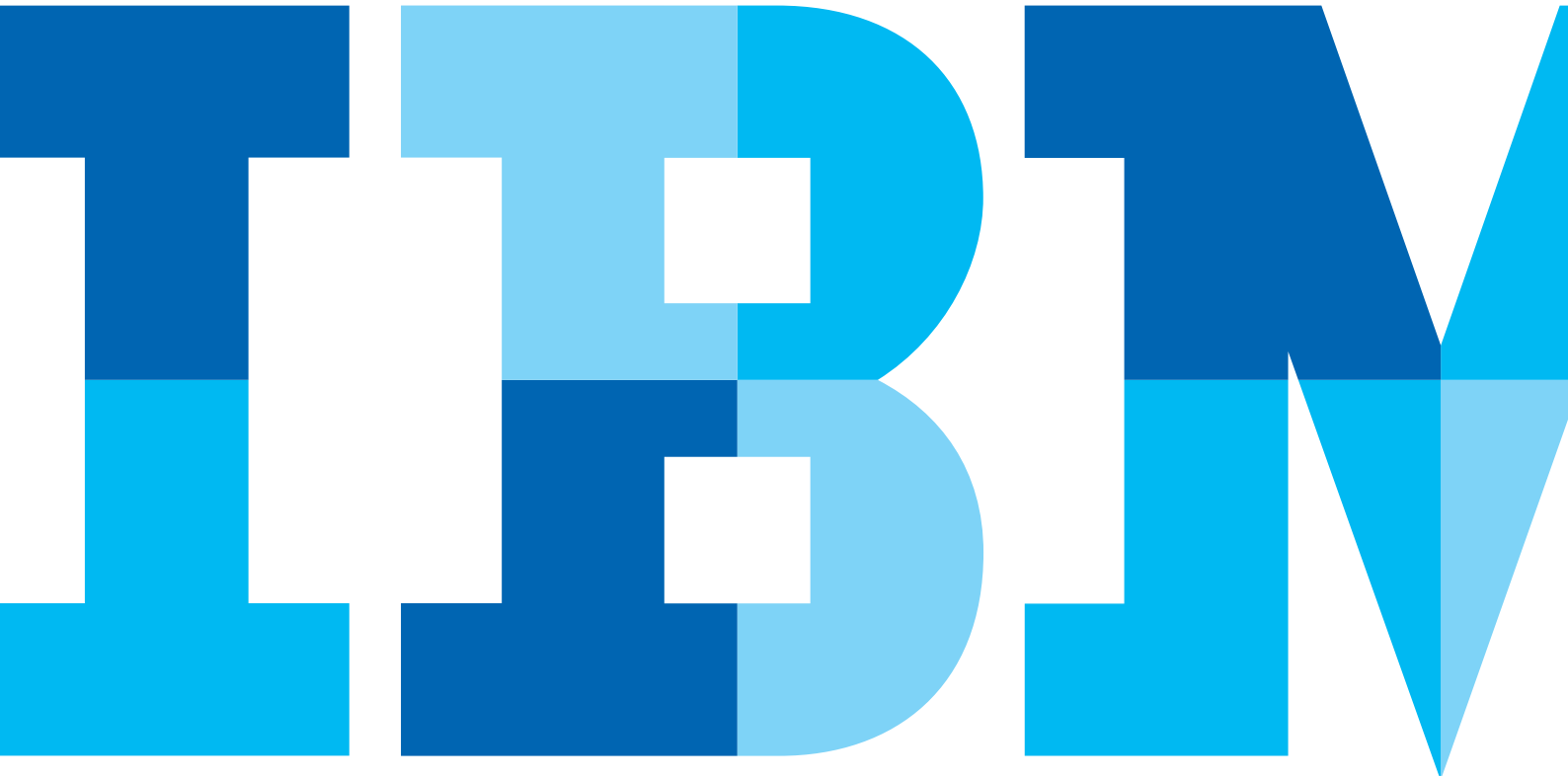# Seven Symptoms of Forecasting Illness

By Steve Player and Steve Morlidge, Beyond Budgeting Roundtable

IBM

Executive summary

Whether finance managers realize it or not, there is a strong chance their forecasting processes are suffering from a malady. Antiquated processes and tools combined with misconceptions regarding forecasting accuracy and quality have sickened the majority of forecasting processes around the world.

