Defend Your Research

HBR puts some surprising findings to the test

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Being Early Beats Being Better

The study: Henrich Greve and Marc-David Seidel studied the role of first-mover advantage in determining which technologies get adopted and which do not. They tracked the sales history of two wide-body jets: the McDonnell Douglas DC-10 and the Lockheed L-1011 TriStar. The researchers concluded that the DC-10's one-year head start contributed to its greater success in the market despite the L-1011's technical superiority. The DC-10 suffered from design flaws that led to multiple accidents but, nonetheless, was able to recover and keep selling.

The challenge: Can first-mover advantage really compensate for an inferior product? **Professors Greve and Seidel, defend your research.**

Greve and Seidel: The two planes we studied were a new type of aircraft for the emerging long-haul market, and they were considered interchangeable at launch. The DC-10—which was introduced to the market in 1971, a year before the L-1011—turned out to have potentially deadly design flaws, like a cargo door that in one case separated from the aircraft midflight. Yet during the two decades in which the planes were produced, the DC-10 had about twice as many sales as the L-1011 did. Our research found that the DC-10 prevailed because a series of seemingly trivial chance events helped an inferior product beat a superior one. Indeed, the accidents caused by the design flaws did have a negative effect—but not enough to change the eventual outcome.

HBR: Tell us more about those chance events.

These events can give a little bit of an early lead to one technology or the other in the competition for adoption. In this case, problems with the L-1011's engine manufacturer, Rolls-Royce, which was placed in receivership, delayed the delivery of the plane. The yearlong delay of the L-1011 gave the DC-10 a competitive buffer.

Are there other examples of this process, where inferior technologies won out because of early events?

One clear example in consumer products is the keyboard that we all use, the QWERTY keyboard. It was originally designed for the typewriter industry, and one of the purposes of the design—taking the letters out of their familiar order—was to slow down typists so that they wouldn't get the arms of the typewriter jammed. Now that we all type on computers, speed is no longer an issue, and we actually want people to type faster. But because of that early advantage, the purposely inefficient QWERTY keyboard ended up prevailing over designs that use alphabetical order.

Another example is the automobile engine. In the early days of that industry, engineers agreed that the steam engine was far more efficient than the gas engine. But in several popular races the steam engine produced so much power that the cars fell apart midrace. Those initial chance events eventually led to the dominance of the gasoline engine, as gas-powered cars, with their lower-power engines, broke down less often.

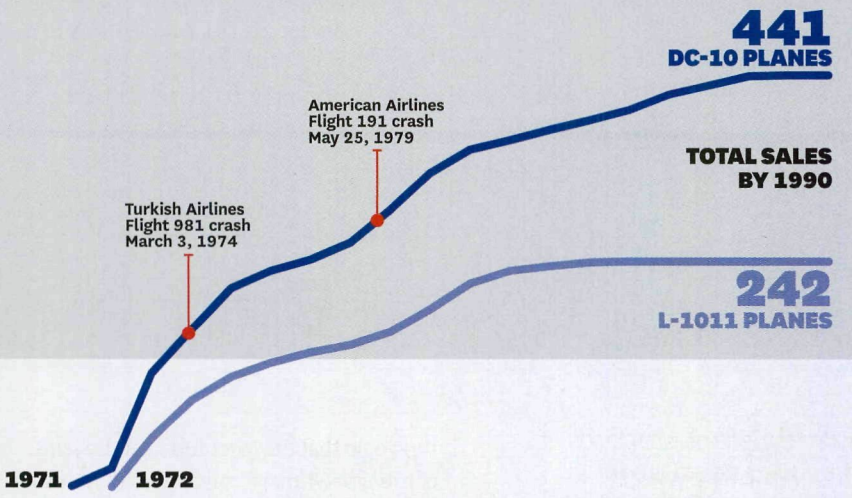
What particularly interested us is that while it's widely accepted that inferior consumer products often beat superior ones because consumers are apt to imitate one another, there's been resistance to the idea that companies would decide to adopt something because other companies had adopted it. But that is exactly what our study found that companies were doing.

But aren't companies more rational actors than consumers are?

That's what many economists tend to think—that companies weigh the pros and cons before adopting a technology. But, in reality, information is often limited, and the value of any particular technology is uncertain. So companies look to one another for clues. If my competitor

To Get the Edge, Get Out of the Gate First

Even two deadly plane accidents could not erase the lead the McDonnell Douglas DC-10 gained by reaching the market a year earlier than the Lockheed L-1011.



is adopting a technology, then that must be a sign that it's valuable. Early adoption can set off a chain reaction that gives inferior technologies a competitive advantage. We also studied the effect of firms' abandoning each aircraft. Abandonment sends a negative signal about the value of the product, making future adoptions less likely. You can think of it as peer pressure at an organizational level.

That chain reaction could be the result of chance, but it could also be the result of strategic choices, correct?
That's right. The key finding is that early events matter a lot. Early advantages like being first to market are amplified over time.

Your research focused on commercial jets. Can these lessons really be generalized to other industries?
We were thinking specifically about B2B industries, where the customers are jockeying for competitive advantage and, hence, where information about their satisfaction with the product will remain secret. We think that in that context, these lessons are very generalizable. Our study concerns a particular example with two planes, but we suspect that the dynamic we discovered, whereby imitation drives adoption among firms, goes beyond this industry. If you're talking about an industry where the customer goes to the effort of benchmarking its competitors' decisions, then, yes, we do think the theory applies.

What can companies take away from this research?
They really need to pay attention to what happens in the first year or two after they've introduced a product. In a competition between products, the start is immensely important, and early adoptions are critical. It's also crucial to publicize those early adoptions. The more visible they are, the more likely they will be to influence other potential adopters. Because imitation increases the impact of early adopters, it really is a race.

So in a two-way race you'd recommend being first to market with the worse product rather than later to market with the superior one?
The goal should be to get to market as quickly as possible with a product that customers will keep. If early customers abandon your product, that could erase the value of a first-mover advantage, but if your early adopters keep the product, there's a good chance that will lead more customers to adopt it. And that dynamic, more than the technical features of the product, is what determines who wins.

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