ForeTell®: The Future of Business Intelligence

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Decisions, Decisions…

Making good decisions requires insight into the future. Insight derives from anticipating how your situation will evolve and how proposed strategies will likely impact that situation to your benefit. Poor anticipation entails serious risks, as decisions become dependent on guesswork or luck, and give rise to unintended negative consequences. Failed decisions can damage or cripple careers, companies and their stakeholders, or even societies.

Anticipating the future competently requires an understanding of *dynamics* ─ how relevant forces, trends, events, and behaviors of key parties act *and* interact with one another. Business Intelligence (BI) tools operate primarily on numeric performance data rather than addressing the underlying factors that drive situational change. As such, BI tools rarely yield the deep anticipatory insights that ground good decisions, particularly strategic ones that play out over long time frames.

DecisionPath's ForeTell® software picks up where BI stops. ForeTell leverages BI outputs to construct rich models of situational dynamics. ForeTell's "what-if" simulator engine then projects these models to help organizations systematically explore the likely outcomes of candidate decisions, uncover adverse consequences in advance, and refine strategies accordingly. Users can also apply ForeTell post-decision, to monitor execution results, detect problems quickly, and make mid-course corrections. ForeTell thereby addresses the "insight gap" to better determine what must be done today in order to succeed tomorrow.

Business Intelligence Drives Situational Awareness, NOT Decision Support

BI solutions include data warehouses, query and reporting tools, and analytics such as data mining and statistical software. Benefits of BI include: aggregating data from diverse sources; summarizing and visualizing data for improved accessibility; and identifying interesting patterns or trends.

BI vendors often assert that their products provide "decision support," but this is simply untrue: what BI yields, at best, is enhanced visibility into current status and past performance – or *situational awareness* (SA). SA is clearly a key prerequisite for considered decision-making, but it serves largely as a passive input. True decision support *actively enables or enhances decision-making processes*.

Granted, predictive analytics provide sufficient "look-ahead" to enable some operational decisions. For example, current demand trends may be extrapolated to dictate tactical supply chain decisions for managing inventory levels ─ but only assuming that no significant market changes occur. Unfortunately, past performance is no guarantee of future results, particularly without some understanding of when and how significant changes might arise and what impacts they might have.

Predictive trends are even less effective for strategic decisions such as managing enterprise-level investments, goal and policy setting, or mergers and other broad restructuring actions. Strategy hinges on future-directed reasoning about risk-reward tradeoffs, long-range planning, and alignment of resources, core processes and employee behaviors. Current BI tools can be used to extract knowledge that is relevant to these complex tasks. But the core challenge lies in helping organizations apply (and refine) this knowledge to generate the anticipatory insights that drive sound decision-making. Figure 1 depicts BI's contributions to SA, while Figure 2 summarizes key decision process phases.
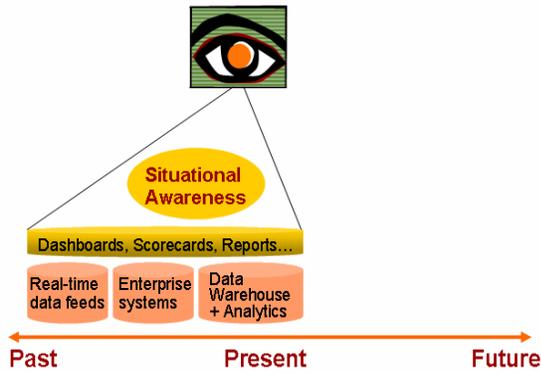
Figure 1. BI promotes Situational Awareness

Figure 2. Key Decision-Making Activities

ForeTell®: Exploring the Future(s)

In essence, ForeTell enables you to "test-drive" critical decisions: much as a test drive helps you assess what it would be like to drive and own a vehicle *before* you buy it, ForeTell allows you to explore the likely consequences of adopting alternate strategies.

ForeTell supports critical decision-making via a process of modeling, simulation, and analysis. First, it provides tools for creating *scenarios*. A scenario models your current decision context, including key actors, relationships, and environmental conditions. You then extend this baseline into *plausible futures* by making alternate assumptions about anticipated trends, forces, events, and key actor behaviors. Finally, you define candidate strategies or plans to influence or shape these futures to your advantage.

Next, you execute your scenarios with ForeTell's simulation engine, which projects their likely outcomes ― what happens if we do X and the world evolves along path Y. ForeTell records all simulated changes in its database, including key performance metrics. Finally, you apply ForeTell's analytics to explore projected outcomes and compare them *across* competing strategies and possible futures. This process uncovers the relative strengths and weaknesses of prospective strategies so that you can refine and validate them. The goal is to define a *robust* decision, which is one that leaves your organization well-positioned regardless of which plausible future obtains.