Successfully combating this epidemic requires two steps. First, finance managers should recognize what ails them by identifying and addressing the common symptoms of forecasting illness. Second, equipped with that understanding, finance managers can implement cures that lead to healthier forecasting practices and, ultimately, more flexible and profitable organizations.

This white paper examines the seven underlying symptoms of forecasting illness:

- Semantic confusion
- Visual impairment
- Delusions of accuracy
- Systemic overload
- Prosperity syndrome
- Lack of coordination
- Asocial behavior

Developing, or restoring, forecasting health requires changes related to processes and, in many cases, the underlying tools. It also requires a new prescription for a company's overall forecasting philosophy.

Key takeaways

1. Business as usual is not an option; ailing forecasting practices ranging from "visual impairment" to "delusions of accuracy" to "asocial behavior" should be identified and addressed.
2. Eliminating unhealthy forecasting practices helps create business value.
3. Given the costs of forecasting illness, addressing its marks a top priority of financial planning and analysis teams.

Forecasting illness: The seven symptoms of forecasting illness

"Prediction is very difficult, especially if it's about the future."

-- Nils Bohr, Nobel Laureate in Physics

The first step to better health is recognizing what ails you.

This maxim holds true for both individuals and organizations. As with the human body, organizations often recognize the importance of a management practice only when it fails. Forecasting, perhaps more so than any other business practice, provides spectacularly painful illustrations of its importance through its failures.

Business as usual, as it relates to forecasting, is no longer an option. A pervasive "forecasting illness" can be found in most companies. This illness reflects defects in the forecasting process. In some cases, the forecasting illness simply causes discomfort and irritation. In more advanced cases, forecasting illness can threaten an organization's existence.

If companies are to avoid time wasted on ineffective activities issued from corporate strategy and painful inventory errors (in manufacturing sectors) and potentially massive hits to shareholder value, they should start by examining what ails their forecasting practices. When they do, they will likely discover one or more of the seven most common symptoms of forecasting illness. This paper will help readers identify the following symptoms of forecasting illness as well as remedies that can eliminate each symptom:

- Semantic confusion
- Visual impairment
- Delusions of accuracy
- Systemic overload
- Prosperity syndrome
- Lack of coordination
- Asocial behavior

Future ready

Much of the discussion in this white paper, along with the series it is a part of, is inspired by *Future Ready: How to Master Business Forecasting* (Wiley, 2010). The book's premise is a straightforward one: when making decisions, organizations cannot rely solely on information about what has happened. Instead, companies also need information about what its managers believe might happen – information that is generated through the process of forecasting. To date, the bulk of business forecasting practices have ranged from ineffective to downright crippling. No company, and no individual, can predict the future with complete certainty. Therefore, the objective of business forecasting should be to become "Future Ready." Companies can do this by systematically and rationally assembling information that gives managers forward visibility regarding likely outcomes as well as the potential losses and opportunities (i.e., the risks) associated with these outcomes.

A virulent form of forecasting illness

How does forecasting illness appear in practice? Look no further than Cisco Systems, circa 2001.

In that year, as the dot-com bubble deflated, the networking company was forced to write off $2.25 billion in excess inventory. But the market decline represented only a portion of the problem. Cisco's write-off primarily stemmed from a forecasting error of epic proportions: the company had stocked up on more inventory than usual in early 2001 because of an over-optimistic sales forecast. By May 2001, Cisco had lost 75 percent of its value compared to March 2000, when it had been the world's most valuable company.

Cisco's 2001 inventory write-off made the company a poster child for forecasting illness, yet Cisco spotted its forecasting problems far sooner than most other companies (and, in the past nine years, Cisco's financial management capabilities have vastly improved). Besides, Cisco is hardly alone.

According to a recent Business Finance survey, two out of three finance executives expected their 2009 budget targets to be obsolete within the first six months of the year; worse, 28 percent of these same survey respondents acknowledged that their 2009 budget targets were obsolete even before 2009 began.

