Recruiting Analytics Talent: Attracting, Retaining, and Growing a Critical Yet Scarce Resource

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Abstract

Human resources experts will tell you the analytics professional is one of the hardest job categories for them to find, attract, and retain. The stakes are high. Hiring the right person(s) can change the game for your business. Hiring the wrong person, or worse—letting the position go unfilled for too long—can leave you playing catch-up with competitors who have figured it out.

This article helps HR professionals, hiring managers, senior leaders, and recruiters source analytics talent. As a senior analytics leader with over 20 years of experience in hiring analytics talent, building high-performing analytics teams, and growing individual talent, I will share best practices in all aspects of hiring and retaining this precious commodity. We discuss the role of analysts, their characteristics, where to find the best candidates, and how to evaluate résumés and assess candidates' leadership potential, among other topics.

What Is an Analyst?

Any discussion of hiring analytics talent has to begin with defining the term *analyst*. An analyst is simply someone who is capable of synthesizing data into meaningful information. Analytics is both an art *and* a science. The mathematician in me is compelled to show this as an equation representing the analytics process:

Data + Processing/Transformation + Thought + Context = Analysis

Each of these components on its own represents complexity in terms of the individual executing it. This equation

does not necessarily represent a serial process. It can represent parallel processes or iterative processes. Let's take a closer look at each component.

Data

Data represents the process of extracting or collecting data for an analytic purpose. In most cases, the data is known—that is, we know how the data was generated. We may know the business process that resulted in the creation of the data. We may know the external source (such as the U.S. Census) that produced the data. In other cases, however, we may be dealing with unstructured data, where the source may not be well understood, in which case inferences must be made about what the data represents and how it relates to other data collected.

How does this relate to the analyst? A good analyst knows how to:

1. **Get at the data**, which requires knowledge of SQL using tools such as TOAD, Python, R, Microsoft Access, SAS/SPSS, Crystal Reports, or any of a myriad of reporting tools that enable the analyst to extract data from a source.

2. **Understand how the data came into being**, which is perhaps one of the most commonly overlooked aspects of distinguishing between good analysts and great ones. The great ones take the time to understand how the data was produced, for that knowledge makes the analysis task more meaningful when it comes to the Thought and Context stages. In the end, this increases the probability of success and eliminates rework cycles.

3. **Organize the data** in order to set up the Processing/Transformation stage.

Processing/Transformation

This is truly where the art and science components come together: converting the data into something that might be meaningful to an audience. It's the summarization and manipulation that takes the raw data and shows relationships, trends, and graphical and tabular representations; in a nutshell, *it forms the basis for telling the story behind the data*. Typical tools used here include SAS, SPSS, Tableau, Qlikview, Cognos, Spotfire, Business Objects, Oracle BI, and even the ubiquitous Excel. Please note: the analytic method, task, and thought process are what's really important, not the tool. I have seen brilliant analyses done in Excel. *Tools will never make up for what may be lacking in analytic ability*, just as new clubs are never a substitute for a good golf swing.

Thought and Context

These two components go hand in hand, and this step is more art than science. This is what I call the "so what?" stage. The essential task is to look at the processing/transformation output and ask yourself: What is this telling me? This is a skill that I find so often lacking in candidates I interview, particularly in self-described data scientists. What is required here is both thought about what the information is telling you, and more important, given the business context in which you operate, does this result even make sense? Is there additional data I need, additional context that I am missing, and is this really an actionable result?

Failure to conduct due diligence at this point will inevitably produce poor conclusions, rework, and additional iterations, but perhaps worst of all, failure to properly execute at this stage can destroy the credibility of the analytics team if flawed results are presented.

Who Is the Analyst?

HR professionals like to use keywords related to skills to winnow out the unqualified candidates. Who can blame them? After all, with today's technology, hiring managers can receive hundreds of résumés from a single job posting, often within hours. The challenge with the keyword approach is that in hiring the best analysts, you are not hiring for a specific skill. You are hiring for a series of attributes.

Here are a few attributes of the best analysts I have ever hired or worked with:

1. Natural curiosity: I have never seen a stellar analyst who did not possess this attribute. Great analysts want to know why things are the way they are. Their

curiosity leads them down paths that they and others might not have originally thought of. Managers call this out-of-the-box thinking. The analyst just calls it thinking.