Exact algorithms are unavailable for solving most strategic problems. And no one can predict the future (reliably). Practicing decisions in ForeTell's low-risk virtual environment and learning from simulated mistakes is the next best thing. Bottom line: ForeTell reduces risk while improving quality, confidence and consistency in decision-making.

What BI Users Really Want – and Need?

BI users naturally want it all ― situational awareness *and* effective insight into the future to guide critical decisions. DecisionPath's ForeTell-BI integration solution (FTBI) offers BI users the best of both worlds. FTBI's rapid development and data exchange tools integrate your existing BI capabilities with ForeTell.

BI ➜ ForeTell. FTBI automatically builds the core structures for ForeTell-based decision models directly from your existing BI repositories. Our consultants then work with your analysts to leverage your BI outputs and flesh out the behavioral dynamics to drive ForeTell's simulation engine. (This process takes days, not months.) FTBI tools can then automatically retrieve relevant BI data to populate your ForeTell decision scenarios.

2

ForeTell ➜ BI. You execute ForeTell's simulation engine against your scenarios and candidate decisions. You can use ForeTell's analytics to assess projected outcomes. Alternatively, you can export scenario simulation data into XML-formatted text files. FTBI automatically generates a relational data model from these files. Your database administrator can import the resulting schema to extend your BI repository, and populate these tables with your scenario simulations. With ForeTell's projected outputs residing in the same repository as your current and historical data: you can now apply familiar BI analytics to explore ForeTell's projected futures and improve your decisions.

In short, FTBI combines BI's situational awareness with ForeTell's capabilities to define plausible futures, model and project complex situational dynamics, and explore the likely consequences of prospective decisions. This innovative combination offers uniquely effective decision support across the continuum of tactical, operational, and strategic issues — the future of BI.
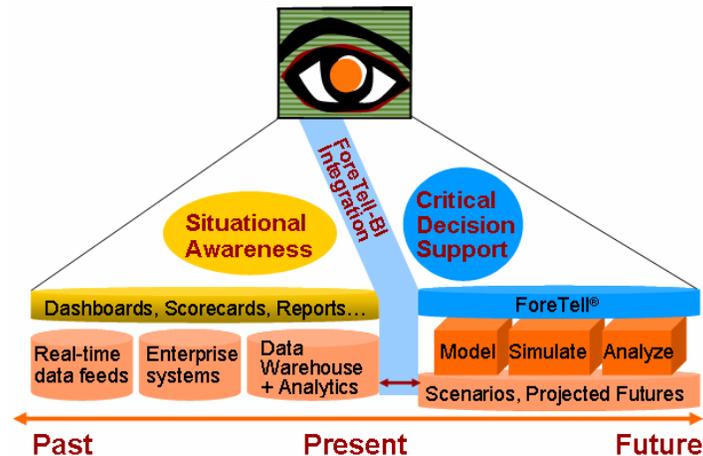

Figure 3. Benefits from combining BI and ForeTell

Details: ForeTell vs. Other Simulation Tools

A multitude of simulation tools exist to project possible futures. What is so special about ForeTell? First, competing simulators generally implement a single dynamic modeling technique. Examples include system dynamics (for modeling causality), Monte Carlo (for modeling statistical variations), intelligent agents (for modeling complex adaptive systems and game theory), process- and event-based models. This "uni-modal" approach is analogous to bringing one (and only one) tool to a complex construction project, such as a hammer. In contrast, ForeTell synthesizes these previously standalone paradigms into an integrated architecture, providing a whole toolbox to model the diverse drivers of change relevant to your situation. We select tools appropriate to depicting each distinct behavior, such as a process, causal relationship, event, or decision rule. These tools work together, reflecting to depict the interactions between dynamic factors that typify real-world situations. Secondly, ForeTell provides a scenario-based methodology that is designed expressly to support the entire lifecycle process of decision-making (cf. Figure 2). In contrast, methodologies for competing tools focus primarily on how to build models, rather than on applying them to identify robust decisions. Finally, ForeTell's FTBI technology for integrating with and leveraging existing BI tools and outputs is unique in this market space.

About DecisionPath

DecisionPath helps business and government organizations make and execute critical decisions more effectively with custom solutions based on our ForeTell® software platform. Example solutions include competitive drug marketing strategy, organizational change management, IT portfolio management, homeland security risk management and counter-terrorism preparedness. We market pre-defined solutions and custom develop new ones, typically with management consultant or system integrator partners. We welcome inquiries about ForeTell and our BI Integration tools from both end-user organizations and their service providers.

3