THAT ANALYST LIFE

Essays from a Spreadsheet-Addled Liberal Arts Grad

GEORGE J. MOUNT

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About the Author

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I. Introduction

My jump from a cozy liberal arts college to the gray felt walls of corporate finance did not go so well.

After receiving a bachelor's in economics, I even took a "gap year" of sorts, getting a master's degree in finance. I wanted some shot at success.

It still wasn't enough. Like many analysts, I was passed through a baptism by fire of lousy spreadsheets, unrealistic report requests, and late nights doing work that certainly didn't require a graduate degree from a leading business school.

In the meantime, I began a blog at georgejmount.com. I had a couple of motivations.

First, I needed a creative outlet. The lack of creativity at my job frustrated me. A liberal arts grad, I need to write.

But there was a more utilitarian reason. I wanted help.

I thought blogging would connect me with those who could help. I just wanted some spreadsheet answers. I got much more.

Not only have I connected with authorities in business analytics and spreadsheet modelling. I have also developed an idea of what makes a good analyst.

A liberal arts grad who loves spreadsheets? Madness!

From the beginning, my blog has focused more on discursive analysis than heavy Excel tips and tricks. Specifically, I wrote with data-addled liberal arts grads in mind.

That meant essays on the nature of education and how to network. How to build a model like Abraham Lincoln and how to build a following on Twitter.

With each of these posts a picture of a good analyst emerges.

I've grouped them into three categories. The best analyst has used education to his advantage. He is data literate. And he has built a following.

First, education. Why are graduates so unprepared for the working world? I argue that we have failed to integrate academia into society at large.

The internet has allowed people to build viable businesses from nearly any passion. Yet we are still arguing whether college should focus on the humanities or the trades. It's a meaningless distinction.

Second, data literacy. Often the first complaint about office reporting is "this shouldn't be in Excel." Sometimes, that's true. The problem runs deeper: better software alone is not the answer. Data literacy comes first. This chapter is about how to think about and use data.

Third, a following. Analysts don't leave their cubes much. This makes it easy to see work as something to leave at the office and pick up tomorrow.

Fortunes are now made not by accumulating capital but by sharing ideas. Analysts too need to build a following online — something bigger than just what goes on at the office.

I hope these essays get you thinking about data, networking, and career development.

II. Education

Education: Fight Yellow Cab Syndrome

Education Suffers from Yellow Cab Syndrome

James Altucher is a "digital mentor" of mine. He even answers some of my texts.

James does not believe in college.

I agree that higher education in its present form is as obsolete as the taxi industry — over-regulated, disincentivized, etc.

But — pardon the pun — let's ride this taxi analogy. Uber upended the cab system. Did the practice of getting a ride from someone change? Not really — the delivery of this service changed.

Higher education can learn from this. It can choose to pretend it's the only way to receive an education — I call this "yellow cab syndrome" — or it can adapt its delivery to stay relevant.

A student-teacher relationship is essential, regardless of what platform this occurs on. Higher education holds the torch here.

What higher education needs to work on, though, is *how it delivers instruction.*

As Seth Godin says, the current higher education system was put forth to show people how to follow the rules of large industrial organizations. As the division of labor expands and companies can make millions with a handful of employees, new skills need to be taught in a new economy.

Always Be Storytelling

Most of what learn in school is narrative or advice. We relate what we think are the facts and then give recommendations, and our teachers evaluate.

Sorry, but at the age of twenty, you aren't wise enough to give advice. Instead of telling me what I should do, tell me what you did.

Everyone loves a story. The best speeches are often framed as stories. Storytelling today is often through blogging, podcasting, e-book publishing, etc. But none of these platforms is taught in school. Students are still required to churn out dry case studies and book reports in Microsoft Word.

Create Value for More than a Grade

The only people we have to please to earn good grades in school are teachers.

Although working closely with a teacher can be good preparation for working with a boss or mentor, success in "real life" is not anchored to satisfying one person.

In life, you'll never please everyone all the time. But you do need to find that group who values your opinions. It's difficult to find one's niche in college, where the only outlets for schoolwork are sleepy pockets of academia.

The solution here, again, is to take advantage of the proliferation of ways to spread ideas. You want your ideas to give value to a tribe, not just one teacher.

Outsourcing is Good. Down with Group Projects!

The problem with group projects in school is that nobody's in charge and nobody can get fired.

What if we created school projects that required some outsourcing? In school, not doing all your own work on a project is considered deceitful. But the real economy *depends* on the division of labor. Have students learn to find the best places to outsource. Fire assistants who aren't working. This way, the student is in charge of his project's quality and not tethered to lazy classmates.

Keep Fighting Yellow Cab Syndrome

Get Dematerialized

Recently, I've been reading *Bold* by Peter Diamandis and Steven Kotler, who make the point that Uber's revolutionizing of the taxi industry is the product of dematerializing it. Uber doesn't need offices and fleets. Its infrastructure is largely based on individual drivers, making the the taxi industry much less capital-intensive and more capable of innovation.

This concept can be applied to higher innovation through more integration between academia and the world. For example, MIT and other schools have released hundreds of courses online for free. Google Scholar makes it possible for anyone to check for peer-reviewed scholarship. The idea of higher education leaves the "ivory tower" as that tower won't physically exist.

Good Negotiators Help Others

Besides possibly an MBA class, most students graduate without learning the vital skill of negotiation.

The bias against teaching it could come from the zero-sum nature of grades. There are only 100 points. If you can argue up your grade, it's really only to your benefit. The teacher doesn't benefit (perhaps I'm naive — grade inflation), and your classmates arguably lose out as their higher grade becomes less distinctive.

So from a grading perspective, negotiating is a greedy, zero-sum game.

Good negotiators, though, identify what the other party really wants, then delivers it. Not often is negotiating entirely-zero sum.

The World Is Not Twenty

Students go years bonding with people on campus and of the same relative age and background. In the past, this wasn't too different from what they'd see in their first jobs — in an office, communicating mainly with those directly around them, people who also went to college.

Today's economy commands more diverse interactions. You might work with a self-taught computer programmer from India or a PhD-turned-consultant from Switzerland. The internet democratizes knowledge — your college degree in itself doesn't make you valuable. Rather, the connections you build and the ideas you spread make you a linchpin.

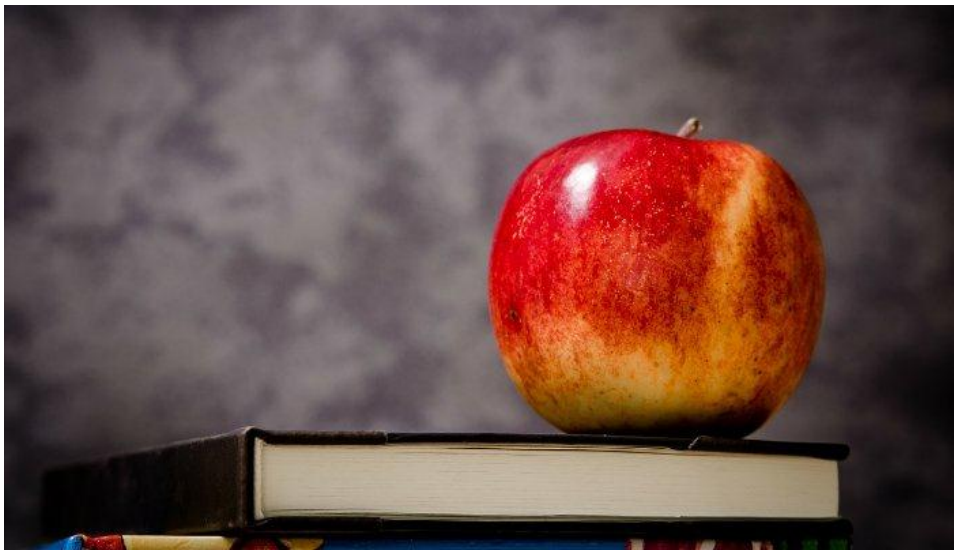
Higher education needs to teach people how to collaborate in the digital world — a world that isn't twenty, because on the Internet nobody really knows how old you are.

What Is This All About?

Here are some ideas on how to fight Yellow Cab Syndrome.

Have students learn how to publish — and sell — their essays as a Kindle book. Give them a small budget to build a website to display their ideas. Offer a podcast recording studio at the library. These are lifelong assets that build the students' brands and show them the complexities of today's economy.

Wealthy vs. Wise? Education's Senseless Divide



I am passionate about education of all kinds.

At my liberal arts college, I was in everything from the classics honorary to the orchestra to the political economy club.