The overall health of corporate forecasting, a central component of budgeting, has deteriorated so badly that nearly one-third of annual budgets produced in North America are dead on arrival.

Diagnosing the seven symptoms

Fortunately, forecasting illness in the vast majority of cases can be diagnosed without too much trouble. Practical-minded executives who know what symptoms and sources of potential trouble to look for can help their organizations avoid the dramatic losses that Cisco and many other companies have endured because of the following unhealthy practices.

Symptom 1: Semantic confusion

Does your organization find it difficult to cope with un-expected or unwelcome forecast outcomes? If so, it might be showing signs of semantic confusion.

Semantic confusion manifests itself in several ways. Some examples are:

• Managers are asked for a "best estimate" and then warned that they will be "held accountable" for the estimate.
• Managers are asked for an "update" and then criticized for "making changes" to a previous forecast.
• Managers are criticized for producing forecasts that upper management "does not like" and forecasts that "do not reflect the future."

Semantic confusion creates three types of organizational pain:

• Forecasters must constantly juggle contradictory demands, and these competing demands greatly confuse the nature of their forecasting activity. (They wonder, "Why am I doing this? To create an accurate estimate or to present specific targets that upper management expects to see?")
• Forecasters often feel that they are being forced into a no-win situation, which can hamper their productivity and weaken morale.
• Forecasters frequently seek to alleviate the uncertainty and stress semantic confusion provokes by asking, either explicitly or implicitly, "What do you want the forecast to be?"

The underlying problem with semantic confusion boils down to a blurring of the lines between a target (or goal) and a "forecast" (Figure 1).

Common Mistake – Confusing forecasts with targets

Forecasts   ≠   **Targets**

Where you think you're headed

Medium term aspirations & goals
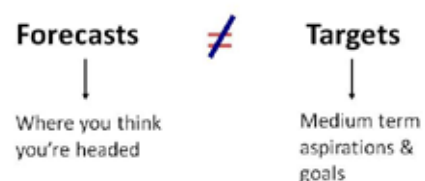
Figure 1 - Symptom 1: Semantic confusion: Forecast versus target

To address this symptom, forecasters and upper management should discuss and understand the difference between where the company is headed (a forecast) and where the company wants to go (a target). When companies identify forecasts and targets, they are better equipped to close the gaps between the two when necessary.

Effectively closing the gaps requires a related and similarly candid discussion—one that covers the action plans, costs and human capital needs required to close potential gaps between forecasts and targets (Figure 2).

Forecast vs. Target

Identify your initiative to correct the trend...

Figure 2 – Forecast versus target: Identify initiative

Symptom 2: Visual impairment

Is your organization obsessed with the year-end forecast number to the exclusion of everything else? Are you sometimes surprised by "unexpected developments" in the early part of the new fiscal year? If so, your organization may be showing signs of visual impairment.

Visual impairment manifests itself in several ways.
Some examples are:

- Forecasting periods always conclude at the current fiscal year-end, which creates progressively shorter forecasting periods.
- As the fiscal year-end grows near, organizations have little to no visibility into the coming year.
- Both over-performance and under-performance are described by managers as "temporary" in an effort to shape perceptions. Under-performers seek to assure upper management that they will catch up. Over-performers attempt to play down, or even disguise, their results due to a fear that their targets will be increased.

Visual impairment creates pain in three ways:

- Organizations with tunnel vision often endure disappointing first quarters as they come through the year end. Why? Because their lack of visibility late in the fiscal year leaves them temporarily blinded to changing market conditions.
- Modeling with trend analysis becomes ineffective because results are shifted to meet financial targets.
- Forecasting to the wall results in a myopic focus on short-term results, which hampers long-term value creation. As every Wall Street analyst knows by now, companies that post several consecutive years of achieving their targets frequently follow that performance with dramatic misses that deliver blows to shareholder value.

The underlying problem with visual impairment is a lack of flexibility and adaptability to changing conditions in the external marketplace. Organizations that fail to see external changes cannot alter their forecasts to these new realities.

