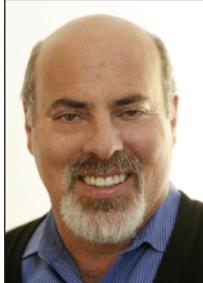


# The Speed Society and Its Enemies

White Paper

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## About the Author

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# The Speed Society and Its Enemies

There was a time when computers were too slow to do more than bookkeeping and other back office chores. Without machines to interfere in their interactions, people performed office work like a ritual. There were set hours, dress codes, rigid hierarchies, predictable tasks and very little emphasis on change from year to year. Nothing moved very quickly. Good companies were stable and planned thoroughly. That was then. As computers slowly became more useful, necessity and market forces applied them to increasingly more mission-critical tasks. By the 90s, Total Quality Management, Process Reengineering and headcount reductions driven by the brutal pressure of corporate raiders forced organizations to look at the efficiencies that could be gained by streamlining business processes. After almost two decades of tireless cost-cutting and pursuit of efficiency, the relaxed and personal office life depicted on television in the Sixties was gone forever. Today, we operate Tivo-style, on-demand.

The critical mass for an on-demand world is composed of ubiquitous communications (the Internet), open standards and instant access. In an information-driven world, speed is king. Whether you're conducting commerce, managing a battlefield or monitoring the world's financial markets, going faster means shifting from a reliance on prediction, foresight and planning to building in flexibility, courage and faster reflexes, catching the curls as they come and getting smarter with each thing you do (and making your partners smarter, too), ranking the contingencies instead of sticking to the plan no matter what. But what exactly is speed?

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# Speed

Speed implies more than just doing something quickly. For example, being able to load and index 10 million records into a data warehouse in an hour is one measure of speed, but if the process has to wait until the middle of the night, or it takes another day to aggregate and spin out the data to data marts before it can be used or if the results have to be interpreted by multiple people in different domains, or modifying the data model takes nine months, then the relevant, useful measure of speed is the full cycle time. In Six Sigma terms, cycle time is the total elapsed time to move a unit of work from the beginning to the end of a physical process. That doesn't even include the lead time. Measuring speed can be relative or absolute. Closing the books in three working days is absolute. Being first to market is relative.

There is a paradox of efficiency — investing in efforts to pare the time it takes to complete work steps can often lead to even longer cycle times. Consider scheduling aircraft. When a step is delayed or fails, there are people to consider — passengers and crew, for example. The efficiency of the solution vanishes when something doesn't work or when the means loses sight of the desired result. Perhaps the process is very efficient, but brittle—when it breaks all prior gains are lost. The lesson is that speed can't be measured by the speed of steps or by the speed of a sequence of steps. People are always involved, often, people tangential to the process. The Concorde cut Paris-to-New-York flying time in half, a savings of three and a half hours, but in today's congested surface traffic and extreme security, a 3.5 hour flight could still take 8 or 9 hours door-to-door, a savings of only 25% or less, possibly not worth the 300% fare increase, except for the most extremely time-conscious.

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In the workings of decision-making in organizations, gaining speed can not be limited to the automating of single tasks or optimizing individual productivity. Speed has to be an organizational concept. The actors need to understand the priorities and not waste time trying to optimize things that aren't important. But one area that is in desperate need of work is organizational decision-making.

# Decision-Making

Decision-making is not, strictly speaking, a business process. Attacking the speed problem for decision-making, which is mostly a collaborative and iterative effort, requires looking at the problem as a team phenomenon. This is especially true where decision-making requires analysis of data. Numeracy, a facility for working with numbers and programs that manipulates numbers, exists at varying levels in an organization. Domain expertise similarly exists at multiple levels, and most interesting problems require contributions and input from more than one domain. Pricing, for example, is a joint exercise of marketing, sales, engineering, production, finance and overall strategy. If there are partners involved, their input is needed as well. The killers of speed are handoffs, uncertainty and lack of consensus. In today's world, an assembly line process of incremental analysis and input cannot provide the throughput to be competitive. Team speed requires that organizations break down the barriers between functions and enable information to be re-purposed for multiple uses and users. Engineers want to make financially informed technical decisions and financial analysts want to make technically informed economic decisions.

That requires analytical software and an organizational approach that is designed for collaboration between people of different backgrounds and abilities.

All participants need to see the answer and the path to the answer in the context of their particular roles. Most analytical tools in the market cannot support this kind of problem-solving. The urgency, complexity and volume of data needed overwhelms them, but more importantly, they cannot provide the collaborative and iterative environment that is needed. Useful, interactive and shareable analytics can, with some management assistance, directly affect decision-making cycle times.