But I also love learning about cutting-edge techniques in business — that's why I have two graduate diplomas from top-tier business schools, and why I've taken dozens of courses on Lynda.com.

A background that spans "from Chaucer to Clusters" has given me a balanced opinion on the meaning of education. Is it to build a career, or to become a better person?

Does majoring in music condemn you to become a starving artist? Petroleum engineering to a money-grubbing doofus?

Can a college education make you either wealthy *or* wise, but not both?

Here's how to navigate this ultimately meaningless divide.

You need to provide value to others.

Young people are often accused of having a sense of entitlement. Nowhere is this more true than the labor market.

Many college graduates assume that a college diploma magically becomes a paycheck, but this is just not true. Employers need to gain something in exchange for that wage.

Students who looked at college as a business transaction are better off here. A computer science major will have more "shovel ready" skills than a history major.

But I'm not sure that's a fair way to end the comparison.

But you need to be interesting, too.

A vocationally-charged degree means you've got something to offer employers. But a strict STEM degree, for example, has shortcomings.

As a liberal arts graduate, I am an heir to a rich intellectual tradition that teaches what it means to be human — to create, ponder, marvel. Vocational training does not engage the imagination and the soul in the same way.

My involvement in a local orchestra, an essay on my neighborhood being published in a Cleveland guidebook — I attribute this creativity to my liberal arts degree.

And it's not just a creative outlet — it has widened my network and kept me from stagnating with a sole focus on career.

There's this thing called summers…

So, you need some hard skills for that first job — but you want a soul, too? How to balance in an increasingly divided college campus?

Ever heard of summers? Use your time away from campus to balance your skill set.

Liberal arts majors — find an internship. You will be stunned to learn how different office life is from college life. No papers, but a heck of a lot of spreadsheets.

It may also make you think twice about quitting the flute, too, after seeing how routine and stressful office life can be.

If you can't find anywhere to intern, it might be that you are just so deficient in technical skills that you can't even get into a non-paying office job! In that case, take some online classes from Lynda.com or Udemy.

I would highly recommend learning Microsoft Excel, and not just because you should subscribe to my blog to learn about it!

STEM/vocational majors — do something creative. Read something unrelated to your major. Start a blog. Go to concerts or lectures. Ask your professors if you can interview them for a podcast. Do something that gets you creating.

Don't be afraid to do things that "aren't practical." You never know what subject will revolutionize your industry. Steve Jobs and calligraphy, anyone?

Ride the long tail.

I've argued that the bridge between a classical education and the liberal arts isn't so far. But the debate rages on.

This distinction is senseless in light of the networked information economy. The internet lets people earn a living off nearly anything, so long as they are knowledgeable and passionate. The ability to build a career this way obliterates the distinction between "practical" vs. "creative" degrees.

Low search and transaction costs make targeting the "long tail" lucrative. This low-volume, high-trust exchange is perfect for those "impractical" majors.

I believe a huge market exists for the knowledge of passionate, well-rounded students. Each year hundreds of thousands of accounting majors graduate, yet just dozens of classics majors. (This goes for many disciplines in the sciences, too, although not quite to the same extent.) Oddly enough, the classics majors have one-upped the business students on a key to success in today's economy: "the niches are in the riches."

What if those classics majors could find a niche online, offering classes or webinars? Surely there's a spot on the long tail for them?

Whether you majored in nanobiology or drama, there's a tribe waiting for you online.

Now passion and community trumps "practicality."

What’s The Deal with Online Education?

A while back, I gave a brief plug for Indiana University (IU)'s online certificate in business analytics, a program I recently completed.

I've received several follow-up questions on this program and about online learning, in general.

I believe such programs are key to the future of education and show what universities must offer to stay competitive.

Why online? How does that work?

I was very skeptical of online education. But the program made me see that it has its place.

The most common objection to online education is that it's difficult to replicate the collegiality of a classroom.

This may be true, but is that disadvantage so great that online learning has no merit?

Most people will be lucky to maintain regular contact with two or three of their college classmates, whether their program is online or on site.

Sure, a large part of the best business education is the relationships formed through an alumni community. But how many of your closest business relationships are largely conducted online? Many of the best teams I've worked with live across the country or the globe from one another. If it works for business, maybe it can work for school, too.

As for the delivery of the material, online learning does have advantages. If you're taking a class heavy on programming or math, it's critical to follow every step of a lesson. By recording right onto a computer, it's easy to pause and replay lectures as often as possible. (I think this is why many of the most popular MOOCs have been in the sciences -- this discipline just works so well online.)

Why a certificate? Why not a master's?

Long-term, the pursuit of higher education is changing. Credentials are moving away from the idea of a terminal degree toward a lifelong series of certificates, MOOCs, and so forth.

MBA enrollment is declining, and schools are offering more targeted master's and certificate degrees.

My background is a good example. I took a year-long master's degree in finance, a more targeted graduate degree than an MBA. After a couple of years in the workforce, I added to this a certificate in analytics. I plan to continue supplementing this education with further executive education classes, MOOCs, etc. In a knowledge economy, continuous training is essential.

Why in business analytics? Why not computer science, finance, etc.?

Technology has transformed business, but end-users are struggling to keep up. Data is piling high, and a lot can come from it, but the majority of analysts' time today is spent just cleaning the data.

With a little more training and education, I've been able to spend less time "wrangling" data and more time analyzing it. The certificate program in analytics was a big step here.

With a bachelor's in economics and a master's in finance, I had no background in things like data warehousing or visualization. But these have been staples of my work.

Conversely, an information systems major might never learn about simulation or optimization models, yet end up in a role supporting these kinds of analysis.

The bottom line? *Business problems are IT problems.* Analysts need to draw from at least three disciplines to succeed today. An analytics certificate like this one allows the analyst to sit on that much more a level stool.

In Defense of Long Tail Majors

Two books that have influenced my thinking lately are Tyler Cowen's *Average is Over* and Kevin Carey's *The End of College.*

Both imply that comfortable mediocrity is history. The bachelor's degree-cubicle-retirement formula is over. James Altucher predicts that in the future people will either be temp-staffers or artist-entrepreneurs.

Research suggests that by 2050, nearly 80 percent of the U.S. population will be employed not as full-time employees but as independent contractors — particularly within the professional ranks.

How to prepare for this? Altucher's solution is to skip college. I am not totally with him on this, but I do think the strategy for going to college should change.

If you do go to college, major in a long tail.

What is that?

Chris Anderson says, "The theory of the Long Tail is that our culture and economy is increasingly shifting away from a focus on a relatively small number of "hits" (mainstream products and markets) at the head of the demand curve and toward a huge number of niches in the tail."

How does this relate to college majors?

Consider these statistics from Carey's book. In 2012, nearly 140,000 students graduated with bachelors' degrees in business, 94,000 in nursing, and 50,000 in accounting.

These students might struggle for a few months to find a job, but they'll eventually get something. It will pay decently and provide reasonable security.

But as the economics of the labor market change, the 140,000 business majors will have difficult differentiating themselves. When it comes time for a freelance project, will they have a purple cow to share?

On the other hand, consider the fate of the Dutch major.

Yes, "the." *There was only one graduating Dutch major in the entire United States in 2012.*

Could that Dutch major have a hard time pitching himself at many companies? Yes.

But that's okay. Because with the Internet, this Dutch major is not confined to the normal post-grad job.

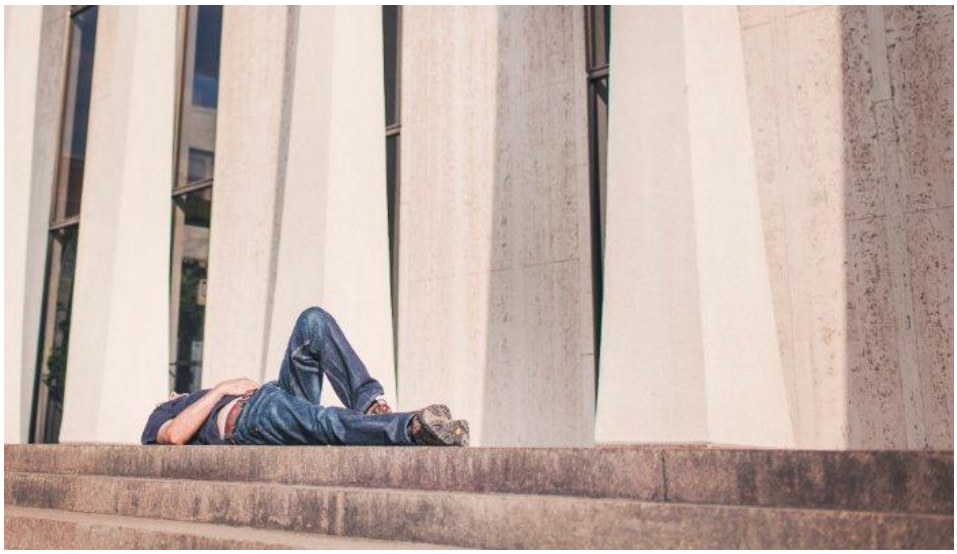
He could start a blog on funny Dutch phrases. He could offer webinars on Dutch business etiquette. He could teach a class on Udemy, where some instructors are clearing six figures a year.

