

Building Analytics Capabilities in Your Organization

“Think about what questions you have about the workforce,” said the new People Analytics manager to the senior HR staff. Quizzical looks came from the HR staff. “We don’t know what we don’t know,” said an HR Business Partner. Now it was the analytics manager’s turn to look quizzical.

The previous exchange is not an atypical one when starting on an analytics journey. Many HR leaders are not naturally inclined to think quantitatively. Many of them entered the HR field because they are people-people, with a natural understanding of nuanced human motivations. Quantifying them seems like an unnatural fit – trying to reduce a whole human to a number.

Systems people see the world differently. They try to model what they don’t understand and study the model to understand behaviors. In order to model something, you first have to measure it. So we are not trying to define a human with a number (or numbers), but rather quantify human behaviors so we can understand it well enough to apply it to desired business outcomes.

Many companies are now realizing that it is important to raise the level of analytics maturity if they are to be successful, but don’t know how to go about it. How a company can transition from a low level of analytics maturity, to one which positions them for success in the future is the crux of this article.

Learn How to Ask a Question

A better approach for the analytics manager would have been to have the HR staff list the strategic goals of the business area, then identify the business outcomes that would support those strategies. For instance, if the overarching strategy of the HR department is: “Create the strongest workforce that we can,”

an outcome might be to reduce attrition, since attrition costs the company a lot of money, causes the workforce to be weaker as good workers walk out the door, and results in talent acquisition back-filling vacancies instead of finding key new hires to help the company grow.

We can’t tackle the problem of attrition until we know the answers to these questions:

- Who has left the company, and what impact does that have on the organization’s effectiveness?
- Why did they leave?
- How can we identify others who are at risk of leaving?
- What could we have done to prevent them from resigning?

Essentially, these are the steps one should go through to determine where to start on your analytics journey:

- Define your company’s strategy and long- and short-term objectives.
- Examine areas in the organization which might represent challenges to achieving those objectives.
- Identify the metrics associated with the areas.

This article’s intent is to get your clients to a place where they know what *they don’t know they don’t know*. If you can parse the logic of that last sentence, then you’re well on your way to being a successful data analyst.

We will also discuss the technologies and capabilities to get you there, but constantly be aware that changing the mindset and culture of your organization will probably play a big role in moving the needle on people analytics adoption.

Start with Your Data

Once we're on the right track in terms of "knowing what we don't know," we have to have a handle on our data, a process known as *data governance*. Not only does this entail ensuring your data is accurate (the old "garbage in, garbage out" scenario), but also getting universal agreement that we're talking about the same things. For instance, a statement such as: "give me a report of all employees" can have different meanings to different people. To a finance person, it may mean: "give me a report of all funded positions," regardless whether the position is filled or unfilled. To anyone else, does it mean to include contingent workers or just employees? Can we clearly identify who is an employee and who isn't? Are part-time workers considered employees to be included, or are we looking for full-time equivalents (FTEs). What about people on leave? Until we get widespread agreement on definition of *employee*, *turn-over/attrition*, *time to fill*, and other terms, we shouldn't deliver any reports, because it can be embarrassing and result in a loss of confidence if we provide reports where the user is operating under different assumptions. Sometimes different areas in the organization have different terms for things (for example, one area calls their team a department and another a business unit). Institute change management to standardize terms to avoid confusion.

Single Source of Truth

Data should be reported from the original source. Data provided from ancillary sources, i.e., the recruiting system or active directory, may be working under different assumptions, include/exclude some workers, or be modified in ways that the source data isn't. Be wary of secondary or even tertiary data sources (sometimes called "rogue integrations"), such as data poached from active directory, which itself is often a secondary source.

Sometimes there are issues with the data quality. One example is where data is originally loaded correctly, but can get out of sync over time as people move around in the organization and users do not adhere to the process for updating data. Or data could have been initially entered incorrectly.

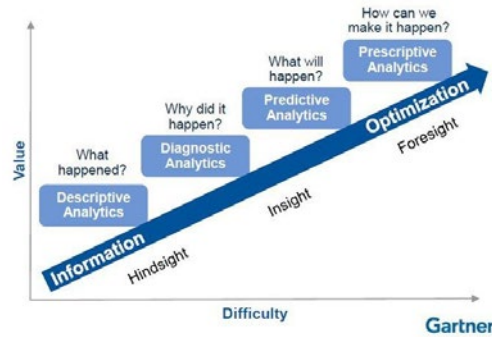


Figure 1. Gartner's Analytics Maturity Model.