2. Persistence: Great analysts are never satisfied with an answer, or their data set, or their process. They are constantly challenging and tweaking. If they don't get an answer, or one that makes sense, they continue to attack the problem until they do. "Perfectionist" is not a dirty word to a great analyst.

3. Eagerness to try new tools and methods: Great analysts are not status quo people. They like pushing the envelope. They like to see how large a data set they can process without breaking the tool. They like a shiny new toy, particularly when they can make it do something even the tool's creators didn't know was possible.

4. Eager to please: The best analysts are like the little kid that comes home holding a frog and can't wait to show you what they did because they are so proud of themselves for having done it. Great analysts thrive on positive reinforcement and affirmation that their work is highly valued, which encourages them to do more. In this way, success becomes self-replicating.

5. Excellent interpersonal skills: This is one of those amorphous categories where managers "know it when they see it." The ability to work and collaborate with others is essential to the successful analyst. I could never hire someone whom I could not put in front of a senior VP, a C-level leader, or even a client, because at some point in their career, that's exactly where they will find themselves if the team is doing its job.

Types of Analysts

Depending on the size of the company and the ability or willingness to invest in analytics talent, the analytics function can be constructed by combining team members with complementary skills and attributes or with individuals with multiple skills and attributes. The decision about how to configure the team is often driven by the business support model. I have seen both approaches work quite successfully. In one case, I was leading a team of consultants who were each charged with providing analytics consulting services to a group of assigned clients, which required everyone to be a "jack of all trades." In other cases, I led corporate analytic teams that were charged with conducting corporate performance analytics, in which case the complementary-skills approach worked well because of the varied nature of the work and the magnitude of the components of the project. Put more simply, the more homogeneous the tasks, the more you need to hire analysts with broad skill sets.

Following are some of the major skill set categories most analysts fall into.

The *reporting analyst* is the classic data puller. This person is adept with SQL and other reporting tools. They are skilled at navigating data structures and merging and joining multiple data sources, and they have a strong understanding of both the source systems that produced the data and the nuances of how data elements are properly joined. The reporting analyst usually has a strong relationship with the DBAs.

A *statistician* knows how to take a data set and perform sophisticated statistical analyses (linear/logistic regression, cluster, and survival analysis are commonly used in business) to demonstrate data/process relationships and dependencies and, taken to their logical conclusion, create models that enable the decision maker to predict or forecast outcomes based on current conditions. Typical tools include SAS, SPSS, R, or Minitab. One note: if a candidate's primary statistics experience is with Minitab, make sure you ask probing questions about the type of projects worked on and who the audience was. Minitab is most often found in academic, not corporate, environments.

An *implementation analyst* is perhaps a bit less technically oriented than reporting analysts and statisticians. However, this person holds deep knowledge of corporate systems, processes, and systematic implementations. This is typically someone whose lack of technical expertise is more than made up for by deep business process

knowledge. This person acts as a bridge between the analytics team and the business (marketing, finance, sales, or operations) or IT. In some companies this person resembles a business analyst in the IT world.

A *synthesizer* or *visual analyst* is a "jack of all trades," with expertise in two or more of the above categories. This is often where future analytics leaders come from. They can see beyond the analysis and present results in a larger business context and in a more strategic fashion. This person is an influencer in the organization, often working cross-functionally or with the senior leadership team. This person can create high-quality charts, graphs, and tables that enable decision makers at a glance to understand what the data is saying. They can translate analytics results into business impacts or insights and work with leadership to maximize strategic value from those insights. Often this leads to further analytic iteration, which this person can conceive of and develop on the fly. Small and midsize companies should consider hiring this type of analyst.

What Does a Great Analytics Leader Look Like?

In addition to the attributes listed earlier for analysts, the best analytics leaders display these additional attributes:

1. They value their team's success more than their own. Great analytics leaders recognize that their success hinges on the success of their team and will do everything in their power to ensure that success.

