The Challenges of Measuring Non-Existent Markets

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One critical piece of the new product development process is developing market size estimates. Market size estimates drive volume forecasts, which help companies decide how to allocate their scarce resources. Well-managed companies have finely honed processes for estimating the impact of introducing a new product into an existing market. However, those processes tend to give misleading information when asked to estimate the impact of a new product in a new, unknown market. As the old saying goes, "Markets that don't exist can't be analyzed." Successfully moving forward into new markets therefore requires a *different* process that focuses on running experiments to address key assumptions and adjusting appropriately.

The challenges

There are four principal challenges related to measuring non-existent markets:

1. **Data does not yet exist**. When a market doesn't exist, there are no baseline market research reports or time-series data sets to analyze.
2. **Lack of comparable products**. Without existing data, there is a natural tendency to look for good analogies. However, for truly new markets, there typically are no good historical analogies to look for to estimate uptake rate and penetration. Basing estimates off flawed analogies can lead to dramatically incorrect conclusions.
3. **Existing consumers provide bad data**. When a new product or service has disruptive characteristics – that is, it trades-off some dimensions of performance for new benefits around simplicity, convenience and low prices – trying to estimate the market size by talking to existing consumers in markets that appear to be similar to the new market is very dangerous. The existing consumers will naturally discount and denigrate the innovation because they compare it to products and services they are accustomed to consuming.
4. **New consumers provide unreliable data**. Consumers are notoriously bad at visualizing the uses of products or services they are not yet using or do not exist. Because of this, the predictive value of consumer research into emerging markets is low. Furthermore, new markets often develop in surprising ways with surprising consumers, making it difficult to be sure that you are even gathering data from the right sources. Finally, consumers that are currently not consuming a product or service lack reliable reference points, making their reactions to prices somewhat unreliable.

The evidence

A number of classic case studies illustrate the difficulty of measuring non-existent market. For example:

- In *The Innovator's Dilemma*, Clayton Christensen analyzes the pre-launch four-year volume forecasts of five major new disk drive introductions by *Disk/Trend* magazine, a respected industry journal.[1] He found that:
  - In the two product introductions into *sustaining, known* markets, the predictions were exceedingly accurate, within 8 and 7 percent of what the industry shipped
  - In *disruptive, unknown* markets, predictions were typically off by wide bands. The forecasts for the three disruptive introductions missed by 265, 35 and 550 percent.
- In the 1950s, IBM hired Arthur D. Little to estimate the size of the photocopier market to help IBM decide whether to purchase Xerox's patents. In *Reengineering the Corporation*, Michael Hammer and James Champy write: "ADL concluded that even if the revolutionary machine captured 100 percent of the market for carbon paper, dittograph and hectograph–the techniques used for copying documents at the time–it still would not repay the investment required to get into the copier business."[2]
- In the late 1970s, AT&T asked McKinsey & Co. to estimate the potential market for wireless phones. McKinsey estimated that by 2000, the market size could be about 900,000 consumers. It wasn't just McKinsey that got it wrong: the most optimistic prediction estimated a total market of 10 million subscribers.[3] In 2000, there were more than 100 million wireless subscribers in the United States alone.
- A report by a market research firm in May 2002 predicted that there would be 900,000 MP3 players with hard disks (i.e., Apple iPod) sold in 2003. Apple itself sold 940,000 iPods in 2003. Its 36% market share translated into a total market size of hard disk-based MP3 players of more than 2.6 million.[4]

What Can be Done

Addressing the challenges detailed above requires that companies use a different approach to estimating the size of emerging markets. Specifically:

- Determine what "big enough to be interesting" is; use that as the required "answer" or market projection
- Determine the assumptions that would need to be true to meet that projection
- Define a go-forward strategy to run experiments to gain certainty about critical assumptions
- Introduce the product in phased approach with geographic and / or distribution steps to read and react to the demand growth; each phase should produce enough profit to be as self-sustaining as possible
- Be prepared to dramatically change the strategy as more evidence comes in
- Minimize fixed cost investments until clarity is increased to make sure there is sufficient organizational flexibility to adapt to market signals

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[1] For more details, see Christensen, Clayton M. *The Innovator's Dilemma,* 2nd. Edition. HarperBusiness, 2000. p 144-146.

[2] Hammer, Michael and James Champy. *Reengineering the Corporation*. HarperCollins, 1993.

[3] "Cutting the Cord," *The Economist* 7 October 1999 cites the McKinsey research.

[4] Sources: "From TiVo to the iPod, Hard Disk Drives Penetrate Consumer Electronics Products," In-Stat/MDR, May 2002; "Worldwide Compressed Audio Player 2004-2008 Forecast: MP3 Reaches Far and Wide," International Data Corp, August 2004.