He has a whole niche to himself! Even fifteen years ago, the Dutch major would be considered the most "worthless" college major. In a long tail, freelance, economy, it could be the most valuable.

The internet changes the "usefulness" of college degrees. Knowledge that would have been very hard to monetize one generation ago can now be a sustainable business, thanks to the long tail.

Of course, turning this kind of education into a marketable niche takes skills they don't teach in college. But as the economics of higher education change, so should the strategy for success. **In the long tail era, the more "useless" the degree, the better… so long as you know how you'll monetize.**

The End of College and the Future for Analysts



I read Kevin Carey's *The End of College*, a surprisingly controversial book. He lists the flaws of American higher education and predicts how "creative destruction" will upend it. These predictions have sent many lovers of learning into a tizzy.

But what is so surprising? Technology disrupts every industry — why would education be different? Carey can get a tad utopian, but he has the right idea.

Carey envisions a new "University of Everywhere," with cheap access to the world's best education. The four-year-and-done model will be replaced by lifetime partnerships with educators, very few of which will resemble the current university.

I've wondered why education for many professionals stops after graduation. In my role as a business analyst, it is critical to stay knowledgeable on current trends in business and tech. With constant innovation, education can't stop after college.

"The End of College" will change how analysts work and study — mostly for the better. Because paradoxically, **the "End of College" means *more* education.** Here's how:

1. **The four-year degree won't be a prerequisite.** Outside of perhaps tech, most every analyst job requires a four-year degree. Why? Because until recently, it was the only way to signal that one would be a good fit as an analyst. Now there are many ways. Take a MOOC. Start a blog. College-to-career is not a one-to-one transaction: with alternatives available, the connection will fade.

2. **The distinction between education and recruiting will blur.** Carey predicts that by offering courses online at no charge, top universities will be able to recruit students from anywhere, not just from elite American high schools. He gives the example of a Mongolian teenager with a top score on an MIT course who was later brought on campus to study.

   Something similar will happen for analysts: education will tie directly into analyst recruitment. Take LinkedIn's purchase of Lynda.com as an example. Imagine recruiters being able to check out what programming languages or stats courses an analyst has taken. Or job-seekers taking courses based on the needs of a specific industry.

3. **Continuous training will be required.** Carey sees the four-year degree replaced by continuous training and certification. Some will be delivered by conventional universities, some by institutions yet to be created. The analyst can benefit from this change. Technology evolves so rapidly that the new analyst must be a permanent student.

4. **The MBA will lose its status**. This is a corollary to the previous points, but worth mentioning. The MBA is the equivalent of a terminal degree for business. This concept is at odds with the University of Everywhere. The MBA will exist — but it will lose its status as *the* business degree. Expect business schools to shift their curriculum toward shorter, more focused programs. Instead of an MBA, look for more MS programs in marketing, finance, etc., and even shorter certificate programs in topics like analytics or project management.

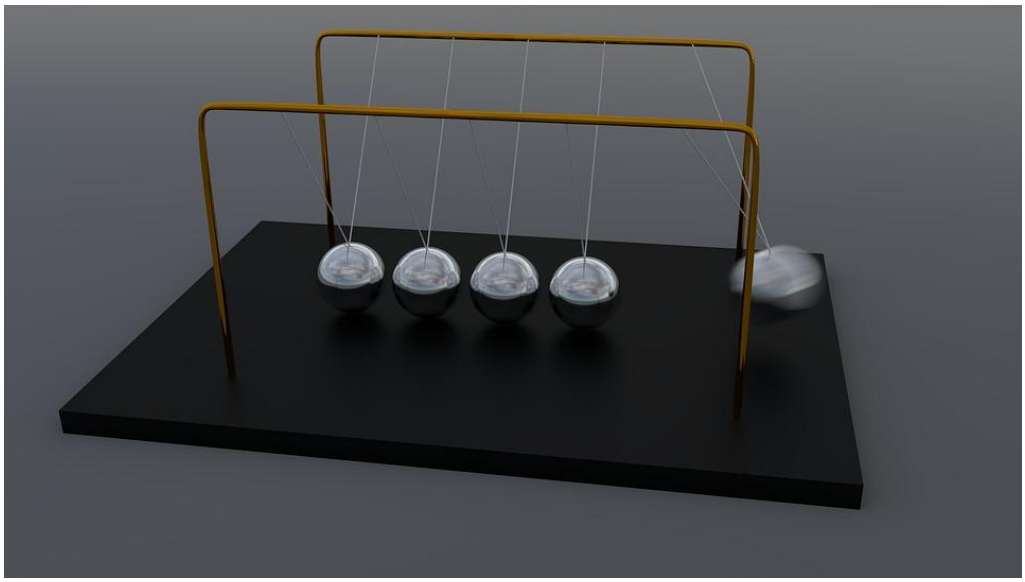
5. **Average is Over.** Okay, I borrowed this from Tyler Cowen's book. But there is a connection between his thesis and Carey's. The four-year degree will no longer be a guaranteed passport to a comfortable living. There are better ways to show one's worth. Cowen sees the workforce diverging into an elite group of computer-savvy creators and a near-subsistence level lower class of everyone else. For analysts, the days of hard-coded spreadsheets and leisurely report-running are gone. Computers will be able to do

this. The analyst's job will be to work with the computer — or the computer will take his place.

Many lifelong students have panned Carey's book — but they should rejoice. As an analyst, I am thrilled by these changes. The role requires a growing knowledge of business, IT, and more — a scope far greater than can be covered with a four-year degree. **The University of Everywhere is the way to become a better analyst.**

III. Data Literacy

The Unified Theory of Analysts



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?

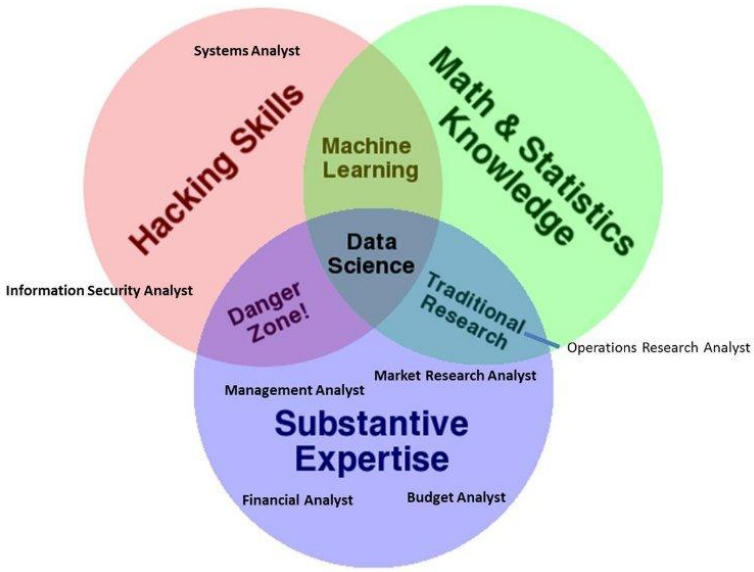
I scoured the Internet to find one. There is very little on the topic. It makes sense — the job title is so broad as to be almost meaningless (although that is changing — read on.)

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. For proof, look at the recent statistic that 88% of spreadsheets contain errors.

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 prevent errors and inefficiencies.

On the flip-side are the IT analysts. These include roles such as "systems analyst" and "programmer analyst." These roles suffer from 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 evidenced 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).