Operational Reporting

Typically, about 80 percent of the work of an analytics department will be *operational reporting*. It is the lifeblood of the HR function in an organization. This is referred to as descriptive reporting, since you're reporting what occurred in the past. For instance, a report on terminations will list employees who have terminated. Determining why they terminated or how to predict future terminations are the subjects of subsequent sections of this article.

If you're at an early stage of maturity, a significant percentage of that 80 percent will be ad-hoc reports. It is essential that you provide timely, accurate reports accessible by HR and all managers as you travel the road toward more sophisticated analytics.

One of the essential "tools of the trade" is databases, which are typically accessed using Structured Query Language (SQL). Developing competencies on relational databases and SQL on your team is essential. However, if you have cloud-based applications in your environment, such as human capital management (HCM), talent management, or workforce management products, you probably don't have direct access to the underlying database and must use the reporting function from the application. Therefore, to accomplish consolidated reporting, such as merging data from the recruiting module with core HCM to report on time-to-fill or quality hires, you need to bring the data from different modules together. There are two ways to get your data all in one place: via a data warehouse or through integrations.

A common solution is to consolidate the data from disparate sources in a data warehouse, which has a structure that is optimized for reporting (called a star schema). This is a

good approach, but will require heavy participation from the data management group and ample investment from management to create and maintain the data warehouse. There are ways to achieve data consolidation through integration – leaving the data in its source system and accessing it when needed, rather than the data warehouse model. You can integrate within your reporting tool, or there are integration products and services on the market. One common way of “integrating” is to merge data from separate extractions in Excel spreadsheets, because there is too much manual intervention, and it can yield inaccurate, inconsistent, or unrepeatable results.

Reports can serve one of three purposes:

- **Audit reporting** – Ensuring that integrations, or other functions occurred without errors;
- **Compliance reporting** – Needed to demonstrate that the company is in compliance for functions such as EEO, ACA and others; and,
- **Operational reporting** – Needed by managers to analyze the workforce and assist with their work. These usually consist of listings of workers relevant to the manager.

A goal of this function should be to *put actionable data at the fingertips of HR and managers*. To do this, you must limit the number of ad-hoc report requests. Create reports that offer a broad array of data items. Parameterize them so you don’t have to create multiple reports of the same data. Allow filters so users can customize the generalized reports to their own needs. Create a robust security profile, so users can only see the workers relevant to them, which will also limit the need for custom reports. This is no small feat, however. Be aware that managers will often be expecting reports of workers not in their reporting chain. Be sensitive to matrix management structures or the financial structure, as appropriate.

It can be tricky finding the primary source of data, consolidating it from multiple sources and applying a common security scheme among multiple organizational structures so, mundane as it seems, don’t underestimate the challenges with providing timely and accurate operational reporting.

Inevitably, there will be a need for ad-hoc reporting, for single-time use or requests for new reports. Employ a project intake func-

tion where the report requests are prioritized, scoped, and assigned, to set an expectation as to when the reports can be delivered. Expect the unexpected, as emergencies will force you to reprioritize frequently. Communicate with the users to reset their delivery expectations.

Getting your data clean and your data sources available will be the basis for all of the phases of maturity that are to come.

From Metrics to Analytics – Diagnostic Reporting

Metrics are things you measure. Analytics entails the analysis of these measurements as applied to your business strategy. The next phase of analytics maturity is diagnostic reporting – determining why something happened. Referring back to the previous example on terminations, just knowing how many employees terminated is of limited value. Understanding why might highlight issues in the workplace. First, you need to determine which terminations are regrettable: those voluntary terminations that are for reasons you’d like to prevent. Also, terminations of hard-to-fill positions will have a bigger impact (and cost) on the organization. Examining other data, such as time in position, stage of career, last promotion or raise, who the manager was, and even commuting distance from work might give you insights as to why the employees left.

Data visualizations provide the ability to filter the information, drill down, or see the information from a different angle to get better insight as to what’s going on in the company. The typical process is to form a hypothesis as to the reasons for challenges in the organization, then test the hypothesis with data.