To address this symptom, companies should consider adopting a rolling-forecast approach that includes a consistent forward-looking period.

Symptom 3: Delusions of accuracy
Is your organization obsessed with the accuracy of its forecasts? Does your organization pay for forecasting accuracy? If so, it might be showing signs of delusions of accuracy.

Delusions of accuracy manifest themselves in several ways. Some examples are:

- Managers invest excessive time and energy agonizing over the development of perfect prediction models.
- Hitting the forecast on the nose becomes an all-encompassing goal.

- Artificial measures, such as precisely achieving a revenue or expense number (known as "stopping on a dime"), replace knowledge derived from an understanding of real-world conditions.
- Promotions and incentive payments are tied to hitting forecasts accurately, which fosters tendencies to low-ball forecasts and to manipulate results.

Delusions of accuracy create three types of pain (Figure 3):

- Paying for forecasting accuracy (with incentives and promotional opportunities) causes a lowering of stated performance objectives because managers seek to under-promise and over-perform to boost their compensation.
- Organizations tend to lose sight of what is possible as internal views (doing whatever it takes to ensure forecasting accuracy) obscure external learning (from new and changing marketplace conditions).
- Companies might hit their internal projections yet still take a beating from competitors who invest more time and energy adapting to marketplace opportunities rather than forecasting accuracy.
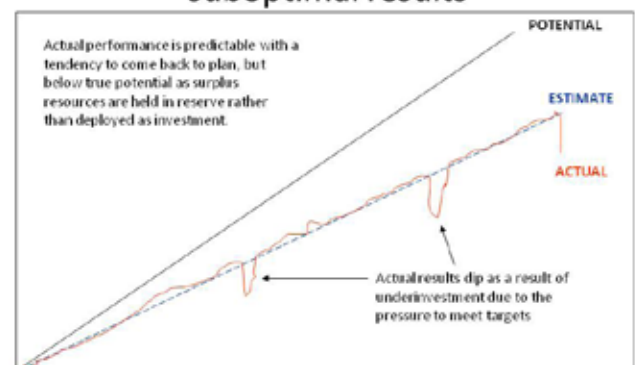

Figure 3 - The price of accuracy is often sub-optimal results

The underlying problem with delusions of accuracy is that they fail to acknowledge or take into account normal variations in the marketplace; this failure prevents a company from managing risks and capitalizing on opportunities with flexibility and adaptability.

To address this symptom, forecasting accuracy should be measured more frequently to understand normal variations (and also to better detect internal bias). Additionally, upper and middle management should focus on becoming more adaptive to external changes, and they can start by shortening the forecasting horizon.

Symptom 4: Systemic overload

Are your organization's forecasts too detailed? Is there constant pressure to provide even greater detail and additional analyses? If so, it might be showing signs of systemic overload.

Systemic problems manifest themselves in several ways. Some examples are:

- Forecasts are regularly expanded to include more details, often down to the chart of account level by month—a requirement that demands a massive amount of assumptions to be made to populate the forecasts.
- Demands for greater detail in variance explanations also increase, which requires a swarm of finance staffers to pepper their operations colleagues with time-consuming questions about the past (questions that prevent operations managers from focusing on the present and future).
- A large and unwieldy number of variances generates more explanations, which causes causes a downward spiral of demands for even greater detail, even more questions from finance staffers, and so on.

These issues create multiple pain points. Some examples are:

- In chronic cases, managers tend to micromanage what amounts to a lot of "data noise" and all too often drives them to try to make actuals resemble the forecast from last summer.
- In milder forms, the overly detailed analysis is simply ignored, which makes the analysts' work unnecessary and also makes them vulnerable to the next round of downsizing.
- This ocean of detail makes it virtually impossible for companies to focus on key drivers, creating widespread confusion about what actions companies should take when they need to adapt to changing marketplace conditions.

The underlying fallacy of forecasting approaches that lead to systemic problems is that more data is always better.

To address this symptom, companies should limit forecasting to a handful of critical drivers that truly affect performance (Figure 4). Companies can start by assembling senior management to discuss and identify the critical factors (which can be illustrated in a predictive logic diagram) to be used in a driver-based forecasting system.