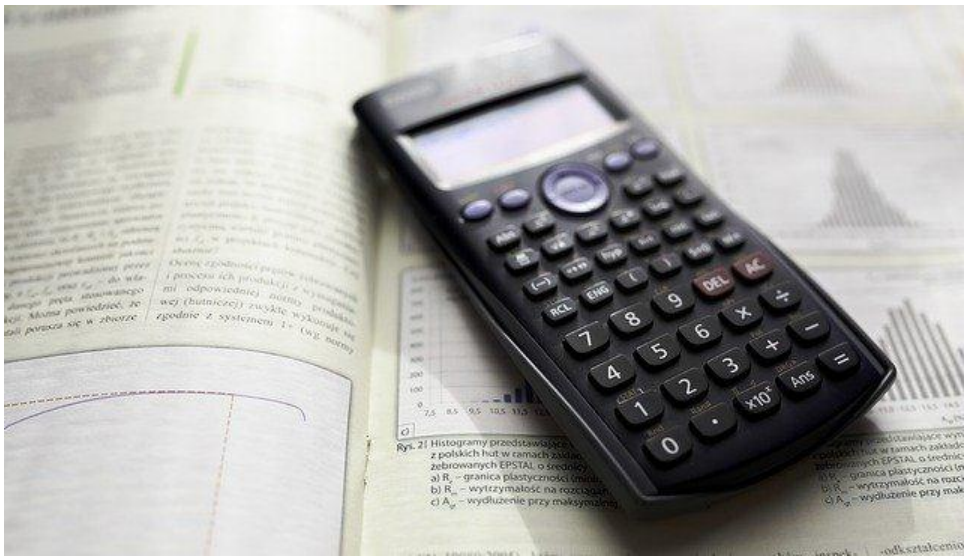
The difference between these roles is shrinking in a data-driven economy. Regardless of title, the analyst's role is to solve problems. These problems usually fell in the camp of "IT problems" or "business problems" – which is why many analyst roles fall safely into one of the data science lenses. **But now, IT problems *are* business problems, and vice versa.** Although 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.

Analysts: what are your thoughts? Did I explain the analyst family well? What is its future? I would love to have more buy-in, as it seems to be a lightly trod on the internet.

Data Science Venn Diagram used with permission by Drew Conway.

Algorithm on Board



In my work in healthcare, labor scheduling is a critical part of data analysis. It's important to meet demand while not scheduling unnecessary shifts.

When framing these problems, I look for inspiration to the grand-daddy of logistics: UPS. They're close to solving one of the toughest challenges in all of operations: the travelling salesman problem.

Your GPS may make it look easy, but finding the quickest route between a handful of destinations is extremely difficult. UPS is devoted to solving it through Project Orion.

I'll never ascend to the heights of UPS genius, but I can try! Here are some data modeling takeaways from Project Orion.

Don't rely on personal anecdotes…

There are millions of routes to choose from. Think you can evaluate every alternative?

We can account for about seven numbers at a time, not millions.

Personal anecdote and mental math aren't enough. Computational models let us compare many options without bias.

But don't rely on the algorithm, either.

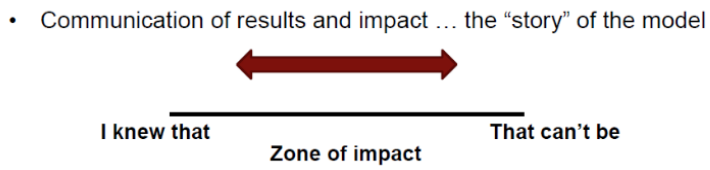
"The model made me do it!"

You also don't to be so dependent on the GPS that you drive the van into a lake.

Sometimes, things truly are just done a certain way just out of dumb habit. Other times, though, there's good reason.

Don't blindly follow the model's outputs. If something seems off, check your assumptions. Is there an unreasonable relationship beween variables? Unrealistically high sensitivity? Remember who's driving the car here — you! "The model made me do it" doesn't cut it.

In other words, aim for the modelling "Sweet Spot."



The above slide from Dr Frank Acito's Intro to Analytics class at Indiana University laid a foundation for how I look at data analysis.

Data analytics' "zone of impact" lies between what we already know and what we don't believe.

Project Orion operates within this zone. The algorithm may come up with some counterintuitive routes. The driver is under no obligation to follow these routes — but he will be asked to justify his decision.

This system allows Orion's insights to fall within the zone of impact.

Optimize AND Simulate

One temptation is to build a model without any accounting for variation. Sure, you have a staffing model that will perfectly accommodate demand on an average day.

But what are you going to do on Christmas? Or the week after Christmas? Surely these two weeks will not have the same demand — so you should not assign the same workload.

I took a course called Simulation & Optimization. I wasn't quite sure why these topics went together. Now it really makes sense. Optimizing for the average day really means optimizing for no day — because no day is average.

Your Changes Make Changes

This is what makes the social science (and yes, this is economics — which is a social science) different from the physical sciences. Ultimately, we are looking at human action, which doesn't always square with tidy models.

Say you concluded that to optimize staffing, you'd like to move the starting shift time by a couple of hours.

That in itself will trigger other changes. The staff may react poorly to a new start time, and people may decide to leave. This will impact your staffing.

This isn't thermodynamics … there are few static laws in the social sciences.

Feasible Solution <> Implementable Solution.

Sometimes, you just can't execute the best solution. Maybe your model suggests split or reduced shifts. That could reduce the staffing pool, but is it great for employee morale? Can you really schedule a shift for a person-and-a-half?

Rather than tear up the model and start from scratch, incorporate the best of what's possible.

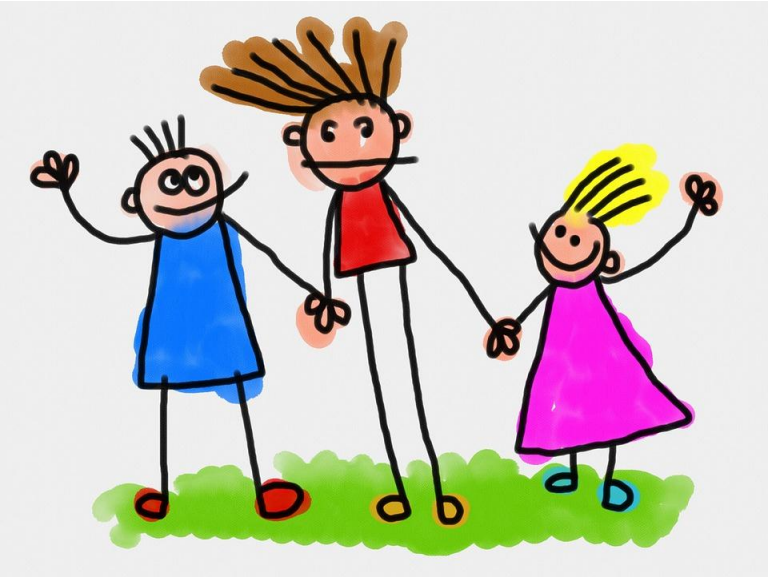
This exercise of a continuously evolving, not-quite-optimal algorithm is called heuristics. From a WSJ piece on Orion:

"Instead of searching for the optimal, or best possible answer, heuristics is the search for the best answer one can find, the results continually refined over time, based on experience."

“Look through, not at!”

Heuristics makes me think of a not-quite-fashionable pair of glasses. Sure, they may be ugly to look at. But what’s it like to look *through* them? That’s the real power of the model — how well it functions, not how perfect it looks.

Data Lessons from Your Mom



A few months back, I volunteered at Content Marketing World, the biggest content event on earth, where one of the more memorable speeches was "Does Your Content Pass the Mom Test?" by Jay Baer (transcript here).

Authenticity and passion are key in content creation. Baer argues that if your mom — who loves you unconditionally — can't dig your content, then nobody will!

As a business analyst who works with data all day, I've got a few thoughts inspired by mothers, too. Our moms may not totally understand what all those spreadsheets and dashboards are about, but these principles apply to analyst work just as it did on the playground.

Retrace your steps

Over the past few years I've trained, onboarded, and otherwise guided several analysts, interns, and managers. Things usually aren't so obvious to outsiders. "Where did this come from?" "How did you get that number?"

If you've worked in a number-heavy job, you know the script.

Just like my mom when I lost something, my mantra is to tell my trainees to retrace their steps. Well-constructed data should point you back to the source easily. Things

aren't adding up? Numbers not making sense? Think what happened last and keep going back. Eventually you will find the problem spot.

Share your things

Mom always made sure I was sharing with my sister. It's bad manners to hoard toys. But the work world silos data all the time! One department builds up its own models and databases outside a well-defined or controlled process, and before you know it things get so complicated that no outsider can comprehend what's going on. It's even a struggle for those on the inside. It's got to pass rigorous scrutiny before being passed on for others to use.

This is dangerous and inefficient. Data should be like a sandbox — a common place to share and play. Of course, someone needs to "own" the data to ensure quality.

But let's leave the old "that's MINE!" of the upset child for mom to set straight. Keep data well-defined and easily shared!

Don't spoil your appetite

Perhaps 80% of data work is extracting, preparing, and other "dirty work." This is hard work, but it's something like junk food. It's got no substance but takes a lot of energy to process.

Unlike junk food, it doesn't even taste good!