Data Visualizations – Using Data to Tell a Story

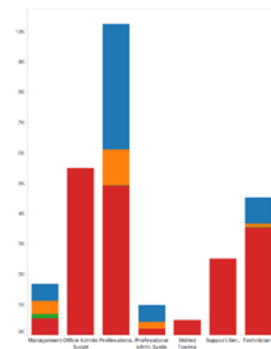


Figure 2. Sample Data Visualization.

Data visualizations put reports in graphical charts so we can understand the data relationships on a visceral level. People react more positively to pictures than numbers, so effective use of visualizations can help “tell the story” behind the data. Daniel Kahneman said, “No one ever made a decision because of a number. They need a story.”¹ Here’s an example of data telling a story: Suppose you’re asked to report on diversity and inclusion in the organization. You can construct a bar chart showing how many men versus women or minorities versus non-minorities are in the organization. If it’s in line with industry benchmarks, you might think your company’s doing okay, but that doesn’t offer all necessary information. Mapping the same ratios as you go up in levels of seniority may tell a very different story.

There are many good visualization tools on the market, and you can develop expertise in-house, bring in consulting help, or contract with a workforce analytics vendor. With the major tools, it’s easy to get started and generate some dashboards, but doing sophisticated visualizations requires expertise.

Predictive and Prescriptive Analytics – Predicting and Affecting the Future

The skillsets needed to embark on this journey are data analysis and data science. Data analysts are skilled at understanding the data and the business and then generating reports and visualizations. To do predictive analytics requires data scientists, who are people skilled in statistical techniques and programming using languages such as Python and R. They are in great demand and command high compensation.

Data scientists use statistical techniques to identify correlations in your workforce data and determine if the correlations are causal relationships (within a confidence factor). Using these techniques, it is possible to predict what will happen in the future; for instance, predicting who will resign within a time period, within a degree of confidence. Using this information, you can be prescriptive and change the likely future outcomes to your advantage.

Once again, you can buy, build or rent this expertise. You can hire data scientists, develop competencies in Python and R, or contract with one of the workforce planning software vendors. Here, it makes sense to take a close look at the vendors, as the data science is “baked in” to their products.

Managing Operations while Innovating

Managing an HR Analytics function is an arduous task. There will be a constant demand for just operational reporting. I’m often asked how to have bandwidth to do storytelling through visualizations and predictive analytics when we’re choking on reporting requests. The answer lies in the planning. As stated earlier, 80 percent of analytics is likely to be operational reporting. That will leave approximately 20 percent for innovating (preferably more if you can get there). But, to get to that 80 percent number, we have to manage operational reporting effectively. We need to get 80 percent of operational reports to be standard reports, accessible to anyone who has access at any time. The other 20 percent will be new custom reports or one-time ad-hoc special requests. This should take up 80 percent of our efforts. To get there, create a management process and be disciplined about following the intake and reporting governance procedure outlined earlier, and set reasonable expectations with the users to reserve that 20 percent of your time for innovation. Those same demanding users will thank you later on as you develop the capabilities to provide actionable insights into the workforce.

The Quantified Organization of the Future

In the 2014 HR Systems Survey,² Sierra-Cedar introduced the concept of the “Quantified Organization” – organizations whose survey responses indicated that they were at a high level of analytics maturity. They compared this with organizational success metrics and found a high correlation between analytics maturity and financial success.

There is substantial evidence that becoming a quantified organization will help a company achieve its objectives, even though those objectives will vary between companies. This doesn’t mean that intuition has no value, but making business decisions armed with knowledge and insights *will* result in better decisions.

Becoming a quantified organization won’t happen overnight. It’s a journey, and like any journey, begins with a first step. The concepts discussed in this article lay out the first few steps, and show a glimpse of the future on the road to analytics maturity.

Endnotes

¹ Daniel Kahneman, *The Undoing Project*.

² 2014-2015 Sierra-Cedar HR Systems Survey.

About the Author

Roy Altman is founder/CEO of Peopleserv, a software/services company. Over a multifaceted career, Roy has a history of delivering ROI to well-known companies in several industry sectors and is the creator of multiple commercial software products. He has co-authored six books on Business Process Management (BPM) and has published articles in *IHRIM Workforce Solutions Review* and *The Saturday Evening Post*. Altman has presented at several HR and BPM industry and academic conferences. He is on the faculty of NYU’s new M.S. in Human Capital Analytics and Technology program. Altman also serves on the editorial committee of *IHRIM Workforce Solutions Review* magazine. He can be reached at roy@peopleserv.com.