Using Predictive Analytics To Drive Workforce Optimization

New Insights From Big Data Analysis Uncover Key Drivers of Workforce Profitability
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**Fortune 500 companies** are investing in big data analytics for a simple reason – to save money and gain market share by understanding the real dynamics behind their business. Companies with the best analytical capabilities outperform the competition by wide margins.

Data is a critical business asset, just like labor and capital. IDC predicts that by 2020 the amount of data available will total 40 Zettabytes. The volume of data that is available and the speed with which it can be analyzed is providing companies with real-time insights into their business and helping predict future business outcomes. Prescriptive analytics takes it a step further by not only indicating what could happen and when, but also why it could happen and which predictive scenario is the best. By understanding the impact of future decisions, organizations can drastically improve their decision-making.

Companies with the best analytical capabilities outperform the competition by wide margins. They are:\(^1\)

<table>
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<th>2x</th>
<th>5x</th>
<th>3x</th>
<th>2x</th>
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</thead>
<tbody>
<tr>
<td>More likely to be in their industry top quartile of financial performance</td>
<td>More likely to have faster decision making</td>
<td>More likely to execute strategic plans as intended</td>
<td>More likely to use data-driven decision making at the C-level</td>
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Research\(^2\) conducted by Bersin by Deloitte found similar results. Companies that use predictive analytics for forecasting outcomes and strategic planning gain tremendous business returns\(^2\). For example, Figure 1 illustrates that companies who have strong analytical capabilities are twice as likely to deliver high-impact recruiting solutions, their leadership pipelines are twice as healthy, and their stock market returns are 30 percent higher than the S&P 500\(^3\).

Despite the advances in technology and increased use of big data analytics in many aspects of business operations, the application of predictive and prescriptive analytics is still not widely applied to workforce decisions and investments. Why are so many companies struggling to capitalize on this competitive advantage? It certainly takes time, talent, and technology, but most importantly, a successful talent analytics strategy must be grounded in business driven *insights*, leverages *interpretable* data, and generates compelling *implications*.

"From the standpoint of competitiveness and the potential capture of value, all companies need to take big data seriously."

McKinsey\(^4\)
Data analytics is changing the way business leaders think and act when it comes to one of their most important assets - their people. Workforce performance is one of the most critical business functions for any company. Poor performance drags on revenue whereas optimal workforce performance provides a critical competitive edge. Now, the selection, training, management, compensation, development, and retention of employees can be optimized using big data analysis.

Predictive and prescriptive analytics are not focused on traditional workforce measures such as headcount, demographics and turnover. Instead, predictive talent analytics answers critical business related questions necessary for the organization to achieve its strategic goals, such as:

- How do we attract and select the right applicants to deliver exceptional customer experience?
- Which capabilities in our workforce need to be developed today to achieve future business performance?
- How can I anticipate and mitigate the organization's workforce compliance risk?
- What career experiences will most likely result in the development of our future leaders?

Talent management has long been achieved by reliance on past experience and intuition. Now, companies can proactively leverage talent analytics to determine critical factors that drive performance, and apply those insights to strategic human capital decisions.

"Considering that companies spend a fortune building a workforce yet so many new hires don’t work out, using data to improve how businesses hire, retain and motivate employees can result in an out sized gain in corporate performance.”

Kenneth Cukier, Data Editor of The Economist5

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Figure 1: Companies with the best analytic capabilities outperform the competition

<table>
<thead>
<tr>
<th>Category</th>
<th>Bottom feeders</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Top performers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Likelihood of top-quartile financial performance</td>
<td>0.6</td>
<td>1.4</td>
<td>1.6</td>
<td>1.8</td>
<td>---</td>
</tr>
<tr>
<td>2. Likelihood of making decisions &quot;much faster&quot;</td>
<td>0.2</td>
<td>1.4</td>
<td>2.6</td>
<td>5.3</td>
<td>---</td>
</tr>
<tr>
<td>3. Likelihood of being &quot;highly effective&quot; at execution</td>
<td>0.4</td>
<td>2.4</td>
<td>3.0</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>4. Likelihood of using data &quot;very frequently&quot;</td>
<td>0.6</td>
<td>1.3</td>
<td>1.6</td>
<td>1.8</td>
<td>---</td>
</tr>
</tbody>
</table>

Source: Bain Big Data Diagnostic survey; n=409

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Cornerstone
Interpretable Data, Not More Data

To conduct predictive modeling and prescriptive analytics, companies don’t need to make huge investments in data technology, hire a team of statisticians, or capture more data. The fact is most companies already capture more data than they think—one third of all enterprise data is people data.