There's a reason we call worthwhile work the "meat" of the situation — it's nutritious. Unfortunately, data analysis forces you to spoil your appetite by consuming lots of junk before you can get to the meat.

Learning how to scrub and clean data is the trait of a truly outstanding analyst. Sure, you learn all the cool textbook models in school — but they are textbook.

The working world forces you to grapple with what one book calls "guerrilla data analysis." The more time you spend on this work is the more cookies you eat before dinner. Do like mom says — keep snacking to a minimum so you've got an appetite for the main course! You do this by improving your data skills.

Mom cares

Maybe your mom doesn’t really understand what you do for a living. But she trained you to get there — and those platitudes that made your eyes roll as a kid can be pretty powerful when working in a data-driven market.

Unleash Your Data…Get it off the Black Market

Here's a thought-provoking in *Forbes* on what analysts need from IT. It's too accusatory toward IT but reflects a very serious problem in business.

So how do analysts relate to IT? There's no separating IT problems from business problems. Almost everything an analyst does involves data. This data ought to be clean, fast, and accessible. Ideally, it should be coming from a data warehouse with strict governance and quality benchmarks.

Think of the data warehouse as the "stock exchange" of your company's data, where you can "trade" data with the rest of the company.

Unfortunately, a lot of data is not listed on the stock exchange. It's in what I'll call a "shadow market" — that is, a homegrown data solution. This is usually in Excel, error-prone and inefficient.

To be fair, IT doesn't often know about these black markets of data. But even if they do, they are often powerless to change things. End-users are in one silo, IT in the other. Savvy analysts may want to change the way data is stored but lack the IT chops.

How can we bridge these two work fields? One solution is for analysts to become more data-savvy. They need to know the basics of data warehousing. But comparative

advantage still exists, and at some point the IT professionals need to get involved. It benefits no one to have financial analysts spending 90% of their time preparing data.

How do we provide business solutions arm-in-arm with IT solutions? I envision small, cross-trained teams with complementary skills. This exists in many companies and should spread to more.

Regardless of the org chart, it is critical to think of your data as an asset — it is! — and "take it public" accordingly.

Abraham Lincoln, Data Analyst

Lincoln's wisdom is easily applied to data analysis. Very little of working with data is actually running the model. Most of it is defining the problem, gathering data, and preparing a presentation. **Do not swing at your data with a dull axe!** Here is how to analyze data like Lincoln:

1. Frame the problem

Most business problems are unstructured. Our challenge is to find a sales-boosting promotion or a staffing pattern that enhances customer satisfaction.

The first step is to define the problem. Offer a hypothesis. Define your dependent and independent variables. Understand how the variables relate.

2. Define — and defend — your assumptions

This one is difficult when you are modelling data on behalf of stakeholders who don't know much about analytics. They want the model to cover every exception and exclusion. Any assumptions you provide are presented as unrealistic.

Remember, though, that this is only a model. No model will ever be as complex or complete as real life. You just want something that will help you make sense of your data.

Assumptions allow you to control for factors so that you can test relationships between other variables. It's the closest approximation business has to a "control."

You must make assumptions in your model because the data will never capture everything. Don't try to make your data jive with the model 100%. In fact, if you do, then you're going to overfit your data.

A model is like a pair of glasses. Don't look *at* the glasses to test value.
Look *through* them.

3. Collect and validate necessary data

Now you can gather data.

In many cases, this will be **the most time-consuming part** of your project. You need to create a data set from several sources.

This can get ugly. That's why it's called "data wrangling." But carefully gathering data lets you check for problems. Are you missing something? Is some data formatted incorrectly? What about outliers? Is there a normal distribution? Answer these questions now, before you get too deep into your analysis.

4. Conduct your analysis

This is the "tree chopping" segment. If you did everything else right, you will spend the least time on this part.

5. Communicate results

I like to think of this part as "reserve data wrangling," taking results and translating them into a new format: actionable insights.

If you have developed a well-framed model with the proper assumptions and the necessary data, you should have a reasonable solution. It shouldn't be unbelievable, but it should provide some new information.

Unless you are communicating to other analysts, **don't present in math-speak.** Alfred Marshall, the 19th Century economist, has the right idea here.

(1) Use mathematics as a shorthand language, rather than an engine of inquiry.

(2) Keep to them till you have done.

(3) Translate into English.

(4) Then illustrate by examples that are important in real life.

(5) Burn the mathematics.

(6) If you can't succeed in (4), burn (3). This last I did often.

–

When given a problem, data analysts are tempted to start swinging the axe immediately. Instead, take a lesson from Abraham Lincoln. Take your time sharpening that axe, and your data problem tree will fall much easier.

Chandoo Blew My Mind: Here's How

Purna Duggirala is known to Excel users worldwide as Chandoo. His site, Chandoo.org, is my go-to Excel resource. Chandoo has a variety of Excel media from blog posts and videos to full online courses.

He also has a podcast on how to "Become Awesome in Excel," the tagline of his website.

An Excel podcast, you ask? How can you talk about something as inherently visual as a software program?

I have found the Chandoo podcast a perfect platform for honing my analyst skills.

For one thing, it's versatile — I can enjoy it on my commute or at my desk as I complete daily tasks.

More crucially, though, the podcast helps you develop what I will call "Excel meta-skills": that is, skills about Excel skills. How can I use Excel to get a job? How can I improve what I'm doing at work? How can I lever Excel's strengths in my career?

The audio delivery of the content forces us to step away from the spreadsheet and think more in terms of an "Excel state of mind."

I started off with Episode 6, "How to be a Better Analyst," which title appealed to me as an analyst who reads and writes often on the topic.

This episode was a great launchpad for others, which focus on specific Excel and data analysis problems.

Here are my takeaways.

1. Domain knowledge comes first

Chandoo makes it clear that even the best Excel ninja has little to contribute without domain knowledge. The analyst needs to know about industry trends, data modelling techniques, and presentation skills. Learn these skills from following blogs, reading books, and listening to podcasts.

2. Don't be afraid to collaborate

Before going full-time with Excel, Chandoo was a business analyst. He was surprised by how many of his problems had been confronted and resolved by other analysts at his office.

So if you have a problem, don't be afraid to ask around. It's unlikely that you're the only person in the office who's had that problem. Likewise, offer your help freely. Collaboration is the route to success today.

3. Ask "Why do you need that information?"

One of the first things my boss told me was that when other departments ask me for data, I need to ask "What do you need it for?" Even then, what they think they need isn't necessarily what they "really" need. It was my role to figure out what would help them.

I thought this was ridiculous. But now I understand why this is important. You need to help people get to what they really need because they do not have your level of familiarity with the data.

An analogy: If the physician just listened to the patient, he wouldn't be much of a physician. However, he can't totally disregard what the patient is saying. He needs to gather what the patient tells him and figure out what treatment is actually needed.

4. Be playful

People like to play and tinker. Add a little "recess time" to your spreadsheet.

Analysts and now even management are in the business of data exploration. It is nearly impossible to capture every relationship in your data through a static report.

That's why Chandoo suggests adding a level of playfulness to your data. Provide ways to interact through PivotTables, form controls, or dashboards.

5. Be forward-thinking in your model

While working on your project, think about likely next steps. Is this really going to be a one-off, or will you need to analyze future data? Will you need to drill in on one particular attribute? Build your model with these expectations in mind.

Chandoo mentions how he could anticipate what his boss would be likely to ask next and arrange his model so that he could effortlessly do this next step.

6. Always be learning

Analysts need to keep polishing their craft. It's easy to find the best practice for doing your work and stop there. But don't. Always have the mind to improve.

Chandoo suggests learning one new Excel formula each week (with hundreds, this is a long-giving goal.).

7. It's the little mistakes that count

Usually we hear about the spreadsheet error that lost some investment bank millions in revenue. This does happen, and it is catastrophic.

Perhaps more problematic, though, are the tiny, daily mistakes in our work. Hard-coded cells, improperly referenced cells, etc. The model's flaw may not be devastating, but it may have real-world ramifications.

8. Share your techniques

Chandoo's site started as a platform to share his Excel and data analysis tips. I have also started sharing my thoughts on similar topics.

Thank you, Chandoo, for a great podcast! I hope this post encourages other data analysts to check it out, "become awesome in Excel," and write about it.

What's Your F1 Key?

In reading *MrExcel XL: The 40 Greatest Excel Tips of All Time*, I found this curious anecdote: the best spreadsheet modellers often remove the F1 key from the keyboard.

This allows them to toggle quickly between F2 — to validate a formula in Excel — and Escape — to back out of that view.

Know what F1 does? It brings up a Help menu…. very … slowly.

These people know Excel inside and out — they do not need the Help menu! What they *do* need are the precious seconds they lost waiting for a lousy menu to launch.

