Introduction

THIS BOOK IS ABOUT HOW TO EVALUATE FORECASTS and extract value from them. It is written to help decision makers in commercial, policy, and nonprofit sectors, as well as ordinary people in daily life, make better judgments about predictions they read and hear, so they can appropriately plan for and profit from the future.

Predictive statements are all around us: in the newspapers, on TV, at conference presentations, in industry reports, consulting documents, think tank studies, and so on. All claim to be valid, but the record shows that few are. So while forecasts are a crucial decision-success resource, they are not in themselves valuable. they are only valuable alongside a clear way to separate the wheat from the chaff. What's valuable is being able to critically judge this torrent of information and to be able determine which ideas are worth taking seriously—worth planning for and investing in.

This book sets out to communicate tools and approaches that the forecast *consumer* can use to filter and evaluate statements about the future and thus judge what the real threats and opportunities are. It summarizes and orders the problems common in forecasting, as well as best practices, so that managers and decision makers of all types may be better able to critically interact with the barrage of forecasts that compete for their attention and resources and discriminate between worthy and unworthy ones.

Teaching a Donkey to Talk: Why Forecasts Can't Be Trusted

There's an ancient Uzbek parable about a con man who promised a local nobleman he could teach a donkey to talk—for a large fee—but it would take twenty years. Of course, in twenty years the con man, the nobleman, or the donkey would be dead.[1] Predicting is safe for the same spurious reason. By the time outcomes emerge, there is almost never anybody around to say, "Hey, that never happened!" And even where there is anyone who remembers the tarnished pearls of predictive wisdom, there is of course no penalty for being wrong. There's no skin in the game. The predictor may feel a twinge of embarrassment perhaps, but then, who can get it right all the time?

Not only is there no recourse, but putting predictions out into the world is ridiculously easy to do. Anyone can read a few articles, gather the direction of technology and social trends, and make projective links. The forecasting field is not regulated. There is no accepted conceptual framework, accepted methods, agreed professional standards, or guidelines for application to policy or business decision making.[2] There is no oversight board or council or licensing mechanism, no organization to which one must belong, no minimum qualifications, no agreed or standard curriculum in

teaching forecasting. Anyone with a keyboard or a microphone, it seems, is welcome to babble on about digital media or nanotechnology or climate change or any other hobby horse, and before we know it, we are knee-deep in predictive wishful thinking, scaremongering, or blatant self-promotion, much of which is not worth our attention.

Part of the lack of standardization means there is no agreed definition of terms. In this book, I've used forecasting, foresight, predictions, and future studies more or less interchangeably to refer to works that look to and try to interpret the future. Some analysts use "forecasting" to refer to technical mathematical approaches, and "foresight" to refer to more impressionistic approaches.

Why We Don't Ignore Forecasts: Why the Future Matters

Rapid change is a constant, ubiquitous feature of our lives. We have seen eye-popping developments across society, technology, institutions, and products and services in the last generation; this will surely continue into the future. But change is not merely interesting. *It is competitive.* This is because success always implies congruence between decisions and the world in which those decisions play out. If we decide today to launch a product, buy a house, study for a degree, build a new light rail system, or take any similar decision of significance, the environment of tomorrow will be a key factor in the success or failure of that decision. What we do will be tested by the future conditions that emerge. Where there is a good "fit" between the initiative and the environment it plays out in—"the right product at the right time"—

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we can expect success. If not, we should expect to fail. Our decisions are only as good as the view of the future they rest on. All opportunities and successes and profits are realized in the future. All threats, failures, and losses are in the future.

In a fast-moving world, we know that the future environment will be different to that of today in big or small ways. New technologies, market shifts, changes in legislation, or evolving social values damage or destroy the traditional good fit we have between ourselves and the world. To achieve "future fit" we therefore use forecasts to position ourselves and our organizations, creating (or renewing) the fit between our initiatives and environment. In some cases we may be strong enough also to influence future events and outcomes for our own future benefit, and forecasts help us do this too. Either way, the earlier and clearer we see future circumstances, the better we will be able to benefit by changing our current recipes for success to keep up with the changes in the world. The better managers' view of the future, the better their decisions will turn out to be.

All enterprises benefit from narrowing down what they must adapt to and plan for—all effort spent preparing for a future that will not emerge is a waste of personal or organizational resources. Good forecasts are a key ingredient in limiting the vagaries of uncertainty, and therein working smarter not harder, avoiding surprises, exploiting new opportunities and plugging weaknesses in fitting in with the future, and where possible influencing the future to suit the organization. This is true not only of business. People and institutions of all types position themselves for success by anticipating and adapting to events, or shaping them. Whether it is an NGO raising money for developing-world children, an urban planner advocating a light rail system, a homeowner deciding to sell a house, or a student making a career choice, identical principles

apply—a higher-quality reading of the future operating environment in which these decisions will play out is what separates winners from losers. We should all be vitally concerned with forecasts as we are all effectively betting significant resources on their validity.

