

Overcoming Barriers to Market Understanding: Achieving Innovative Technology Product and Service Success

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Introduction

It's no secret that many technology introductions fail to obtain market acceptance. Up to 75% of technology development projects don't succeed commercially, according to university researchers, and anywhere between 30% to 50% of product launches fail.¹ Large, established technology companies can usually weather a few such failures, but early stage companies with more at risk have less room for error. Indeed, a recent study of nearly 200 startups that received venture capital in the mid-to-late 1990s found that 44% had failed by the end of 2000.² Thus, even though a company may think it has a great idea for a new technology, its success in the marketplace is not a sure bet.

Why do new technologies often fail in the marketplace? It's common knowledge that poor product design or poor quality, inadequate marketing execution, and hit-or-miss sales strategies are major reasons why new technology products or services fail, or at the very least, falter. But even with a good design and flawless marketing and sales execution new innovative technologies still fail. The underlying reason for this is that company managers don't have a clear understanding of the market intended for the technology. This understanding is often overlooked in the rush to get the product or service out of the door. Yet without it, the technology is neither designed nor marketed with a thorough knowledge of the needs, expectations,³ and desires of the decision-makers who potentially would buy and use the technology.³

Barriers to Understanding a Market

The difficulty for company managers designing and marketing innovative technologies is that barriers exist which impede the understanding of a market and its decision-makers who buy and use technologies. Understanding these barriers can help managers develop strategies to mitigate and overcome their effects. There are three categories of barriers:⁴

- **Uncertainty about target market segments** that are relevant to a technology product or service. Some segments will be early adopters, and others will follow; still others

¹ Cooper, "Stage-Gate Processes: A New Product Road Map to the Marketplace," *inKNOWvations*, October 2001.

² Manigart et al, "The Survival of Venture Capital Backed Companies (working paper)," Ghent University, September 2001.

³ See, for example a good synthesis of research, McNamara et al, "Market Success of Premium Product Innovation: Empirical Evidence from the German Food Sector," University of Kiel, 2003; and also Giunta and Trivieri, "Understanding the Determinants of Information Technology Adoption. Evidence from Italian Manufacturing Firms," University of Calabria, 2004; Breede & Young, "Patterns of Advanced Technology Adoption and Manufacturing Performance: An Overview," Economics and Statistics Administration (U.S.), 1995, and Manigart et al, op cit, 2001.

⁴ In technical terms, I'm discussing information processing (after information theorist C.E. Shannon) barriers that represent failures to accurately or completely convert latent or hidden information (from a market, for instance) into readily accessible information that is knowable and sharable (to company managers). These ideas have been extended by organizational learning researchers (for example, J.G. March et al) over past twenty or so years.

may never buy at all. The challenge is to understand which have the greatest and least fit for the technology and why that's the case.

- **Misreading market signals**, since even for known market segments managers may be fooled when they've misread or misunderstood which market signals are important and not.
- **Analytical bias**, preventing even accurate market information from being appropriately evaluated and acted upon.

Barrier #1: Uncertainty About the Target Market

Uncertainty about whether a target market is the right one for a new technology product or service, and how to go about positioning the technology.

Often market knowledge is based on personal experience and *ad hoc* discussions with colleagues, friends, and customers. This is usually not enough to provide a complete picture of the market. The greater the uncertainty about a target market, the greater the probability that a product's design, marketing, and sales will not resonate to the market. In the worst case, it could even be the wrong market for the technology.

Example

A few years ago, I worked with a well-known Silicon Valley Internet pioneering company. Its product development, marketing, and sales strategy was "we will build it and they will buy it." Fortunately, the products were new and disruptive, so money just poured in. Market understanding was highly informal, and there were no targeted business segments even though the company had traction in numerous industries. This worked well enough for a couple of years, but revenues began to slow. Executives became interested in which markets the company played well, and in which ones they should focus their resources. Part of my segmentation work included an analysis of the company's accounts. I was able to identify high-opportunity segments. The company began to organize its marketing and sales around them. However, in the face of intense competition, this was nearly too late. By the time the company had refocused, the competition was doing a much better job at segment marketing and sales.

Barrier #2: Misreading Market Signals

Company managers sometimes misread, mislabel, or misunderstand marketplace information, resulting in inappropriate design, placement, or positioning of a new technology.