Not content to leave this as a spreadsheet fluke, this got me thinking…

Life is like an Excel keyboard….

and Escape, F1, and F2 are awkwardly placed together.

F2 is the soul-searching key. You want to validate your life's work (or model).

Escape is the call to action. Regardless of your assessment, Escape gets you moving.

Then there is F1. The Help key.

The opportunity cost of help

Everyone needs to call for help at some point. But the "F1 Problem" demonstrates what I call the "opportunity cost of help."

The best spreadsheet modellers never need to call for help — the clunky menu just slows them down.

But this even affects the *average* modeller. In the time you wait for the Help menu, you might have figured out your problem just by experimenting.

Often we sit on our hands waiting for the expert to tell us what to do, while in the meantime we could have just fumbled our way to the truth. Don't let the hidden opportunity cost of help fog your judgment.

Check your work…but don't hover

There is a hidden beauty to F2 and Escape being so close together. It demonstrates the pattern of continuous feedback and experimentation that fuels top performers. While they evaluate the past, they're too focused on improvement to suffer from "analysis paralysis."

Removing F1 allows for ever quicker feedback.

Some systems just suck

Enough for the philosophy. Perhaps the simplest takeaway from the "F1 Problem" is that some things are just not designed well.

If anything, this just demonstrates the need to remove the F1 keys from life. These are the crutches that are meant to help you but really just slow you down. For some people, it's an education system that discourages creativity. Others have friends who laugh at their ideas.

Rip off that F1 Key! Keep shipping and improving.

What Camus Taught Me About Optimization

…He is superior to his fate. He is stronger than his rock.

The hardest class I ever took was college freshman English. Fortunately, it was also the most rewarding.

I studied great literature from Homer to Sartre in Dr. Justin Jackson's class. One of my favorite authors was Camus, whose essay "The Myth of Sisyphus" made an impression on me.

Sisyphus is condemned to the absurd – he must roll a rock up a hill, only for it to roll back down again. Camus argues that Sisyphus can find meaning in the absurd – his constant burden brings purpose.

I am working on a staffing optimization problem at my job. My workload calculations make sense. But my allocation of staffing is more difficult. How can I turn a work*load* into a work*flow*?

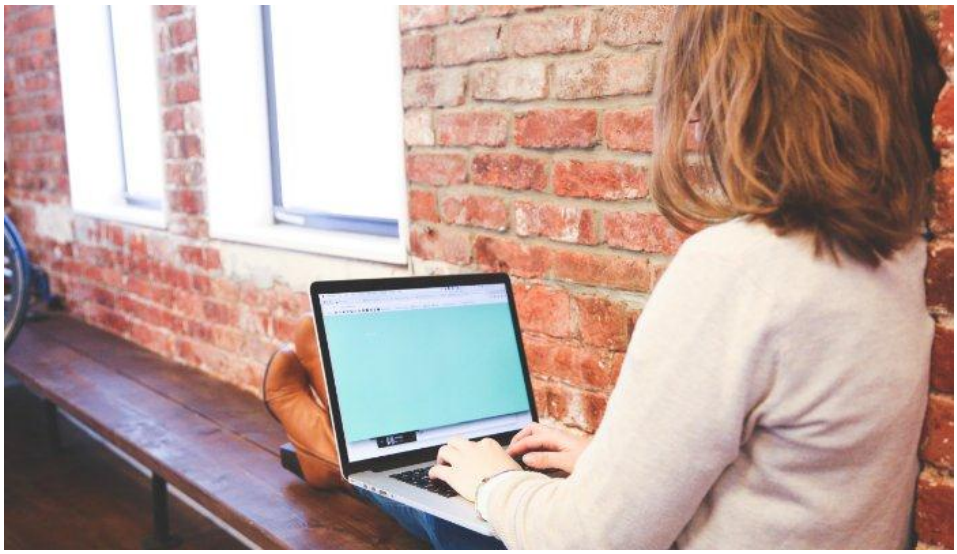
I must become Sisyphus.

Constraints sound like a bad thing, but they actually help us make sense out of data. In my case, I can't have 100 people come in at midnight and work for an hour. I need to account for patient satisfaction, room turnaround times, and union requirements.

These constraints, rather than hindering my analysis, actually lend purpose to the data.

The next time you are working on a problem, think about Sisyphus and his rock. Find meaning in the assumptions you must make.

From Chaucer to Clusters: Data Analytics for Liberal Arts Grads



You've heard about "big data," "data analytics," and related fields. Maybe you've thought about how to make a career out of one of them.

But you've spent college reading Chaucer, not running regressions.

You may think the only route now is a enrolling immediately for a fancy graduate school or taking a long, unpaid internship. This isn't necessary. Liberal arts to data analysis doesn't have to be such a leap.

Understand the problems analysts face

Business journals frequently proclaim the potential of big data. Analytics can assist in anything from detecting fraud to suggesting good music. These stories usually don't mention the obstacles to data analytics.

The dirty little secret of big data is so-called "data wrangling." Before analyzing data, it's common to spend hours extracting, cleaning, and preparing it. In fact, analysts spend more time preparing data than analyzing it.

Even the best analytics programs gloss over the importance of data wrangling. They teach you the fancy models and software programs but do not tell you what to do when the numbers don't match or aren't formatted consistently. Learn about diagnosing data sets and validating data.

If you can identify and communicate the problem of data wrangling, you will really impress employers. Prove to your hiring manager that you can solve real problems.

Start with "small data:" start with Excel

For all the talk about big data, lots of "small data" still exists. Rather than gigabytes of data stored on a server, this is a smaller data set usually kept in a spreadsheet — namely, in Excel.

You'll be surprised at how much data in the work world is maintained in simple spreadsheets. So learn some Excel. There are so many free resources. I blog frequently on Excel at my own website. Here are some other great resources.

The MBA is not a silver bullet

Wouldn't it be easier just to go back to school for an MBA? You are a good student, after all.

The MBA is traditionally a signal that you've studied the entire canon of business, from marketing to statistics. As an entry-level analyst, you're likely to focus on just one area of the business.

If you know you want to work in data, focus on data. You can always get your MBA later.

In the meantine, there are countless ways to get started with data analytics — including outside the lecture hall.

Check out sites like Udemy and Lynda.com. These offer dozens of courses on analytics. You even get a certificate for courses completed — here's mine on Lynda.com, for example.

If you'd like an accredited, full-time degree, check out programs with a tighter focus than the MBA. This could be a one-year master's program or certificate course.

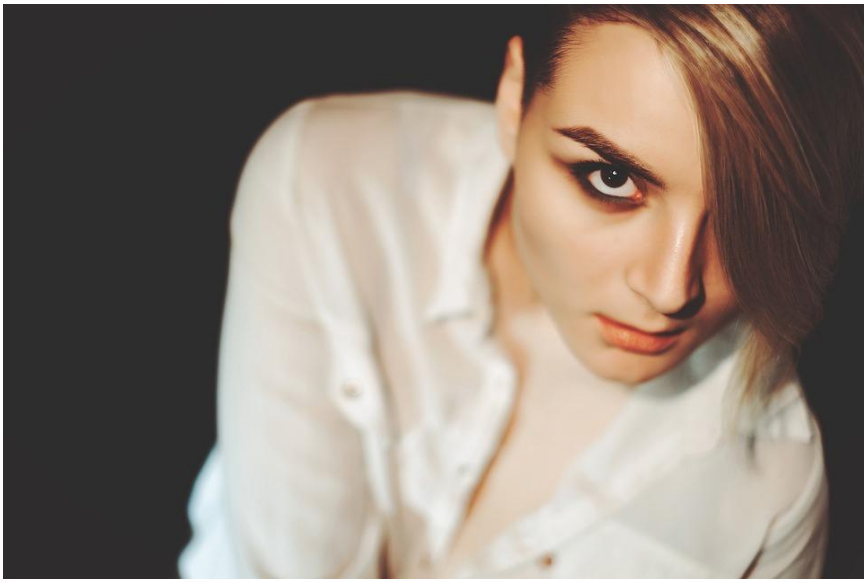
Many of these short-term programs are delivered online. You may be skeptical of online learning, but for technically-driven courses like data analytics, it can work well.

You need to be clever, but you are

As a liberal arts major, it will be more difficult for you than for an MIT grad to make it into the world of data analytics.

But be clever. You likely won't hear about the concepts of "wrangling" and "small data" in a fancy graduate program. Prove that you understand and can solve the problems of analytics. Employers and clients won't see a clueless liberal arts graduate — they will see a fellow data analyst.