So, as individuals and organizations, we are all faced with the task of grappling with the changing world under competitive conditions. Little surprise, then, that we appear "hard-wired" to seek information about changing circumstances and manifest a desire to peer ahead or absorb the insight of those who do. To be competitive we must be reading and listening to forecasts and factoring them into our world view and our plans. We cannot afford to ignore the forecast chatter. This is compounded by the rapid growth of information. The days of the panoptic amateur intellect are over. There's just too much to know in too many specialized fields. Whether we need to consider decisions concerning the future in healthcare, transport, education, or any one of a thousand areas, we find we are often required to call on specialists in those areas. Being forced to build our picture of the world on the expertise of others, we are, whether we like it or not, retail consumers of others' forecast perceptions.

Where the Forecasts Come From

Based on these factors, demand for predictive information and insight should be huge, and is, judging by the amount of news and consulting media generated that predicts technologies, innovations, legislative, social, and market change. Our appetite for prediction is willingly fulfilled many times over by an industry of prognosticators, forecasters, futurists, economists, sociologists, journalists, financial advisors, market researchers, defense and security planners, technology gurus, and every conceivable form of consultant and analyst. Sometimes this is called industry foresight or future studies.

Mostly it goes under more conservative labels such as economic analysis, market research, technology assessment, or competitive intelligence. National and international agencies such as the *U.S. Congressional Budget Office*, the *National Bureau of Economic Research*, the *IMF,* and the *World Bank*, to name just a few, are among the many bodies researching trends and publishing forecasts. Military and allied bodies, including the CIA, are deeply in the business of anticipating technology and global change and are publishing predictions in the public domain.

Every business sector produces and uses forecasts—for example, in quarterly or annual sales forecasts, tracking changing consumer lifestyles, or anticipating new technologies. Most major corporations keep a foresight unit going, and many—such as *Royal Dutch Shell* and *Siemens*—actively disseminate foresight. Management consulting firms, including the "big 6," trade on their reading of the future, as do fund managers and investment advisers. Forecast material is proliferating in industry research agencies such as *Gartner* and *Forrester,* which produce and sell predictions on every major industry. Foresight is a growing proportion of the business and general media, particularly in the print media, which—beaten to the news punch by TV and electronic media—is forced into off-news analysis. Magazines, from the general to the technical, are constantly interviewing experts, reviewing research, or revealing new-generation products to help the reader know "what's coming next."

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"the national debt will engender more volatile currency swings." Climate activists say, "the next war may be fought over water." The media says, "social security will be gone by the time we get there." A trend spotter says, "cars are the new office." Medicare says, "infometrics will allow more home-based elder care," and so on and so on.

There is no doubt that these and many other trends are upon us, that they will have short and long-term implications for policy and business decision makers, and that a correct reading of their outcomes will separate the winners from the losers. But, given what we know of the mixed track record of forecasting, how much of any forecast can we reliably depend on? On the face of it, any one prediction is as good as the next—certainly if you believe the forecasters' own claims to excellence. There's much at stake. Good quality forecasts are clearly valuable beyond measure, but the question in every case is: *Is this a good forecast?*

Some forecasts will be useful. Some will be junk. Some will be actively trying to influence future outcomes in their own interest. We cannot rely on them, but it is fatal to ignore them. We need to be able to examine and challenge forecasts, recognizing and discounting innocent exaggerations, deliberate lies, technological overenthusiasm, spokesman spin and salesmanship, and mechanical modeling—among the many pitfalls that the innocent forecast consumer is liable to fall into due to forecaster incompetence, or mischievous or downright cynical.

Predicting Is Poorly Done

Our competitive need to anticipate the future is matched only by our lamentable inability to forecast it. The record of future prediction is littered with the most astounding mistakes. From underwater cities never built to rocket mail that never flew to Y2K disasters

that never materialized, the list of laughable errors is a mile long. With the benefit of hindsight, one is left wondering how sensible people—often experts in their fields—could have confidently anticipated things and events that didn't emerge while missing what was happening right under their noses? More often than not, a forecast is not just a poor analysis, but is clearly based on an entirely wrong-headed judgment about the status quo and the forces affecting it.