Figure 4 - "The 80/20 Rule"

Symptom 5: Prosperity syndrome

Do your organization's forecasts always trend upward to reflect optimistic growth regardless of your industry or underlying economic conditions? If so, it might be showing signs of prosperity syndrome.

Prosperity syndrome manifests itself in several ways; for instance:

- Most forecasts appear biased toward growth. The forecast charts form an upward slope or, more commonly, a hockey stick.
- The growth frequently stems from widespread pressure from shareholders, analysts and/or other stakeholders to demonstrate consistent growth each quarter; however, this demand is unrealistic given the highly volatile nature of underlying industry and economic conditions.
- History and trend lines are frequently neglected or ignored.

Prosperity syndrome creates three types of pain:

- In flat-growth or declining industries, in which growth can only be achieved by stealing market share from competitors, companies with uplift syndrome leave themselves vulnerable to counter-attacks from competitors, the end result of which ultimately decreases overall industry profitability.
- By incorrectly assuming that their company's industry remains (forever) in a stage of rapid growth, upper management ignores the reality of industry life cycles and exposes the company to potential strategic missteps.
- Key strategic differentiators, the unique qualities that satisfy your customers and prevent competitors from taking customers away from your company, are neglected.

Prosperity syndrome stems from the underlying failure of managers to recognize their growth bias.

To address this symptom, the forecasting process should begin with an overall industry forecast that includes consideration of the expected impacts of general market conditions. Growth forecasts also should explicitly address a range of expected competitor actions and reactions.

Symptom 6: Lack of Coordination

Are the forecasting-related views of your various corporate functions characterized by conflict, chaos and continual fire-fighting? If so, you organization might be exhibiting a lack of coordination.

Lack of coordination manifests itself in several ways. Some examples are:

- Different corporate functions see the future differently. For example, sales reports optimistic revenue prospects while manufacturing adjusts to its own, less rosy forecast. Meanwhile finance believes neither sales nor manufacturing and, as a result, creates its own forecast.
- Leaders in each of these areas argue for their own views of the future and produce their own forecasts to prove their perspective, which creates multiple versions of the truth throughout the company.
- Different corporate functions use different software applications to support their functional needs because "our system is the only one we trust."

Lack of coordination causes pain because of:

• Redundant forecasting efforts
• Organizational confusion surrounding strategic objectives
• Additional cost (for companies in manufacturing sectors) due to carrying excess inventory in response to responding to a wider range of differing forecasting views

The underlying problem behind coordination issues is a lack of integration; management has failed to build and integrate a forecasting system that the entire companies believes in and accepts.

To address this symptom, companies should commit to a single forecasting system, one that provides a single version of the truth throughout the organization. Additionally, upper management should not discourage differing forecasting views but, rather, create ways for managers to test their views and then see whether and how they should influence the single forecasting system.

Symptom 7: Asocial behavior
Does your organization routinely manipulate and distort its forecasts even when doing so clearly is not in the best long-term interest of the company? If so, it might be showing signs of asocial behavior, which is also known as "sand-bagging," "stretching" and "playing the game."

Asocial behavior manifests itself in several ways. Some examples are:

• Managers regularly withhold knowledge until the information becomes impossible to conceal.
• Forecasting is viewed as a game in which the best players are admired for their ability to "bleed in" bad news gradually to avoid recrimination.
• Upper management often unwittingly supports the behavior mentioned above by rewarding those who falsify forecasts to boost their accuracy for their "good performance."

Asocial behavior creates three types of pain:

• It rewards the best negotiators and sand-baggers rather than the top performers.
• It masks the problems and opportunities in the marketplace for long periods of time, reducing the time available to mitigate risks and capitalize on opportunities.
• It perpetually obscures the organization's true potential thanks to a self-inflicted wound.

The underlying problem behind asocial behavior is the systemization of sub-optimal decision-making. Management creates incentives ranging from kudos to incentive compensation that rewards cagey game-players while punishing top performers.

To address this symptom, companies can start by eliminating links between incentive compensation and forecasts (and budgets). Companies should reward managers and employees for the value that they create rather than the targets that they negotiate.

