped when they failed to meet them. This obsession with 24/7 service was Amazon’s online and mail order counterpart to Wal-Mart’s greeters, associates and cleaning personnel – they were essential to making Amazon an attractive place to shop.

By 2003, Bezos’s culture of metrics was pursued with a vengeance. A fully online business like Amazon could record every move a visitor made, every last click and wobble of the mouse. As the data piled up, it could potentially analyse all sorts of consumer behaviour, and even conduct controlled experiments by altering website algorithms, changing pricing or suggestions and so forth, and profiling how customers responded.

Amazon began by developing a ‘Creator Metrics’ tool – essentially a flexible report generation tool. But soon it realized that standard statistical packages would better suit the needs of experimentalists with massive customer behaviour datasets that would be the envy of any marketing professor. Bezos began pushing managerial decision making to a new paradigm which he termed ‘automation replaces intuitions’, in which ‘real-time experimentation tests are always run to answer these questions since actual consumer behaviour is the best way to decide upon tactics’. By 2005 Amazon had evolved a culture of experiments of which so-called A/B tests are key components. If an employee suggested that decision A was the best decision, this would never be taken at face value – the employee would initiate limited market testing on certain websites to see whether customers liked A or B better (thus A/B testing). And if the firm decided to go with decision A, then that decision would be monitored after implementation, as customer satisfaction could be temporary.
Amazon has found that as its users evolve in their online experience, the way they act online changes. This means the company has to constantly test its features and make them evolve.

The result is a system where humans are progressively being drawn further out of the decision-making loop. Statistical algorithms handle the critical and strategic decisions for Amazon, and monitor the activities implemented as a result of those decisions to see that they stay on track.

So successful has been this approach that Jeff Bezos is formulating future strategy around ‘selling the store’. Through its partner programmes Amazon is already running retail websites for many other companies, and now it is promoting a complete package of retail services like its own for anyone who wants to put up a store. And it is selling unbundled computing services through its data storage initiative, and a virtual service system call Elastic Compute Cloud. Because Amazon already has a huge server capacity and retailing tools finely honed by years of metrics analysis, it feels that these are services that it can potentially sell for more than other services providers.

In a sense, this represents yet another in Amazon’s series of identity crises. Perhaps Amazon doesn’t quite know what it wants to be when it grows up. But it seems to be maturing innovatively, and with a style that keeps everyone around it excited.
session 02, lecture 04: Competences

Amazon Case Study, Westland, Chapter 6 (Page 139-142)

1. Why do you think Amazon’s (and many dot-com’s) pursuit of network effects (eyeballs) was such a failure?
   – Are “network effects” illusory?
   – Do network effects only apply to certain business models (and retail is not one of them)?
2. When in 2000 Amazon made its transition into being more of a traditional mail-order retailer, do you feel that

– this represented a viable model for the company?

– or was Jeff Bezos just trying to justify his investment in company infrastructure (services, bandwidth, etc.)?
3. Can you see problems with a “culture of metrics”? 

- Can human judgment be better than decisions based on statistics?
- Why do you think the “culture of metrics” worked at Amazon?
Amazon Case Study, Westland, Chapter 6 (Page 139-142)

4. Why don’t more companies A/B their decisions?
Amazon Case Study, Westland, Chapter 6 (Page 139-142)

5. Is there any danger in taking humans out of the decision-making loop in a company?

   - Do you think that Amazon will suffer / is suffering from some of these problems?
6. Why would any company use Amazon’s retailing computer services rather than just renting them from a low-cost internet service provider?

   – Is there any problem with a retailer giving up its customer data to Amazon?
session 02, lecture 04: Competences

Amazon Case Study, Westland, Chapter 6 (Page 139-142)

7. What do you think is the best business for Amazon to move into in the future?
Questions?