Bad forecasting is so ubiquitous that there are books and Web sites that catalogue (and smirk at) these failures. These lists showing up forecasters and industry "experts" correctly put us on our guard. But, as discussed in the next chapter, what these lists often miss is that many forecasts are *not* meant to be an accurate anticipation of events. Many are trying to influence the future, talk a particular outcome into being or shape it, or stop it from happening. People make predictions to sway an audience, or get a response from authorities or opposing forces. Forecasts are often salvos in the games of power and influence, flagrantly used to promote self-interests, in situations where accuracy is an afterthought.

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What forecast-failure smirk lists also miss, or underplay, is that a poor prediction often represented the widely held and generally affirmed "knowledgeable" position at the time. It may be attributed to an individual, but that individual was merely the mouthpiece for common wisdom. This suggests that the failure of foresight is not the idiocy of individuals, but a more difficult problem. The sobering reality is that even the best "neutral" foresight work in the best institutions also often turns out quite wrong. Even where future analysts work competently and diligently, with

balanced intention, the extreme complexity of human and natural systems makes medium- and long-range views of the future extremely hazardous.

What's instructive, also, is that the particular forecasting method doesn't appear to make a difference to correctness of prediction. The consistently poor quality of forecasting is not the problem of any particular forecasting technique. Whether it is trend extrapolation or Delphi studies, other forms of expert polling, impact-analysis, or statistical modeling, no method escapes failure, and they all appear to fail equally. This in itself suggests something crucial. Perhaps it can't be done, or at least not in the simple sense of "getting it right."

If all this is true, and proved in the poor record of forecasting, why bother forecasting or paying attention to future-oriented analyses? It is a short step to ignoring all predictive comments, saying, "I'll worry about it when it happens." Forecast skepticism of this type is quite common. The skeptic does not say the future is unimportant, just that we can't know it, and we should best deal with the unpredictable future by carefully monitoring developments and maintaining a high degree of flexibility, so that we are "ready to pounce" as necessary, as soon as the new situation demands it, rather than spending time and money chasing shadows or preparing for a "maybe" situation.[3]

Learning from Forecast Success

From skepticism it is a short jump to the lazy belief that we can know *nothing* about the future, and therefore can do nothing to respond to it or to shape it. That is a recipe for being caught napping. If we use personal or organizational success as a yardstick, it is clear that some forecasters or institutions or individuals do

seem to have or have had effectively excellent foresight. They were somehow able to anticipate events in a way that was "good enough" to be very useful. In business, forecasting success is proved retrospectively by profit. There are of course many sources of profit, but one key element is having had the foresight to put resources in the right place at the right time, implying that decision makers had insightful views of future market or technology or social circumstances.

Regardless of whether they choose to publish their forecasts at the time—most do not for obvious reasons—successful foresight can be seen in every successful organization, such *Microsoft*, *Southwest Airlines*, and *Wal-Mart*, where winning has come from having anticipated the important trends in the world and in their industry before anyone else, or at least in time to maneuver their companies to benefit by creating appropriate products, services, and solutions. While *Pan Am* was missing the future, Herb Kelleher at *Southwest* was getting it. While *IBM* was missing the PC future, Bill Gates was getting it, and so on. Similarly, Henry Ford was able to foresee a mass market for automobiles before anyone else when he formed his motor company in 1903. Such good enough quality foresight can be seen in the success of organizations such as *Amazon*, *Capital One*, *Nike*, and *Nokia*, along with hundreds of thousands of smaller, untold stories where success came from having anticipated change correctly, or correctly enough. They didn't trumpet their view of the future. And they surely didn't see the future in perfect detail. But the outline was there, underpinning the strategic choices that they made in the evolution of billion-dollar businesses. Forecast success is, in fact, all around us.

In the public realm, successful foresight is often seen not only in benefits gained but losses avoided—the invisible nonoccurrence of crises, for example, in transport systems built in time to avoid gridlock, health initiatives that have offset epidemics, or develop-

ment initiatives that forestall population explosion and/or famine. In a famous case in the 1960s, Singapore's Lee Kuan Yew saw emerging conditions that would allow Singapore to become a high-technology center of trade and industry in Asia. As a result, he set in motion policies that turned the country from a colonial swamp into one of the highest average-income cities in the world.

Of course, in these foresight-success cases, players were not merely predicting the future: They and their organizations were acting to *influence* it, and particularly to fulfill their vision. (Future-influencing prediction is discussed more fully in the next chapter.) But no organization, no matter how powerful, can determine or significantly influence the future. Most have to adapt to it to a large degree, to created congruence with the future, and successfully doing this depends on foresight to judge the course and timing of new initiatives under uncertain conditions.