When analysis can be shared, especially through software agents called guides that allow others to view and interact with a stream of analysis,

instead of a static report or spreadsheet, time-eating meetings and conferences can be shortened or eliminated. Questions and doubts can be resolved without the latency of scheduling meetings. In fact, guides can even eliminate some of the presentation time in meetings as everyone can satisfy themselves beforehand by evaluating the analysis in context, not just pouring over results and summarizations.

Decision making is iterative. Problems or opportunities that require decisions often aren't resolved completely, but return, often slightly reframed. Karl Popper taught that in all matters of knowledge, truth cannot be verified by testing, it can only be falsified. As a result, science, which we can broadly interpret to include the subject of organizational decision-making, is an evolutionary process without a distinct end point. He uses the simple model below:



Popper's premise was that ideas passed through a constant set of manipulations that yielded solutions with better fit but not necessarily final solutions. While the initial problem specification  $PS_1$  yielded a number of Tentative Theories  $TT_1$ , Error Elimination  $EE_1$  generates a solution,  $PS_2$ , and the process repeats. The TT and EE steps are clearly collaborative.

The overly-simplified model that is prevalent in the Business Intelligence industry is that getting better information to people will yield better decisions. Popper's simple formulation highlights that this is inadequate — every step from problem formulation, to posing tentative theories to error elimination in assumptions and, finally, reformulated problem specifications requires sharing of information and ideas, revision and testing. One-way report writers and dashboards cannot provide this needed functionality. Alternatively, building a one-off solution to solve a single problem, typically with spreadsheets, is a recurring cost each time it comes around.

# Finding the Enemies of Speed

What are the enemies of speed? Today, much of analytics is a solitary effort with highly skilled and trained workers expending a significant amount of their time re-configuring data, or waiting for others to do it as aspects of the problem space change. While one group expends a considerable amount of time developing reports, another group pauses to re-format the reports or, more typically, either re-key or import some of the information into their own spreadsheets. Spreadsheets, though an effective tool for individual problem-solving, cause delays when others have to interpret or proofread spreadsheets authored by others. The problem isn't limited to spreadsheets — it applies to varying degrees to all types of analytical software, but the spreadsheets account for the overwhelming proportion of problem.

When information from analytic work is initially communicated to others, the results are often difficult to explain because they are conveyed statically and usually in aggregated levels. There is no explanation or explicit model to describe the rationale behind the results. Additional presentations about methodology, narratives about the steps involved, alternatives that were considered and rejected (or perhaps just not recommended) and a host of other background material, usually presented in a sequence of time-consuming, serial meetings that have to be scheduled days or weeks in advance are the greatest enemies of speed today. They turn cycle time into cycle epochs. The reason for all of this posterior explanation is the cognitive dissonance between the various actors — no one has a firm grasp on what the others know. The result is that well-researched and reasonable conclusions are often not actionable because management is not willing to buy in due to their lack of insight into the process by which the conclusions were arrived.

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The solution to this problem is an environment where complex decisions that have to be made with confidence and consensus can gather recommendations to be presented unambiguously and compellingly across multiple actors in the decision making process.

# Gaining Confidence

The late Peter Drucker said that information was data endowed with relevance and purpose, but it takes a human being to do that. Unfortunately, one person's relevance is not necessarily another's. The process of demonstrating to others what you've discovered and/or convinced yourself of can add latency and frustration to the process. The generation of mountains of fixed reports and even beautiful presentations of static displays such as dashboards cannot solve the problem. Henry Mintzberg wrote repeatedly that strategy was never predictable; it was emergent, and based on all sorts of imperfect perceptions and conflicting points of view. The lack of confidence that each actor has in every other actor's methods and conclusions is a serious enemy of speed. It is the cause of endless rounds of meetings, delays and subterfuge.