Technology advancements in machine learning have made predictive and prescriptive workforce analytics broadly accessible and eminently doable. The widespread use of cloud applications, the huge increase in both structured and unstructured data, and the capacity for large-scale processing of data sets have led to the development of highly effective predictive analytics applications for the workforce. The key is to ensure you have the necessary data, and it is reliable and interpretable.

Business driven insights should lead to important human capital decisions, so leaders will only accept those insights if the data has integrity and results can be easily interpreted. Overly complex data and analysis only leads to confusion and a retreat back to gut instinct. Interpretable, complete data allows leaders to address real business issues through the use of talent analytics.

"We have clearly entered an economy in which talent is considered a critical and scarce commodity. When this happens, companies should get smarter about every single talent decision. Enter the world of ‘data driven’ people decision-making."

Deloitte
Compelling Implications Drive Actionable Goals

Data analysis alone is not enough unless it results in impactful implications for the organization. In turn, those implications will not be actionable unless they are communicated in a clear, concise and compelling manner to executives. Human Resource partners are increasingly expected to be able to demonstrate this ability to not only conduct and interpret the data analysis, but synthesize it into actionable goals.

In the last 2 years the demand for ‘data scientists’ has grown exponentially, and the trend is similar in the field of human resources. A recent review of position descriptions for recruiters, trainers, and HR generalists revealed that candidates are expected to already have these skills. As stated in one job posting, the HR Generalist must have “the ability to collect and synthesize large quantities of quantitative and qualitative data, recognize trends, and develop recommendations based on data analysis.”

HR executives understand the importance of having a team that possesses those critical skills to create a data-driven talent culture in their organization. These include:

- **DATA SCIENTIST**: Data validation and analysis expert that ensures outcomes align with targets
- **WORKFORCE BEHAVIOR EXPERT**: Organizational psychologists and measurement experts make sure critical success behaviors / functions are measured and understood
- **WORKFORCE SCIENTIST**: Business savvy analysts to align critical KPIs with data – what's available, what's needed, and how to map to business strategy
- **CHANGE AGENT**: Change experts who can craft the story of the data results which leads to acceptance of outcomes, impactful decisions and actionable goals

Creating this team internal to HR takes time, so in the short term CHROs are leveraging other experts in the organization, such as in finance or marketing, as well as experts from external partners. The right combination of analytical capabilities will elevate the credibility of the HR team to a strategic level in their organization.
Predictive Analytics Optimize Workforce Performance Today. Prescriptive Analytics Drive Tomorrow’s Profits.

The benefits are clear. Adopting a big data approach to your workforce strategy leads to measurable improvements in business performance. Until recently, leaders have had limited visibility into the true reasons behind workforce performance. Companies have only been able to ‘react’—looking in the rearview mirror to review, assess, and troubleshoot workforce performance and attrition. Workforce optimization applications allow business leaders to model future scenarios, perform simulations, and contemplate the best possible decision using reliable data.

By coupling predictive and prescriptive analytics, companies are able to more rapidly make decisions on how to proactively improve employee and operational performance, while gaining insight into and addressing factors impacting employees and their business. Using actionable predictive data, organizations can potentially save millions of dollars by improving employee selection, development, performance, and talent mobility—ultimately changing the way companies create and manage their workforce.

To maximize workforce efficiency and bottom line results, organizations need to have a strategy in place to leverage these powerful analytics tools to drive business and talent decisions. A successful talent analytics strategy is grounded in business-driven insights, leverages interpretable data, and generates compelling implications. At Cornerstone, we work with our clients by advising and making recommendations to help forecast future outcomes, why it matters, and what actions to take based on the predicted outcomes. Organizations can leverage our team’s deep organizational and analytics expertise to extract the most value out of your Cornerstone investment. A series of informed conversations can help organizations make the best decisions for their workforce.

“Firms have spent many years building enterprise data warehouses and using business intelligence (BI) tools to report on the business. But predictive analytics is different – advanced statistical and machine learning algorithms dig deeper to find patterns that traditional BI tools may not reveal. Big data is the fuel and predictive analytics is the engine that firms need to discover, deploy and profit from the knowledge they gain.”

Forrester11

4. “Big data: The next frontier for innovation, competition, and productivity.” McKinsey Global Institute, May 2011
5. “When the Boss Is Big Data,” Data Economy, a CNBC Special Report, April 15, 2013
8. Indeed.com/jobtrends. Data Science. 2015

Cornerstone OnDemand is a global talent management software provider that is pioneering solutions to help organizations realize the potential of a modern workforce. csod.com