Forecast Filtering for Self-Defense

This book takes a middle course between an uncritical reliance on prediction and overcynical dismissal of it. Certainly, dumb forecasts are made every day, but we do not merely smirk at the blunders. Forecast errors are instructive. Why was *AT&T's* massive bet on picture phones (the ability to see the other caller) wrong, while forecasts for a huge market in cell phones right? Why were those who forecast oil running dry by 2000 wrong, while those who forecast hybrid-car systems and uptake in alternative fuel sources right? What are they doing? What are they not doing? What do we learn from this? How do these errors improve our ability to evaluate forecasts, and therefore anticipate and profit from change?

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By dissecting failed forecasts we can understand the common and repeated errors and shed light on avoiding weak approaches. We aim to learn from other people's mistakes in order to establish filtering criteria for good forecasts and to be able to critically assess each forecast and to be able to extract what value there is, if any. Forecast consumers must be able to ask of every future-oriented claim: How credible is it? How accurate or biased? Which parts of it are worth integrating into my mental framework? Which parts should be part of our organization's preparation and planning and which can be discounted and safely ignored? Can I use this knowledge to further the goals of my institution? Can I base a decision on this with confidence?

The million-dollar question is: How? Is there a way to weigh the utility in a forecast so that we can know whether it is something to note or to ignore? What are the markers for this? Is such a thing even possible, or to what extent or under what conditions is it possible? There are, in fact, a number of clear quality filters, questions, and hurdles through which one can put a forecast. A summary of the problems to watch out for and filters to apply is provided at the end of the book and offers the reader a handy checklist when evaluating any particular forecast. Chapters 1 through 10 present the argument and examples behind this list: piecing together the elements that make forecasts reliable, developing critical antennae for the types of problems likely in a weak forecast, demonstrating what a good forecast should look and feel like, and therein offering a dependable approach to evaluating predictions.

Chapter 1 introduces the broad categories of forecasts, to illuminate forecast intentions, particularly distinguishing between forecasts with future-aligning versus future-influencing purposes. Chapter 2 deals with quality of information and data in forecasts, addressing and necessarily eroding a too-secure belief in data solidity and dependability. Chapters 3 and 4 consider issues in qual-

ity of interpretation and bias, perceptual and cognitive filters, and mental models of the world that obstruct our thinking and therefore our forecasting.

From here we move into determining the forces that drive and block change, and how forecasts deal with them. Chapter 5 deals with the role of value or "utility" in determining the direction and timing of future outcomes, and the following chapter takes this forward to consider problems in trend-based forecasting. Chapter 7 develops issues related to complexity and considers how all elements of the world are interconnected so that changing one element changes everything else—often in unpredictable ways. Chapter 8 explores the themes that have been developed so far to illuminate the uses and limitations of quantitative forecasting, and this leads to a discussion of approaches to forecasting based on developing alternative futures and scenarios in Chapter 9. Chapter 10 provides short worked examples of forecast filtering, and Chapter 11 thematically summarizes the points made across the book, to create a template guide to forecast filtering.

Taken together, the steps in this book aim to put you, the forecast consumer, in better command of the forecasts thrust in front of you, allowing you to interact critically with the predictive chatter you read and hear, so that when you come across yet another breathless article about the "latest new thing," you will have the tools to keep your head when all about you are losing theirs.

Notes

1. Quoted in C. Thuron, *In Siberia* (New York: Penguin Books, 1999), p. 131.
2. There are various generally accepted attempts to synthesize a coherent framework for the future studies field. These are W. Bell, *The Foundations of Futures Studies* (Edison, NJ:

Transaction Press, 1996); R. Slaughter (Ed.), *The Knowledge Base of Futures Studies* (Foresight International, 2005); and J. Glenn, & T. Gordon, *Futures Research Methodology, v2.0* (CD-ROM) (American Council for the United Nations University: Millennium Project, 2003.) The field is loosely held together by the World Future Society in Washington, DC (www.wfs.org) and the Association of Professional Futurists (www.profuturists.org)

3. The wait-and-see approach is categorically rejected by authors Gary Hamel and C.K. Prahalad, who argue that short-term thinking will not allow a business or organization time to develop and place itself to occupy the high ground in its industry in the future. Businesses, particularly, often need to go through extensive R&D or other procedures of creating or adapting key competencies, and proceed through rounds of product and market refinement, all of which takes time, and which therefore demands foresight. See Hamel, G. & Prahalad, P. *Competing for the Future* (Boston: HBS Press, 1994).