Markets are dynamic, noisy places. It's difficult enough to identify critical signals from a market, let alone to prioritize what's important and what's not. As a result, something of relative unimportance can easily get acted upon, while something major might be entirely missed. There's even the possibility that the wrong information could influence a critical decision.

Example

Not long ago, I worked with a company that misread and sometimes just ignored marketplace signals. Carving out a new Internet services space, it was focused on its main competitor, often imitating it in lock-step. The company ignored warning flags in the larger marketplace that would ultimately impact its business. The company eventually failed, but not after spending one-quarter of a billion dollars of investor money.

The misuse of market research is another prime cause for misreading market signals because the incorrect information masquerades as "empirical" and "objective."

Example

I once managed the brand attributes tracking function for a major computer company with large quantitative global surveys. These surveys gave good readings of brand equity and provided some insight into consideration and purchase dynamics. When comparing several brand attributes, we found that product look and design wasn't terribly important to survey respondents.

Hence, little effort was made to redesign products. Executives tried to save money by repurposing an on-going study that was retrospective by design to inform product decisions. It was an unfortunate misuse of the study. Under new management, more prospective research designed to test look and design product ideas found resonance in the marketplace. The company then launched a series of well-designed products that turned around its fortunes.

Barrier #3: Analytical Bias

Manager predispositions not to test analytical assumptions or to seek out new information. If unchecked, it can result in the market failure of an otherwise promising technology.

Company managers, like all people, have analytical bias in the information they process. These include limited attention spans and the use of hierarchies of rules—some quite rational, others not at all—for filtering, sorting, and attaching meaning to the information they get. Some information, sensibly, is labeled as more important than other information, and some is completely ignored. The problem is that while these analytical biases may cast information in personally meaningful terms to a manager, those terms may not necessarily be relevant to decision-makers in markets who are likely to buy and use the technology.

Example

Here is an example of how the analytical bias barrier paralyzed a well-funded startup. The company had an innovative new telecommunications service idea geared to Internet service providers. It thought this service could run circles around the big “baby Bells” as well as other, smaller firms in the telecom space. Even though spawned in the digital melting pot of Silicon Valley, its directors chose to bring in traditional telecom executives who weren’t familiar with Internet business models. These executives analyzed information about market conditions through their telecom lenses which led them to fail in “reading” the Internet service provider market, particularly during a time of rapid change. The company could not mount a successful product story for its intended audience. In order to survive, it had to find a traditional product that would appeal to a smaller market.

Overcoming Barriers

Company managers can overcome barriers to understanding a market and successfully shepherd a technology in the marketplace (or, if the signs point to probable failure, search for new target markets or pull the plug early-on). The aim is to increase the probability of obtaining complete and accurate information about potential markets, and to understand that information. This will improve the odds of marketplace success for a new technology by aligning it more closely to the needs, expectations, and desires of potential buyers.

Overcoming Barrier #1: Uncertainty About the Target Market

To overcome the market uncertainty barrier, I recommend conducting systematic segment dynamics research. This research assesses the condition of a possible target market segment and objectively determines whether it can support a product or service. Relevant factors might include concentration, growth, net value, and operational characteristics of companies or industries. Decision-making processes and perspectives by decision-makers likely to use and buy the technology are important factors, as is the competitive environment.

In my experience, it’s important that this kind of research be done by someone who’s not too close to the new technology product or service. They must have no vested interest in its success or failure.

Example

To illustrate, I mistakenly allowed a client company’s VP to sit in on a research interview. He was so involved with defending the company’s technology when the interviewing participant raised concerns that it biased the results. We had to throw the interview out of the analysis.

If a company is large enough, the research can be conducted by specialists in staff departments—sometimes a strategic office reporting to a division president or central market research unit. In many cases, external specialists are contracted to conduct this kind of research, particularly primary research involving discussions with industry experts and decision-makers, since they offer some objectivity.

Example

An enterprise software company with which I worked went through a systematic segment dynamics project with high success. Originally targeting large Fortune 1000 companies and their subsidiaries in a “scattershot approach,” it was having little success in landing new prospects for its product. The sales force was demoralized. Not only were their “hit” rates low, but they found that companies showing some interest seemed to have unique requirements, so they couldn’t confidently talk-up the product to prospects. I led a systematic segment dynamics effort, which involved clarifying important aspects of the product, understanding the dynamics of potential markets, developing evaluation criteria, and having substantive discussions with decision-makers in those markets. The result was a highly targeted plan that gave marketing and sales a blueprint for approaching the market. A sales funnel was established and tracked. A systematic win-loss effort was begun that created additional learning. The company gained momentum in the target market. It used the same process to evaluate other markets, eventually tackling one additional high-opportunity industry. It succeeded and is still in business; its chief competitor which continued using a scattershot approach went into bankruptcy.