2. They can let go of the need to do the work themselves. This one is tough because the best analytics leaders have also been analysts themselves, and they may find it hard to let go of the hands-on aspects of what they used to do. A leader who can't let go will not develop his/her staff and can become a single point of failure for the enterprise, and will also fail to leverage the strength of the department.

3. They look for and introduce new tools and methods to the team. Continuous learning is the hallmark of a great analytics leader. Without this, the team will stagnate and fail to grow. Companies that are leaders in analytics recognize this and invest in tools and training for their analysts.

4. They are good with people and are comfortable working cross-functionally. The analytics leader is often called upon to solve the hard problems confronting the organization as a whole. The team likes this because the more integral the leader is to the overall business, the greater their perceived importance as a team. The leader must be able to speak the language of marketing, sales, operations, finance, and IT.

5. They are good with senior leadership. Again, the analytics leader should be the strategic touchpoint for the organization. The leader should deliver the critical decision-support tools that the business needs to drive fact-based decision making. Conversely, the analytics leader should work with senior leadership to understand the strategic needs of the organization and how the analytics function can help fulfill those needs.

Be Wary of These Résumé Buzzwords

Seeing any of the following terms on a résumé is no reason to disqualify a candidate. However, these terms may put you on your guard.

Data scientist: This term has emerged in the last few years and really has no consistent meaning. Be careful of people using this term to describe themselves because "scientist" can imply someone more enamored with theory and process than results. The other reason to be wary is that great analysts do not look for high-sounding words to describe themselves, but analyst wannabes do.

Business intelligence: Many BI platforms have been implemented as glorified reporting tools. You still needed to hire an analyst (ideally the synthesizer, described earlier) to make sense of the data that was being presented by these tools, often employing other tools such as Excel to make the important conclusions. The BI term often is associated with IT professionals whose job is to implement these big-box applications to deliver reports to senior leadership. BI developers are often *not* analysts.

Specific software experience: Be careful with applicants who throw around terms from software packages they've used. Rather than focusing on the software application, look for what they did with it. Candidates should describe projects, how they tackled problems, how the software enabled them to create output, and what they did with the results. Turn the software conversation into a key attribute conversation.

Where Do the Best Analysts Come From?

Before I discuss strategies for uncovering talent, I will share some education profiles of great analysts I have hired in the past.

- Undergraduate or graduate degree in "hard" sciences such as biology, computer science, chemistry, and any engineering or math discipline. The rationale is simple: if they can handle the rigorous math required in one of these fields, they can learn anything.
- Graduate degree in business (any discipline), particularly if combined with one of the above technical disciplines.
- Undergraduate or graduate degree in finance or accounting with extensive experience in business analysis, particularly if coming from a financial planning and analysis (FP&A) role.

I would love to say that anyone with solid subject matter expertise in a particular business functional area can be turned into an analyst, but that is rare unless candidates are already filling an analytics role in that area. This is one of the biggest mistakes hiring managers and HR professionals make. Do not handcuff yourself by insisting that candidates come with extensive prior industry or functional area knowledge. You will eliminate many highly qualified candidates from consideration—and dramatically extend your hiring timeline.

I see this in many businesses, particularly the healthcare sector, financial services, consumer products, and marketing analytics. Ask yourself if it is harder to take someone with strong analytics skills and teach them your business or turn an industry expert into a great analyst. Most great analysts can learn a new business or industry within a few months. Don't limit your options for the sake of trying to achieve short-term results. New employees are not going to contribute meaningfully within the first six months, so why restrict your candidate pool?

I have had repeated success in hiring from within when candidates work in two places: finance and IT. Going back to the criteria we've described this is where you most often find people with "hard" skills. I have successfully hired people with FP&A backgrounds, business analysts from IT, IT reporting analysts (they know the data), and CRM specialists in sales and marketing. I did have one wonderfully successful hire from the HR department, but that employee had earned a degree in psychology with a minor in statistics. You never know where talent might come from, so keep an open mind.

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One of my most successful strategies for uncovering talent outside the company has been to speak at universities. I try to work my way into graduate classes, particularly statistics, finance, or MIS in business schools, to speak on topics related to how companies use information for competitive advantage. I have never failed to get two or three résumés from highly qualified (and motivated) candidates this way.