Copywriting and the Other Kind of Model



Think copywriting, and you likely picture shots of glamorous models with pithy slogans.

I think of a different model: the business model. Cold, exacting, and anything but glamorous.

Dominic Gettins's *How to Write Great Copy* *contains* ideas that I apply directly to business analytics: a job involving the "other kind of model."

"People read what interests them, and sometime's it's an ad." – Howard Gossage

People don't care about what agency wrote the copy or which markets they're targeting. They don't even care if it's an ad. They just want to see interesting stuff.

The same is true with data analysis. It's easy to get too focused on presenting the mechanics of the model and not why it is useful. Solid methodology is essential but best left behind closed doors. Your users want what interests them — what will help them.

Like good copy, a good model is primarily focused on delivering value — not on making a point of clever data tactics.

"Avoid like genital warts the temptation to begin writing." – Neil French

(Sorry for the vulgar expression. But is there a better way to put it?)

You might think the best approach to copywriting is to well, write copy. But it is more important to understand what the audience is after, which medium is best, and how to structure a campaign. If you just start writing, you'll get something wordy that doesn't convey the right message.

Similarly in data analysis, you may be tempted to start running regressions immediately. Avoid the urge! Frame the problem first. Identify independent and dependent variables. Think through hidden relationships. Then move onto the model.

"You talk the same language as your audience and you're guaranteed a hearing." – Dominic Gettins

Your user cares more about your solution's benefits than about the solution itself.

Gettins has a great example: Why do deodorant commercials often feature fawning young women? Isn't deodorant about smelling better?

But for the young man, smelling good is just a means to an end. "It is perfectly obvious," Gettins writes, "that the major motivator in a young male's life is not deodorization, but rather the benefits of deodorization."

Think of your model as deodorant for your user. Your user doesn't necessarily care that deodorant will make him smell better. He cares that girls will find him less repulsive when he wears deodorant.

Copywriting fascinates me — it is such a mesh of psychology, business, and art. Thanks to Gettins, I think of more than attractive models. I think of ugly models — data models! So goes the mind of an analyst.

IV. Building an Audience

The Biker Bar Fallacy

I love going to conferences because I love learning new things, meeting new people, and seeing new places. Some conferences go a little more smoothly than others.

Going to a first conference can resemble the famous “biker bar” scene. You nervously enter a noisy tavern, the music stops, and everyone turns around to look at you. Some giant guy in leather gets up: “Can I help you?” Obviously you are not welcome here.

In the movie, the person walking into a biker bar doesn’t just not know anyone in the bar. To top that, he’s not even a biker.

Yes, there’s an idea of tribes, a group with shared ideas and connections. Biker gangs are a tribe. Conference attendees are also likely in the same tribe — but this doesn’t mean they all need the industry equivalent of riding motorcycles.

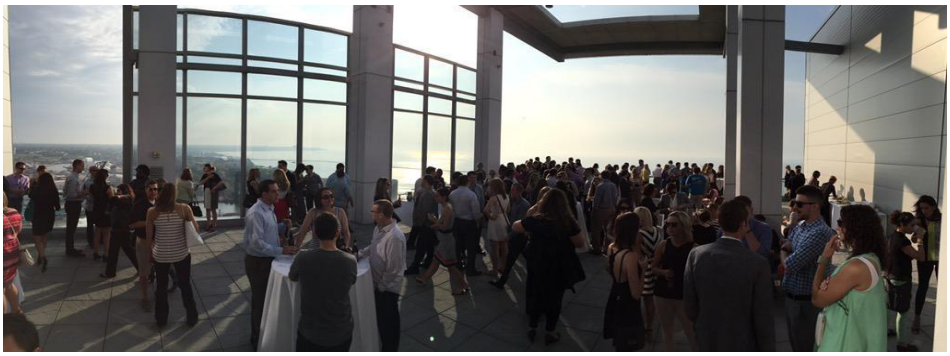
The Biker Bar Fallacy is that the only people it’s worth building a tribe with are people exactly like you.

A guiding principle of society is the division of labor. It's beneficial to spread your ideas to people with wildly different backgrounds and skills.

Which brings me back to conferences. The more motley the crew, the better, in my opinion. Meet people who add to your skill base, not just duplicate it.

Usually in the movie, the outsider eventually gets a cordial reception (think "Tequila"). It takes a little adversity, but by sharing something that would have never come from within the biker gang, he shows value to the tribe.

Lessons from #CLEypweek



Do it yourself

On Monday evening, we heard from organizers of some of the biggest events in town. These events ranged from ethnic festivals to New Years' Eve parties. The theme? They didn't wait for permission.

Of course, they play nice the city. But the best events came about not from top-down planning, but from engaged citizens building from the bottom up.

If you have an an idea, don't wait for permission. By the time you reach the gatekeepers, you will have built up so much momentum that they can't help but go along with you.

Give first

The Cleveland Flea started not as a for-profit venture. Stephanie Sheldon's clients were having trouble paying her for graphic design work. She started the flea so they could make more money so they could afford it.

Stephanie pours tremendous energy into one of Cleveland's favorite events. After months of success and thousands of monthly visitors, the flea still just barely breaks even. But she doesn't mind too much. Because the basis of success is providing value first. Vendors at the flea have done so well that some have been able to build permanent locations and yes, pay Stephanie for her work.

Money chases ideas

In the digital age, it doesn't take much to spread an idea. Social media is free. Blogs are cheap. If the idea provides enough value to enough people, the money will come.

Cleveland is getting a lot of investment now. This all happened only after ordinary Cleveland citizens, many of them young people, decided that this city wasn't such a "mistake" after all.

Bright light, mid-size city

Often overheard this week: "My friends from New York/Chicago/LA couldn't believe I got to do X…"

You can start a festival, a business, a social network, and not get drowned out. You can join the YP group of a world-renowned orchestra for less than $20 a month. You can visit the world's largest corporate art collection with the YP group of the art museum, another cultural treasure.

You can check out a new event every day like in a big city and run into friends there like in a small town. It's the perfect balance.

Exeis stoma

Okay, this is a Greek saying that I just had to use in honor of the opening of Santorini downtown. It means, "you have a mouth," which implies, "use it!" Do you have questions or want to share something? Go for it.

The Closing Night party was my favorite event. What was the program? Nothing…just hanging out with other YPs. It was great to chat with people from all parts of town and in every industry. Everyone was engaged and happy to talk. (This isn't high school anymore!)

Introverts: Caves Optional

There's a common idea, even among some introverts, that introversion is the misanthrope's gene, cured only through spiteful solitary confinement.

Funny how it seems like the internet has placed a premium on introversion. I think it's used an excuse to goof off behind the screen and not engage with one's environment.

It's wrong to label the introvert as recluse. Owning my image as an introvert has made me **more** outgoing. Here's how.

Pain is a signal, not a rejection

Introversion is the quality of losing energy from social interactions.

It does not mean despising interactions. Some introverts like to go out -- it just drains them.

Why is this so difficult to understand? Can't you think of other activities that exhaust you and are also enjoyable?

Of course, fitness comes to mind. A good workout naturally comes with some pain. A quitter uses this pain as a sign that he doesn't like working out. An athlete uses pain as a signal that fatigue is near, and plans appropriately.

Similarly, I do not use introversion as an excuse for a boring night in. I see my "introvert burnout" as a guide for planning my social life.

The introvert blitzkrieg

My weekend plans are idiosyncratic: I'm either out late into the night, hopping around multiple events, or I'm in bed by 8.

This pattern is not by accident.

As an introvert, my energy to socialize comes in spurts. This has focused me to channel my endeavors to high-value activities. Going out can be so draining that even a relaxing night of reading or TV could be too much -- I just need to sleep!

Long, drawn-out social sessions are awful. People often wear out their welcome at social events, not wanting to seem rude by leaving early. But really, everyone is just waiting for someone to say the first goodbye. As an introvert, I will gladly be "that guy" -- and people often thank me for it!

I have learned that a series of brief check-ins works best for my energy levels. Call it the "introvert blitzkrieg" -- cocktails at a networking event, check out a new exhibit, dinner with a buddy and that's a night! This allows me to experience more with less boredom.

I see introverts and extroverts like I see sprinters and marathoners. They're two different approaches to fitness, one no better than the other. I tend to sprint with my "introvert blitzkreig," while others may be in for the long run. A fulfilling social life is possible with either.