Overcoming Barrier #2: Misreading Market Signals

The best solutions for countering the misread market signals barrier are taking the pulse of a marketplace and using tools likely to provide accurate information. For new products or services, this involves market validation research that provides information about how a market might respond to a technology product or service by assessing the receptivity of decision-makers who are likely to buy and use it. Which market signals are believable? Have any important signals been omitted? I place emphasis on decision-makers, because feedback from them can warn of barriers as well as opportunities to the technology’s design, marketing, and sales strategies.

Market validation is a systematic process, and it is absolutely critical to choose the best approach given the type of product or service and target markets. For example, relying on a quantitative survey or focus groups when the target decision-maker audience is relatively small is not feasible. Surveys are a waste of time and money in emerging markets where little is known about the potential decision-maker population.

Market validation usually consists of three distinct components, and each has its own characteristics. They are:

- **Consideration and purchase.** This component identifies how decision-makers who are likely to buy the technology consider similar products and services, and why they have purchased them.
- **Features prioritization.** Identification of major features that are or are not relevant to decision-makers.
- **Benefits and positioning.** Evaluation of the chief benefits of a product or service from the perspective of the decision-maker who will buy and use it, and its relationship to competitive products or brands, packaging and sales channels.

In my experience, whenever technology companies have gone through systematic market validation studies, the result has been highly accurate analyses that inform product design road maps, marketing strategies, and sales approaches. Over the long-run, market validation should be coupled to other company management tools, like dashboards and scorecards, to periodically evaluate reasons for the technology’s uptake in the marketplace and threats from competition.

Overcoming Barrier #3: Analytical Bias

To overcome the analytical bias barrier, expand or modify the analytical rules with respect to the technology and its potential market. This is done by bringing in new, and typically well-ordered analytical rules that are not biased by personal predispositions.

One approach to expanding analytical rules is to conduct systematic, objective research on the market and on decision-makers likely to buy and use the technology. Results may challenge (or confirm!) assumptions, and help managers take actions with the technology that will better resonate to the market. When working with companies on segmentation research, for example, I have helped them develop objective and explicit criteria for evaluating information about a market. This places everybody on the same page when assessing market potential and opportunity for possible target markets.

An additional solution when conducting research designed to increase market understanding is to include numerous perspectives from stakeholders within the company, such as engineering, operations, marketing, and sales. Again, this broadens and enriches the analytical rules for assessing results.

Example

This process worked successfully in a features, benefits, and positioning research project that I managed for a new service technology being considered by an analytical instruments manufacturer. The service's feature set was in flux, with service, engineering, and even competing vendors jockeying to define it. Yet before we could take the research into the field, we had to have something that decision-makers who might buy the service could react to. We were able to get input on the most important features individually from each stakeholder. As the objective party, my firm synthesized the features into a common feature set. Additional features unique to each stakeholder's vision of the service were tested separately. The stakeholders signed off on the tested feature set and research design, as did the primary executive decision-maker for the service in the company. By including them early-on in the process and by getting executive support, study results were viewed as credible, and they were acted upon with satisfactory results.

Conclusions

Besides the obvious challenges of bringing a new technology product or service to market, there are three barriers to market understanding that, if overlooked, can cause a new technology to fail. The first barrier, uncertainty about the target market, and the second, misreading market signals, are outward-facing problems. They describe how information in a market that's external to a company is collected (or not collected, as the case may be) and incompletely or improperly assessed. The third barrier, analytical bias, is concerned with how the company acts on market information that's received. It's an inward-facing problem, as the biases and predispositions of company managers can limit the usefulness of relevant information.

Managers can overcome these barriers through a number of solutions. What these solutions have in common is the necessity of seeking valid information from the market, especially from decision-makers likely to buy and use the product or service. Managers also must keep open minds and continually test their assumptions. Overcoming these barriers can increase the probability of market success for a new technology. The technology will resonate closely to the needs, expectations, and desires of the decision-makers who will buy and use it.

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