What to avoid:

- People with Ph.D.s are very smart, but often in a very narrow subject area, and as with the earlier discussion regarding data scientists, they can become too theoretical to deliver actionable results. In a large organization where specialization is more affordable, it's never a bad idea to have a Ph.D. statistician on staff. However, be very careful that the person you are

looking at can deliver results in a timely fashion, often under a severe time crunch.

- Business school undergraduates: I don't want to generalize here, but unless the person in question minored in math or statistics or their business degree was in finance or management information systems, they are not likely to be sufficiently grounded in technical areas to manage the heavy analytical lifting. Someone with aptitude can be developed, but don't expect them to contribute right away. The only exception is someone with an undergraduate business school degree with five or more years of actual analytics experience. Even then, you need to probe deeply into their capabilities.

How to Attract Analysts

A common complaint from job-hunting analysts is that it's hard to find companies they are interested in, and that they struggle with searches because they don't turn up as many opportunities as they expect. I always find the latter astounding, because I know that companies have an insatiable appetite for analytics talent. What I have come to realize is that many companies do a poor job creating their job postings, and the keyword searches by analysts are not turning up all possible opportunities.

One of my favorite examples is a job that I stumbled into by accident. I was actively job hunting and targeting a nearby company because they were in the business of analyzing and selling data. I did not see any relevant positions posted, so I just sent in a blind résumé to the HR department. Less than 24 hours later, I received an e-mail from an in-house recruiter asking if I might be interested in a position titled "Control Manager." It turned out to be an analytics leadership role, but the job title was unique to the company and my key search terms never turned it up as an opportunity.

Here are tips for attracting analytics talent:

- Use common titles that include the term "analyst" or "analytics."
- Avoid acronyms or corporate jargon.
- Do not say that prior experience in your industry is required; state that it is preferred but not required.
- Give examples of specific software experience desired, but again don't make experience with individual packages a requirement. Someone who knows SPSS can figure out how to use SAS, and vice versa.
- Talk in general about the strategic projects you intend to pursue. You obviously don't want to give away competitive secrets, but whet the applicant's appetite. Give them something that will fire their imagination and make them consider your company as a forward-thinking operation. Remember, in many cases you are trying to attract someone who already has a job. They need to know why working for you will be better.
- Speak about future growth. Go beyond the current requirements of the job and discuss where they might take their career. Analysts want to know that there are many avenues for advancement and career success in your company.
- Get out into the academic community. As mentioned earlier, have your analytics leaders get on the speaking circuit at local universities, primarily the IT and business schools. It's fun and a great developmental exercise for your people, and a great way to get your name out and obtain referrals.
- Get your public relations people to contact local newspapers and journals and talk about the pluses of working at your company. Potential employees are always looking for outside affirmation. This is a great way to get it. Anonymity is not your friend when it comes to hiring analysts.

Best Interview Practices

Evaluating Résumés

I must admit that I prefer to sort through résumés myself. Not to knock HR professionals, but in my experience, I know a great candidate when I see one. I realize most managers don't have the time to sort through all the replies, and have to rely on help. The best approach I have seen combines a culling of the résumés submitted

through your career site with having your in-house recruiter conduct keyword searches on the more popular job boards such as Monster, CareerBuilder, and LinkedIn. If your HR department lacks the bandwidth to do this, request a corporate ID and do it yourself. Yes, it's time consuming, but in the end it's worth it. Here are some tips for improving the process and enlisting help from HR:

- Share with the in-house recruiter the keywords and attributes you are searching for. Even better, show them what a great résumé looks like for the position. Any information you can give them to narrow the search will pay huge dividends for you and them.
- Look for résumés that describe accomplishments, not just laundry lists of experience or software packages they've used.
- A poorly written résumé clearly indicates an inability to express ideas. However, be careful not to overlook great candidates whose native language is not English.
- Look for evidence of collaboration, both within the work group and cross-functionally.
- The candidate should be well grounded in one area of value to you that can be leveraged and expanded into other areas. For example, suppose you are hiring an analyst and someone with exceptional data skills (such as SQL and reporting tools) comes along. Look for evidence that they understood the larger context in which their data was being used.

