

How Data Can Make Better Managers

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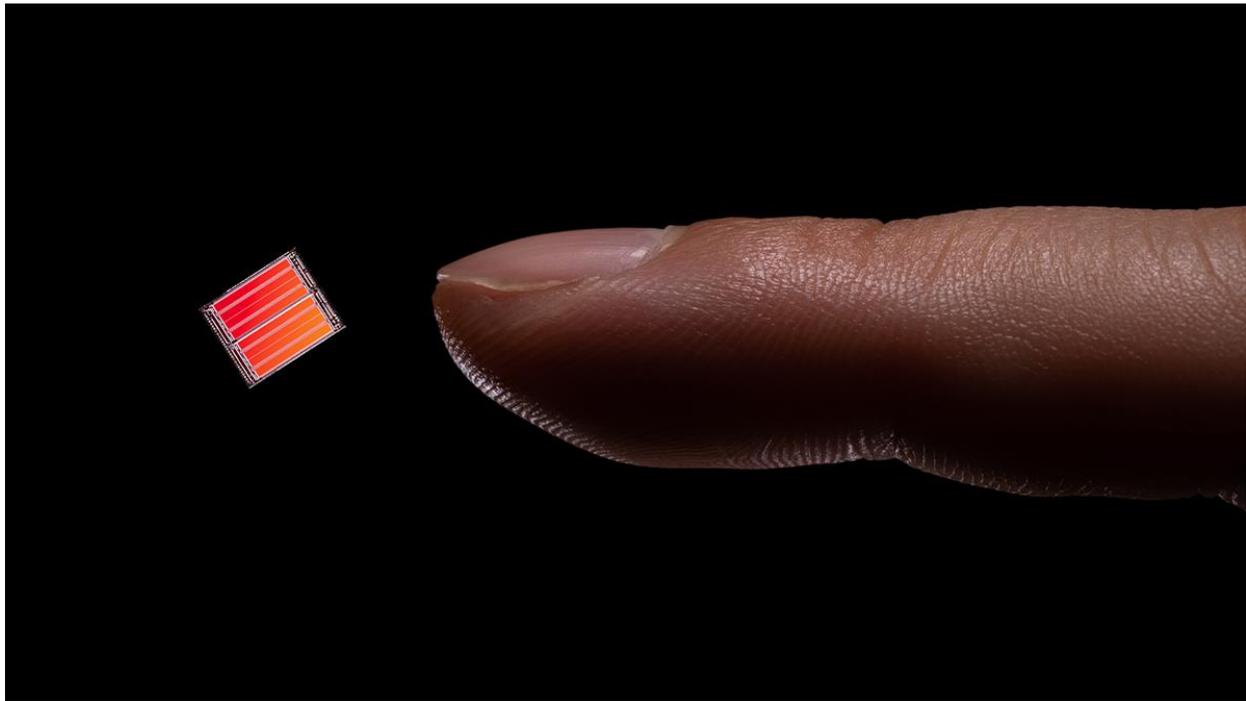
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An Introduction to Computational Leadership Science (CLS)

How Data Can Make Better Managers

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Summary. Courageous leaders move past their insecurities regarding emerging technologies, unfamiliar jargon in the boardroom, or modifications to their leadership style. They adopt an opportunity-oriented mindset by understanding how CLS boosts their performance. This does not mean you have to code in Python, but you must at least dip your toe in the digital water.

CLS allows businesses to better anticipate, address, mitigate, and even benefit from the tidal waves of disruption one's organization is going to experience in the months and years ahead. This article addresses three examples for which CLS provides near- and long-term value.

Leading has long been thought of as a “soft” intuitive skill, while management was seen as a “hard” science. But those lines are blurring, and the days of purely intuitive decisions are over. Many leaders are already adopting a hybrid, “informed intuition”

approach, where intuitive decisions are data-informed. Netflix, for example, blends sophisticated viewer analytics with years of experience when exploring new products.

Such uses of computational social science (using data processing and data science tools to analyze information about people and relationships) are now critical for businesses. From marketing and supply chains to strategic decision-making and compliance, this spring of innovation is helping to improve profits, streamline operations, and optimize decision-making.

Computational leadership science (CLS) is the next evolution, designed to fundamentally improve leadership by using simulations, network analysis, AI, and other computational approaches. It is at the intersection of trailblazing science and technology, well-established leadership research, and invaluable knowledge gleaned from practice.

This article examines the role of CLS within your organization, how to use it to create business value, and the ways IBM is using it today.

CLS and leadership

CLS allows businesses to better anticipate, address, mitigate, and even benefit from the tidal waves of disruption one's organization is going to experience in the months and years ahead. Here are three examples for which CLS provides near- and long-term value.

Morale and Engagement:

A recent survey of 1,500 CEOs found that morale was their greatest challenge. Fortunately, there are CLS resources to co-create solutions with your employees. You can use open-ended survey questions infused with "natural language processing" to gain a better understanding of 1) the primary topics associated with morale in your organization and 2) how your employee's feel you are addressing them. Then, you can use "collective intelligence" technologies to innovate morale-boosting solutions. This form of group decision-making increases engagement and grows your value as a leader.