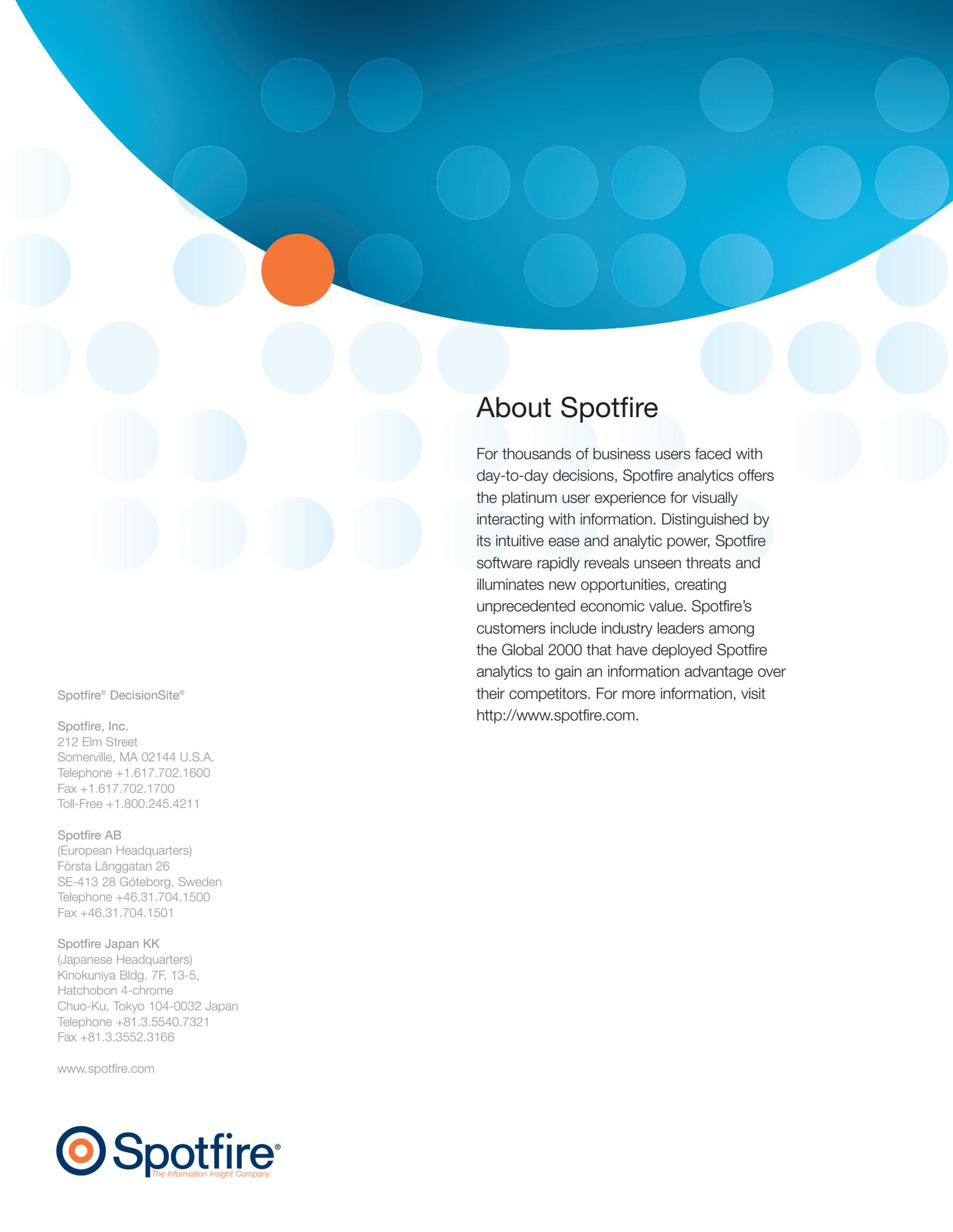
Today, we have the advantage of an almost unimaginable wealth of technology resources to bring to bear on these problems. We only need to let go of our decades-old approaches to using analytical tools as serial, personal efforts and apply them as collaborative discovery and consensus-building aides. BI tools today still operate with a reporting mentality and are driven by data warehousing technology and approach. They are the enemies of speed because they lack these essential characteristics:

- Intuitive user interfaces that depict the cognitive models of the users, not the data models of the applications, because they are focused on the user experience, not the data
- Ability to package analytical work and distribute it, not as reports, but as interactive applications that allow the viewer to engage at the level they are comfortable with-asking and answering their own questions on demand.
- Guides that assist people in accomplishing their goals without having to start with a clean sheet
- Central administration that is capable of managing versioning, collaboration and dependencies
- Analytics needs not to just save time but to give back time

# Conclusion

Cost-cutting will always be a useful effort in organizations because inefficiency will always find a way to creep back in, but the dramatic improvements are largely over. The real battlefield today is differentiation, distancing your enterprise from your competitors. And in an era when every company potentially has access to the same level of best practices and efficiency, the key to leaping ahead is speed. Finding a new insight, a disruption or a discontinuity before anyone else, and being able to act on it, is the ticket to the show.

Organizations need to be constantly on the lookout for new ways to streamline, to enhance revenue opportunities, to improve in a multitude of ways, to go faster. Faster decisions, faster to market, faster to understand the environment, faster to go faster. Making things go faster or better is rewarding, but giving time back to people is crazy fast, it's supercharged. The one resource that is in shortest supply is the time and attention of your best people. Give some time back to them and you can change their world.



## About Spotfire

For thousands of business users faced with day-to-day decisions, Spotfire analytics offers the platinum user experience for visually interacting with information. Distinguished by its intuitive ease and analytic power, Spotfire software rapidly reveals unseen threats and illuminates new opportunities, creating unprecedented economic value. Spotfire's customers include industry leaders among the Global 2000 that have deployed Spotfire analytics to gain an information advantage over their competitors. For more information, visit <http://www.spotfire.com>.

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