Conducting the Phone Interview

Most companies employ an initial phone screen by the HR recruiter before setting up a phone interview with the hiring manager. Engage the recruiter prior to the calls to determine what is being covered and how you want the screening to be conducted. A big mistake managers make is ceding control to others. Make sure you communicate what you want. Consider these key items for either the initial screen or the first phone interview with the hiring manager:

1. Were they prepared for the call? Did they have questions prepared? How effective were they in summarizing their background? Did they talk too much or too little?
2. Ask them to describe projects they worked on, particularly if they cite numerous software packages in their background. Ask them which of those packages they use most frequently or have used recently, and give examples of projects they tackled with it.
3. Assess how much work they did themselves as opposed to in a team. Candidates who primarily work in teams may not have enough depth or expertise to stand on their own.
4. How well did they get along with their immediate supervisor and their primary customers? Did they have direct customer-facing experience (internal or external customers)?
5. Where do they want to take their career in the long term? Assess their passion and their vision. What can they accomplish using their abilities on behalf of the company?

In-Person Interview Process

I am not a fan of prolonged interview processes. I hate it when companies make me wait forever while I'm interviewing; I try not to do that to others. However, it is important not to short-change the process. Take the following simple steps in the hiring process:

1. Interview with myself and my immediate supervisor. If they don't pass muster with us, there's no point in arranging any further interviews. The main objective here is to assess the attributes we've mentioned. I want to assess the candidate's passion for analytics, how well they collaborate, and how well they can articulate the impact of their work in the larger business context.
2. Interview with two or three representative customers (internal). I try to read how well they connect with our critical internal customers. I do not expect this to

be a technical conversation. I expect the interviewee to express how they typically interact with customers and their approach to handling projects.

3. Interview with the team or a subset. If it looks like a candidate is going to pass muster, I have them meet with a few members of the team. I almost always do it as a group interview. I want to see how the candidate handles himself in a group/team environment. This is only partially a technical conversation; mostly it's a compatibility check. Just like with team sports, nothing can ruin team chemistry like a bad hire. Compatibility is crucial.

4. On rare occasions, I have administered a test. I use this technique if I suspect a candidate's analytic skills are weak, particularly if it's an internal hire from a group that does not traditionally produce strong analysts or that are more subject matter experts than analysts. I normally construct a "typical" analytic task and ask them how they would approach it.

After the Hire: Growing and Retaining Your Analytics Talent

Hiring is the easy part. Managing your analytics talent to success and keeping them is the hard part. They have the attributes to be successful; now you need to begin business knowledge transfer and tools training. You must get them working on meaningful projects quickly. More than anything, the analytics professional wants to contribute early and often. They need to know that they and their work product are valued, but above all, they want to feel connected to the larger community in your organization. I employ the following tips after hiring the employee.

1. Send them on a "get to know you" tour. Meet with all your key internal customers so they can fully understand needs and challenges.

2. Get them involved with all analytics professionals in the company. I typically start up a "brown bag" series of meetings everywhere I go to get analysts in the organization sharing ideas, methods, tips, and tricks. Analytics is fragmented across most organizations, so I use this forum to set up a virtual community. The benefit is that best practices are shared across the organization, as is knowledge of data structures, tools, and methods.

3. Get them on a project right away, with another team member as a mentor. There's no substitute for throwing them into the deep end and letting them learn to swim. If you've hired the right people, they will thrive with this approach. Just don't pick a project that is too long in duration, of dubious value, or with political landmines. You want that first project to have a high probability of success from the start.

4. Meet with them at least weekly; daily is better. Have them keep a key learnings diary, set aside an hour for Q&A. The relationship with you is their most important relationship. Make sure you spend the time with them.

5. Engage in regular feedback early and often. Analysts want to know that they're doing a good job. Make sure you take the time to cover what they did well and what they need to improve. The time spent will pay dividends in the long run.

A Final Word

A strong and passionate group of analysts can be a company's most valuable asset. A passion for analytics is contagious. It can convert a company virtually overnight from one that makes decisions from the gut into one that adopts analytics across the entire enterprise, making fact-based decisions and using analytics to drive competitive advantage. Key to that passion is hiring and retaining the best analytics talent. ■