Employee Monitoring and Motivation:

Another concern is remote working and tracking productivity. Here, increasing CLS intelligence reduces hasty decisions like implementing excessive employee monitoring systems. You will learn that surveillance tech is a slippery slope only to be used with extreme caution. A healthy CLS alternative is transforming virtual environments into fruitful spaces for motivating your employees. For example, I am co-creating an AI-driven system that 1) visually maps who knows what and who is working with whom in organizations and 2) rapidly assigns the right people to the right job. The former provides a clear picture of existing relationships and how to lead de-siloed community-

building while the latter assigns tasks better aligned with employee competencies — something proven to increase motivation. This helps you reduce employee dissatisfaction while increasing trust, commitment, and other outcomes indicative of great leadership.

Diversity, Equity, and Inclusion (DEI):

Many organizations struggle with DEI in hiring, retention, and promotion. Certain individuals are better at landing top jobs than others — there is a bias against introverts even though they can add more value — and leaders frequently select people they want rather than people they need, subconsciously selecting individuals like themselves based on factors such as race, education, and socioeconomic background. Making matters worse, the majority of employers are using “totally meaningless” tools such as the Myer-Briggs Type Indicator or biased algorithms for processes such as recruitment.

CLS allows you to surface and remove these biases with state-of-the-art solutions. My team, for example, is combining “conjoint analysis” (a method for reducing deception on assessments) with “reinforcement learning” (an AI approach for optimizing decisions over time) to better match an applicant’s real, not just stated, qualities with organizational needs, not just wants. The outcome is a clear, honest, and continually-improving selection system based on DEI and performance.

Leading CLS teams

CLS must become part of your daily leadership practice. In addition to the six daily leadership questions identified by my colleague, Eric McNulty, you need to constantly ask “How can CLS inform this decision and how can I engage my CLS team?” There is too much data, computing power, and analytical talent for a paradigm shift not to occur and for you not to ask these questions. From managing personal relationships to strategic decision-making, CLS will have a massive impact on how you lead.

The team you build, consisting of leadership scholars and consultants, as well as data and computer scientists, facilitates the advantages of CLS. They are at the core of your transformation, so you should first find a CLS advisor who can help you build and engage your team. This advisor is a specialist at removing expertise silos and managing CLS resources. Think of the advisor like a golf caddy who knows the course and what club you should use for each shot. For example, part of my work at Harvard’s National Preparedness Leadership Initiative and as the co-founder of HSC Analytics is understanding how leaders can use AI-informed tools to 1) decrease workplace bias and 2) increase the pace and power of collective problem-solving. Then, as a CLS team, we navigate the course and co-create value.

Advisors also help with matters of explainability and privacy. Problems arise when leaders, motivated by the speed, efficiency, and AI hype, make decisions “because the computer says so.” This *AI-centered* approach creates a murky environment filled

with cautionary tales. Accordingly, significant effort is going into explainable AI to identify and reduce problems. This gives you X-ray vision to safeguard against blind, potentially catastrophic, decisions while retaining the value of CLS-driven insights.

Privacy is also a must. There is a significant push toward privacy-preserving technologies, and those of you engaging with this tech will play an important role in creating a more secure society. This is a great opportunity for you to further establish yourself as a trusted and effective CLS leader.

The key to attaining these game-changing benefits is embracing leadership's digital transformation. John Hagel III, author of *The Journey Beyond Fear*, notes from decades of deep interactions with leaders that fear prevents decision-makers from realizing their full potential. Courageous leaders, instead, move past their insecurities regarding emerging technologies, unfamiliar jargon in the boardroom, or modifications to their leadership style. They adopt an opportunity-oriented mindset by understanding how CLS boosts their performance. This does not mean you have to code in Python, but you must at least dip your toe in the digital water.

CLS at IBM

Though systemic integration of CLS across all leadership challenges is a nascent vision, IBM is already connecting the computational dots. IBM, like many other organizations, understands the value of identifying employee potential and then creating pipelines for development and promotion. Unfortunately, like many other organizations, IBM struggles with finding ways to create the best fit between high potential and future opportunity. Many uncertainties and significant costs exist in this process. It is very difficult to predict whether an excellent software engineer, for instance, will make an excellent leader of engineers, and getting this wrong can harm everyone in the network — from the person who has been promoted to their subordinates to those tasked with selection.

Upon noticing this opportunity to innovate, IBM embarked on a grand digital transformation of their global assessment process. As Sofia Lamuraglia, Director of IBM Leadership Development put it, "Recruiting internally is often more cost-efficient than bringing in people from outside of the organization, as the training and onboarding processes are typically much shorter. As well as assessing leaders for immediately available positions, we were also keen to build a strong talent pipeline: offering our HR community a go-to resource for future management-level opportunities."

IBM Leadership Development combined key psychometric and behavioral measures of effective leadership with their penchant for computational thinking. The outcome is a digitized platform for leadership assessment on a global scale, as well as automated services for training and micro-learning tailored to a leadership candidate's skills, behavior, and personality. IBM's initial results suggest the platform is predictive of

leadership performance and, better still, costs significantly less than traditional face-to-face assessments.

Leader assessment and development, however, is just the tip of the CLS iceberg for IBM. At the edge of application, they are exploring when quantum computing will elevate a leader's decision-making capabilities far beyond traditional computing — the so-called “quantum advantage.” Though it is early days, use cases are starting to emerge regarding quantum shifts in leadership and complex decision-making. IBM, in partnership with JPMorgan Chase, for example, is experimenting with quantum computing to give financial leaders an advantage in extremely complex spaces, such as investment strategies and risk analysis. It is estimated that leadership at JPMorgan Chase, as an early quantum adopter, could generate billions for their clients and shareholders before the competition is able to follow suit.

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References

See in-text hyperlinks.