Most companies generate little drama as they manage the daily tension of their uncertain futures. And they rather like it that way, since forecasting errors can generate bad publicity.

After the fact, it is usually easy to understand why a calculated gamble failed due to a bit of bad luck. It is more difficult to identify a mistake for which management is responsible.

In this column, I’ll focus on one type of maddening forecasting error, a strategy determined by a single conceptual framework. Call these foresight traps.

No companies ever escape foresight traps. However, some do a better job of avoiding a big and costly one. It is worthwhile to understand why. It illuminates one of the most fundamental managerial challenges in high-tech markets.

**Hassles and adjustments**

In fast moving markets, most managers have too little time to absorb all the information coming at them. That does not suddenly turn a smart manager into a stupid one. It just makes them competent but hassled.

Being hassled, by itself, does not produce a foresight trap. Many hassled managers adequately address the crises of their day.

A manager from Procter & Gamble once told me about the firm’s response to the Internet. The Internet surprised them as much as it did everyone else. Many managers worked hard to understand how their distribution had to change. They built a new product support Web page and put the URL on all their shampoo bottles, soap packages, and toothpaste brands. In a company as big as P&G, that activity demanded a tremendous amount of effort from its managers, but it eventually met their needs.

The key generalization is trite. When a crisis falls within a range of issues close to familiar habits of mind, then good decisions can and do arise in spite of hassles and surprises. The opposite is a bit more profound, however. Bad decisions arise when hassled managers find themselves confronting the “unfamiliar,” either new psychological concepts and/or unexpected operational issues.

What prevents adjustment? Sometimes decision makers do not get the right information because they over-sample the same opinion, or, more to the point, because they get an inadequate sampling of outsiders. One of Ma Bell’s infamous goofs can illustrate how this can happen.

During the early 1980s, AT&T’s managers implemented a government mandate to break AT&T into a long-distance telephone company and several local ones. AT&T managers had to figure out which assets to give to whom. Among these, AT&T’s managers considered what would become of cellular technology, which had not yet been commercialized.

Most of these same managers had already decided to go to the long-distance company, but then decided not to bring the cell phone technology along. It went to the local-telephone firms without a fuss.

Why no fuss? Nobody thought this decision was important. A consulting study had forecast that there would be no more than one million cell phone users in the US. As baseball announcer Bob Uecker might say, that estimate landed just a bit out of the strike zone.

Two decades later, US cellular use exceeded 150 million users. How did that poor estimate stand unquestioned? The insiders did not know how wrong they were because they did not talk with contrarians.

When Judge Harold Greene organized divestiture, he involved only a few AT&T executives, staff at the US Federal Communications Commission, and antitrust lawyers at the US Department of Justice. Every expert in this professionally connected circle brought their own priorities to these events, relying on each other’s opinion about cell phones.

For example, the staff at the FCC did not take issue with the forecast. As a former FCC staff member once explained to me with a shrug, nobody foresaw mobile phone users walking through airports past walls of payphones.

A wider set of views about the commercial possibilities would have entered the conversation if government regulators—either Judge Green or the FCC staffers—had put the cell phone franchise out for bid. Indeed, that lesson was not forgotten. In the 1990s the FCC had some new spectrum to allocate, and held an auction. Though it was not easy to manage,
that differed from many insider forecasts.

Infitghting
Managing uncertainty often generates conflicts within a firm. Foresight traps can arise when managers let conflict interfere with their assessment of a competitive situation. Motorola's actions in digital handset markets provide ample illustration. For years, Motorola had a divided corporate structure. The handset division had one manager, while the infrastructure division had another. In the 1990s, both divisions had charismatic leaders. Though their products had to work together in terms of compatibility, the design teams did not work together much. Insiders often remarked that these divisions fostered intense internal rivalry that fueled incentives to innovate, which was ostensibly a good thing.

More to the point, each division got a different reading on market trends from distinct distribution channels. As it happened, because the towers went up before the handsets sold, the infrastructure division heard first from carriers about the coming of digital. Thus, in corporate meetings the manager for infrastructure raised the need of digital. Thus, in corporate meetings the manager for infrastructure raised the need for digital handsets.

This suggestion met with resistance and doubts. The sales force for handsets did not see any call for such sales among dealers. Moreover, the digital standard for the US, Code Division Multiple Access or Time Division Multiple Access, had been slow to roll out. Everyone knew the Europeans would go with another standard, Global System for Mobile Communications, but why would it diffuse any faster?

