



The Unified Theory of Analysts

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When looking for my first full-time job, I knew I wanted to be an “analyst.” But there were so many analyst titles – financial business, and systems, to name a few. How are they all alike and different? I couldn’t tell.

Having worked in various analyst roles for the past three years, I can make some sense of the analyst landscape. And now that I’ve been helping college students find their first jobs, I returned to the question. Does a “unified theory of the analyst role” exist?

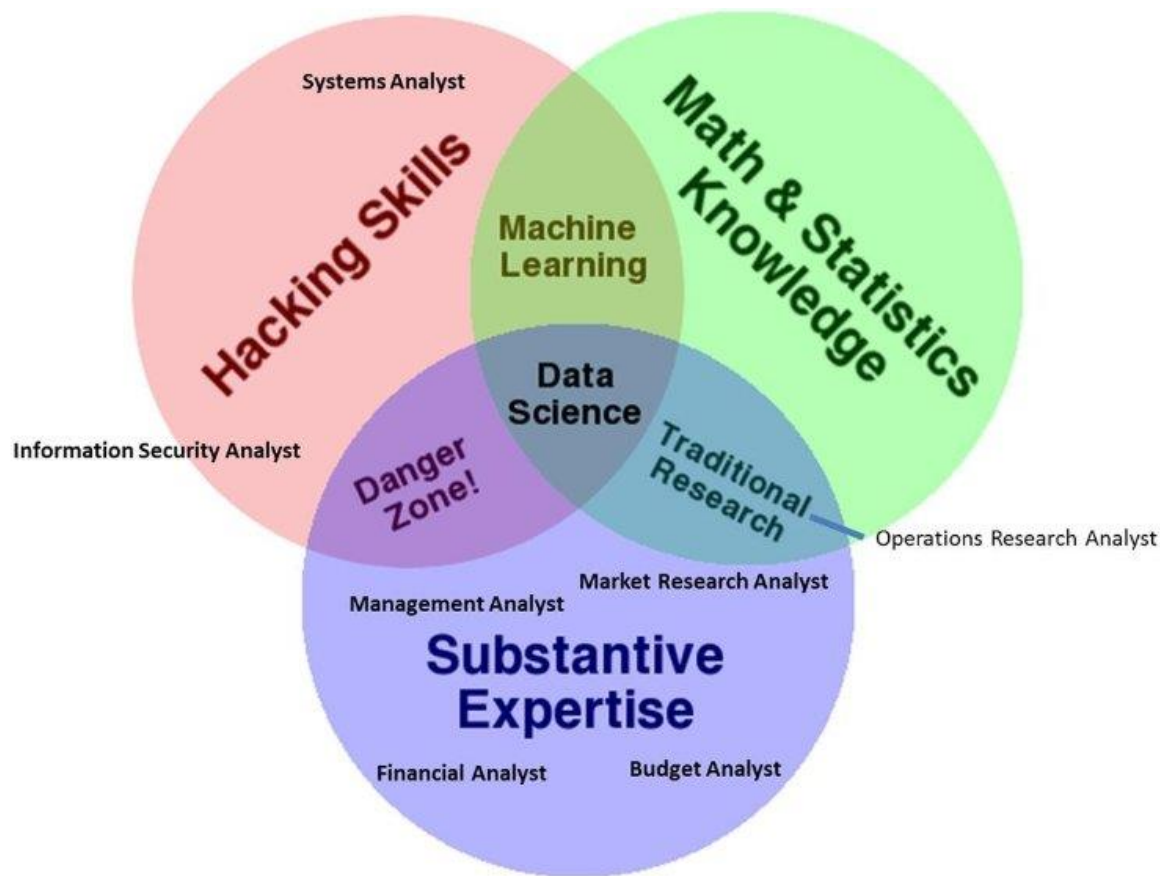
I scoured the Internet to find one. There is very little on the topic. It makes sense — the job title is so broad as to be almost meaningless (although that is changing — read on.)

The closest thing I found was the BLS [Occupational Outlook Handbook](#). The BLS has identified seven “analyst” roles. This is of course not exhaustive — my current title, “business analyst,” is not included, for example. But it gives an idea of the analyst role’s variety. Some are heavy on IT, some on financials.

How do these jobs relate? Being an analyst, I love charts. So I tried to visualize the analyst family of roles.

I did this with Drew Conway’s [data science Venn Diagram](#). This chart shows how three disciplines interact to create data science.

This diagram lets me chart where current analyst jobs are versus where they are going. In light of big data and technology, distinctions between analyst roles are shrinking. They are moving toward the middle of this diagram.



Most analyst roles are heavy on substantive expertise and light on the other two lenses. You can see this on this diagram. Roles like “budget analyst” or “financial analyst” are heavy on spreadsheet-based number-crunching. But businesses have grown too large and complex for many of today’s spreadsheet practices. Look at the recent statistic that **88% of spreadsheets contain errors** as proof.

While rumors of the spreadsheet’s demise are overstated, these “substance-only” analyst roles need to move closer to the center of this diagram. Today’s analysts ought to know the basics of data warehousing and visualization. A lot of this can be done in Excel, but analysts need to “think like a programmer” in spreadsheet design to avoid errors and inefficiencies.

On the flip-side are the IT analysts. These include roles such as “systems analyst” and “programmer analyst.” These roles suffer too little substance knowledge. I can attest to the “danger zone” between substance and hacking — without any domain knowledge, fancy data systems are worthless. I have spent countless hours talking in circles with IT. They understand the systems, I understand the substance — and nobody can translate.

Math & Statistics analysts do exist — think of actuaries or other data modellers. This is the least common analyst role as seen by the absence of a related title from the BLS. These analyst roles are more likely to lack domain knowledge than hacking skills. One exception is the operations research analyst role (pictured in the diagram).

The difference between these roles is shrinking in a data-driven economy. Regardless of title, the analyst's role is to solve problems. These problems usually fell in the camp of "IT problems" or "business problems" — which is why many analyst roles fall safely into one of the data science lenses. **But now, IT problems *are* business problems, and vice versa.** While the analysts of the past could get by with one set of knowledge in this diagram, it's now imperative to know all three. The role I am envisioning is best described as "data analyst" — which is not in the BLS Handbook yet, but it will be.

What does this mean to the analyst job-seeker? Find the analyst role that suits your talents. But think about how you can move to the center of this diagram. For example, if you were a business major, start as a business or financial analyst. But learn the basics of SQL. Math geek? Be a systems analyst, but take a marketing course.

Data Science Venn Diagram used with permission by [Drew Conway](#).