

# Leading from the center: “Big Data” and the coming collapse of management hierarchies

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When it comes to strategic thinking, good judgment still trumps data. But where objectives and outcomes are measurable, like industrial production, a tsunami of transparency is upon us. It’s called Big Data, and it will change everything about how operators work, how a plant is managed and maintained and how processes evolve around enterprise derived and enterprise accepted best practices.

Big enterprises have always faced the challenge of communicating across layers of management and between silos of specialists. Complex communication channels often result in stifling inertia and opaque decision making where issues get lost in bureaucratic translation. The traditional solution has been decentralization because it fits the natural condition of large distributed organizations, where information and situational awareness dissipate with time and distance.

What if the value, speed, and accuracy of information improved, and situational awareness depended less on human channels and more on reliable machine-to-machine channels? Enter the omniscient eye of Big Data that sees everything, and (with expert systems) understands it, too? What happens when the Board room and the staff room see the same information at the same time?

## Why decentralization is over

The advent of concepts like Enterprise 4.0 and IoT promise a brave new world: enterprise level transparency with total situational awareness of industrial asset performance everywhere all the time. Visibility will extend to all variety of day-to-day operating activities, from production and supply chain management to maintenance and reliability practices.

Data and the internet clear the fog by eliminating the insulation of time and distance. The power to know exists, and this means the days of plausible deniability are



numbered. This will require a new paradigm for decision-making, where constituents across the hierarchy work from a common “situational awareness,” and codify knowledge as it accumulates.

Not every bastion of management will succumb to Big Data, but production operations will because yields, processes, energy consumption and even asset failure modes are predictable and manageable, and computing power outstrips any one person’s ability to balance all the variables and know the right response to every scenario. That certain determinable knowledge can be stored and used at exceptional scale to close the gap between the “known” and the “known unknowns,” as well as the distance between staff and management is beyond dispute. This will render traditional models of decentralization inefficient and outmoded as management strategies.

### Flattening the org chart

An alternative might be “leading from the center,” which means leveraging knowledge mined by the enterprise to inform objectives and performance targets throughout it. It requires buy-in from managers across hierarchies and a forgiving culture open to learning from transparency. It means knowing your boss has the same information you do, and believing that intellectual integrity will trump authority and seniority every time. Does that sound like your work environment?

Competitiveness in the information age means rapidly deploying new, data-driven insights captured by the enterprise to measurably improve efficiency, cost, risk and safety. To be sure, the promise of Big Data will remain elusive to the generation of managers raised on span of control and seniority; but its promise is already well-known to the generation of managers following them, to whom Big Data applications are second nature, from avoiding traffic jams to inciting flash mobs.

The reality is that the internet has created new standards for transparency and communication that are here to stay. Those standards will have powerful implications for traditional models of management and leadership, especially in the industrial enterprise, where the disruptive nature of time and distance to command and control will be neutralized.

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