There is the textbook answer to managing transitions between technical generations. If demand for the new—that is, digital—emerged slowly, prototypes for prospective digital demand would waste money. However, there was also a competitive risk if demand took off quickly and rivals satisfied it. Since both were reasonable concerns, the handset division should have pursued a portfolio of analog and digital projects.

To make a long story short, the handset manager did not take a balanced approach. He did not believe his colleagues' forecast and killed all prototyping projects for digital handsets.

Needless to say, that decision was costly. When demand grew quickly in Europe, Motorola had nothing competitive to offer. Other design teams at other firms had gotten down their learning curves. After all, they had access to the same market information, and had forecasted correctly.It took Motorola some time to catch up.

Notice two foresight traps in those events, not one. To be sure, one manager's viewpoints had inordinate importance, leading Motorola to take a path distinct from rivals. In addition, the CEOs and corporate board also acted on a trap. They committed to the division of responsibilities without accounting for its obvious drawback. It inevitably had to produce coordination errors across divisions. Cell phones just happened to be the first transparent victim.

Delay is not an option
A foresight trap may also feed a false sense of comfort, preventing a firm from executing any sensible strategy in the face of intense need for one. After the fact, observers wonder what the managers could have been thinking. Decisions at Encyclopaedia Britannica in the 1990s illustrate this type of nightmare. Britannica had a storied history as a firm that manufactured and sold encyclopedias door to door. These sets sold for somewhere from $1,500 to $2,000. Salesmen received a commission. Britannica's peak sales came in 1990, just before the CD first appeared.

Managers who made their careers in Britannica had no conceptual foundation for understanding the CD world. This produced several foresight traps. For example, though anyone in the electronics industry could have forecast the coming of the CD, none of these forecasts caused panic at Britannica headquarters.

Back in the mid 1980s—when Microsoft was young, small, and hungry—building an encyclopedia on a CD was a pet interest of Bill Gates'. A Microsoft employee approached Britannica for such a deal, but was sent away. Thus began Microsoft's licensing venture with Funk and Wagnall's encyclopedia, the text that eventually became part of Encarta.

A related foresight trap proved almost fatal. Many managers at Britannica and employees in the sales force sincerely believed their books helped parents and kids. Even after they had Encarta in hand, these same sales people were baffled about why anyone would want it, since—in their world view—a low-quality product could not perform the core educational function as well as books.

Britannica's first order of business was to plan a strategy for transitioning into a new competitive era. Sales were going to decline no matter what Britannica managers did, so a good strategy could have helped. Yet, when managers first saw Encarta, they debated their options and decided to do nothing.

I am not making this up. Britannica's entire content did not fit on a CD, so there was no way to transfer it wholesale and unchanged. Management decided to wait for storage technology to improve.

Of course, demand declined anyway. Indeed, it declined much faster than they expected.

Eventually Britannica put together a CD product with only the text from the encyclopedia on it. Though late, it was a start. On the downside, however, this action was a stopgap and not part of a broader, well-thought-out strategy. More concretely, the company had two extremely different products, a high margin premium product and a new-fangled low-margin hybrid. The sales force refused to sell both.

The revolt arose partly from the desire to prevent the cheap product from cannibalizing the sales commissions of the expensive one. However, a foresight trap played a role here, too. This distribution network—that is, selling door-to-door—required a certain emotional commitment to the "high" ideals of the company. A partial encyclopedia on a CD did not mesh with these ideals.

Facing this revolt, management agreed to make the CD available only if a customer bought the high-end product. Needless to say, this did not go over well with consumers.

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In retrospect, you can see that Britannica had a valuable set of assets, but needed a strategy that broke with prior conceptual and operational precedent. As it happened, that did not happen until the mid-1990s after sales collapsed to a fraction of their prior peak. At that point, unfortunately, the organization was nearing bankruptcy and approaching yet another crisis: the diffusion of the Internet; ouch.

So it goes
Foresight traps are inevitable because the ingredients for them are everywhere. Every trap has a technical or commercial surprise as part of the explanation. A new environment raises unfamiliar issues with established firms. An overconfident executive can make matters worse.

Open markets take care of the rest. A visionary entrepreneur might expose the trap in an incumbent and gain a competitive foothold. A long-time rival might see the opening and use it to reshuffle market shares.

How do established firms escape big traps? Good firms do their best to save confident executives from their worst instincts. These firms collect information from a variety of sources, think hard about what their rivals perceive, and spend resources guarding against outcomes that might or might not arise.

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