A remedy

As the discussions of underlying problems above suggest, there is a common cure for each one of these symptoms which can improve forecasting health in organizations: knowledge.

The cure is straightforward, although obtaining it requires time, patience and focus along with reasonable investments in retraining or refocusing people, reworking processes and implementing new supporting technology or better utilizing existing supporting technology.

A healthy majority of companies have remained in the "snake oil" era of forecasting. We now have the knowledge to move beyond this era by designing a forecasting approach that reflects and respond to the volatile nature of real-world business conditions.

Moreover, the knowledge resides within companies and individual employees. The trick to healthier forecasting, and all of the benefits it delivers, is finding that knowledge and sharing it as quickly and effectively as possible.

False remedies to avoid

Forecasting illness is hardly new, and several cures have tried and failed to cure this malady. Don't waste time or money with the following "false remedies."

Statistical rehabilitation

Too often, forecasting illness is diagnosed as a statistical defect, the cure for which is a better statistical method. The notion is that managers can derive better information if they look at the same historical performance through a different lens. There are three problems with this solution. First, even the most advanced statistical algorithms do not deliver much value. The consensus among academics who study business forecasting is that relatively basic extrapolation techniques, such as moving averages, generally perform as well as, if not better than, more complex techniques. Second, individual companies simply cannot glean future trends from historical performance in the same way that someone forecasting macroeconomic trends can. Businesses change too often and too drastically. Additionally, the reliability of business data, which is prone to manipulation (for example, nudging sales forward or shoving costs backward), is sometimes questionable. Finally, most, if not all, businesses are subject to events and conditions that have never occurred before; working these unknowns into forecasts ranges from excruciatingly difficult to impossible.

Spreadsheets on steroids

Many companies try to address forecasting illness by expanding their use of spreadsheets. Massive amounts of details, linked to complex calculations, are imported, which in effect "juices" the spreadsheets. But this steroid ingesting creates unwelcome side effects including cumbersome data collection efforts, time-consuming reconciliation, auditing difficulties, version control problems and other issues. Spreadsheets can be a valuable personal productivity tool but forecasting processes need a dedicated control environment most often found in forecasting applications.

Oversimplification

What qualifies as healthy forecasting at one company might not be feasible in another company. Examples can provide helpful illustrations of effective practices or approaches. However, each practice needs to be evaluated and customized to fit your organization. One of the hallmarks of effective forecasting, as Southwest Airlines demonstrates, is that the approach aligns with its organizational culture. Although successfully curing forecasting illness requires a handful of similar high-level steps, each company should adopt an approach that supports the unique aspects of its processes, people, technology and culture.

Conclusion

By identifying and addressing the symptoms of forecasting illness described in this paper, companies can enjoy the benefits of a health forecasting approach, which, along with specific case examples, will be discussed in future white papers within this series.

Predicting the future, as Nils Bohr put it so eloquently, will always be very difficult. In fact, it is impossible. However, companies will have an easier time achieving their performance targets if they stop trying to do the impossible through flawed forecasting practices and instead adopt a much healthier approach that helps them be ready for the future, regardless of what that future looks like.

About the Beyond Budgeting Roundtable

The Beyond Budgeting Roundtable (BBRT) is an international shared learning network of member organizations with a common interest in transforming their performance management models to enable sustained, superior performance. BBRT helps organizations learn from worldwide best practice studies and encourages them to share information, past successes and implementation experiences to move beyond command and control.

About IBM Business Analytics

IBM Business Analytics software delivers complete, consistent and accurate information that decision-makers trust to improve business performance. A comprehensive portfolio of business intelligence, advanced analytics, financial performance and strategy management and analytic applications gives you clear, immediate and actionable insights into current performance and the ability to predict future outcomes.

Combined with rich industry solutions, proven practices and professional services, organizations of every size can drive the highest IT productivity and deliver better results.

For more information

For further information or to reach a representative:
ibm.com/cognos

Request a call

To request a call or to ask a question, go to **ibm.com**/cognos/contactus. An IBM Cognos representative will respond to your enquiry within two business days.

Beyond Budgeting™