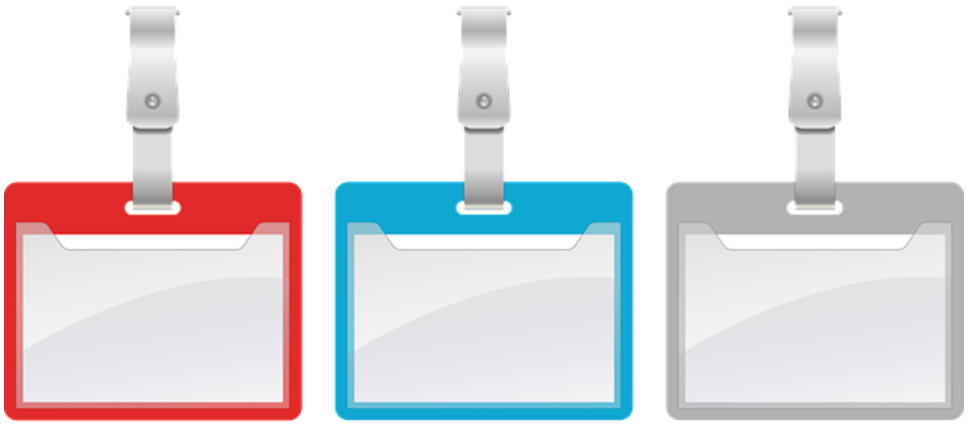
On Name Tags: Don’t Be a Shoebie

I had a surfing phase growing up — quite natural for a Clevelander. I read the magazines and listened to the music. I even learned the lingo.

One of my favorite surfer expressions was “shoebie.” This is an insult toward outsiders who come to the beach wearing shoes.

It was interesting that something so simple as footwear could signal one’s membership in a group. It doesn’t take many physical cues to signal whether you “get” something.

No beach time for me this summer, but I have attended many conferences and networking events. My teenage admiration of surf culture now makes comparison to seminars and summer school.



Wear a nice name badge…

The standard plastic name tags you get at most events are flimsy and hard to read. They droop and fall off. They're often handwritten, bad for poor penmen like me.

Everyone looks like a shoebie in a "Hello, My Name Is ____" name tag.

I've avoided the name tag drama by buying an engraved custom name badge. You can get one on Amazon for less than $10.

A nice name badge looks professional and signals that you've done this before.

It’s much easier to read an engraved than a written name, and the magnetic backing will provide a strong, steady hold to your lapel.

Sure, you may get some questions about it. Actually, I’ve not yet met anyone else to wear a custom namebadge to an event.

But so what? Are you at the conference to blend in or to make an impression? It’s smart to wear aconversation piece anyway, so here’s your chance.

A couple more pointers on the namebadge.

Wear it above your navel…

Some people think they are clever by planting their namebadge on their purse, tie, etc.

Please don’t make us search for your name!

It doesn’t feel great to have to scan a whole body in search of a nametag.

Sometimes it’s not the person’s fault. Standard-issue lanyards are often preset to their lowest length, causing the name tag to hang awkwardly near the belly button and not near the shoulders.

Navel-gazing, anyone?

So when you get the dreaded conference lanyard, try pulling it up so it’s easier for others to read. I often will wear the lanyard AND my nametag, thus cutting in half the potential of the awkward “I’m-trying-to-read-your-name” moment.

…Wear it only when necessary.

Wearing a namebadge around town is a bit like wearing shoes to the beach.

Wear the namebadge only on site during scheduled hours of the program. Don’t walk around town wearing a namebadge. Don’t wear it to an impromptu meetup at the hotel bar.

Not knowing when to lose the namebadge shows that you are unaware of your physicial cues.

There could be potential security problems, too. You don’t want someone seeing you walk out of your hotel room with the badge. Now they’ve got your name and room number — would you like to pick up the tab, please?

Surf’s Up, Nice Badge!

You might think this all eccentric. A manifesto against nametags? But physical cues often determine our influence far more than our words.

At first I felt a little silly wearing a custom name badge to conferences.

But it’s been a great practice for a small investment.

It’s Not What You Know, It’s How You Show.

It’s not what you know, it’s who you know.

This sounds conspiratorial, as if there is some group of others working together to hold you back.

It’s also a false dichotomy. How will you build people’s trust if you have nothing valuable to offer?

Networking is much easier when you have other pursuits. For example, I have met some of my best professional connections just through reading and commenting on the same blogs. My posts have prompted old friends as well as strangers across the world to ask me about Excel and work as an analyst.

“It’s not what you know, it’s who you know” isn’t quite true, or helpful. Knowing things and knowing people are two sides of the same coin. But often converting knowledge to relationships is difficult. Here is where a new principle helps:

It’s not what you know, it’s how you show.

I blog on data analysis and Microsoft Excel. I’ve been in various analyst roles for a few years and possess a couple of advanced degrees on the topic.

But still.

Most bloggers on this subject are much more advanced than me. They would likely laugh at some solutions I give.

Impostor syndrome sets in. What the heck am I doing posting stuff that everyone already seems to know?

What keeps me going is the principle that it's not what you know, it's how you show.

There is little original content on spreadsheet modelling. There are, however, new ways of spreading the word.

For me, that has been a heavy Instagram campaign (as far as I can tell, I am the only user regularly posting Excel-related content on that platform) and blending classic Excel tips and tricks with big-picture riffs on analytics and life as an analyst. My site is targeted to recent grads and others new to the data game, not seasoned developers or data scientists.

Little of what I share on Excel is new to the internet — my last post was simply onhow to add. But for every black-belt Excel developer, there are scores of Internet surfers looking for a boost.

I don't know everything, but I can communicate what I know. How I show then influences who I know.

Networking = Content + Communication.

Branding Bean-counters

I heard Gabirel Weinberg on the *James Altucher Show* and was compelled to read his book with Justin Mares, *Traction: How Any Startup Can Achieve Explosive Customer Growth*.

It's incredible that Weinberg could take on the mighty Google and do it without tracking customers, a main strategy for the search giant.

But what could I gain from a book about marketing start-ups? I am an analyst at a large county hospital. I am expected to remain in my compound and make spreadsheets.

So when I do things like write a blog and host a LinkedIn group, people get confused. Is that for work? When do you write?

Bean counters need a platform

I pursue these endeavors because brand building is essential for today's professionals — even bean counters.

The days of locking into the same task at the same job for decades are long gone. Like start-ups, today's professionals must constantly adapt, fail, and retool. We are all start-ups now, even big-company analysts.

And like start-ups, analysts need marketing.

Traction gave me a sense of how to use the marketing tactics of a start-up in building my brand as an analyst.

50% product, 50% marketing

The book emphasized that many startups fail because too much time is spent on designing the product and not finding the right customer.

Weinberg and Mares give a 50/50 rule to fight this temptation. 50% of effort should go to building the product and 50% to gaining traction for it. This means finding customers, getting feedback, and establishing demand for the product.

Marketing your human capital

The 50/50 rule applies to human capital, too. Although analysts can't spend half their time writing blog posts or recording podcasts, they should have a platform for brand-building.

Everyone wants to do work that matters. They go to school, work hard, try for new jobs and promotions. This is important, and builds human capital.

But what about *marketing* that human capital? When it comes time to apply for that job, do you have a platform to display your talents?

Spending all your effort on degrees, certificates, and work without building a brand is like building an amazing product but not finding any customers.

Spend time on traction, too. Work hard, take classes — but blog about it along the way. Have a brand. This will build your network faster than going to traditional networking events. It will improve how you think about work.

My blog is meant to be a curation of everything I've learned as an analyst. I do this to help others and build my network.

Learning R or Tableau? Post some tips and tricks, or frustrations. Read a great book about business? Write a review — or even interview the author.

When you're up for a new job or degree, there will be no doubt of, or lack of demand for, your expertise.

Want a Better Network? Start Writing.

I thought of networking as a dichotomy — either I was out with one of Cleveland's various YP groups or secluded at home.

I still believe it's important to build a network in person, but I no longer see a night at home as a night not networking.

What changed? I started writing.

Through visits to my LinkedIn posts and comments, I am in the ***Top 1% of profile views*** among all employees of Ohio's largest county hospital. I know industry thought leaders and authors. Friends past and present have sought me out for advice or just for a beer.

I've lost contact with many interesting people at networking events — someone leaves early, gets caught up with another group, etc.

It would be great if in real life, you could poke an interesting person and get a name and Twitter handle. This is possible online.

Writing online has introduced me to great people. I never lost touch with them at a noisy bar. It's been a platform to share thoughts with my network and learn from their feedback (cough: Comments welcome!).

It’s an instant conversation starter

I still try to go to a networking event once a month or so. It’s rough to strike up conversation with acquaintances. My writing has become a helpful conversation starter.

“I loved *X* article.” (Thank you, you should read *Y* book if you’re interested in that.)

“Is that part of your job?” (No, not yet anyway. I just find writing really important.).

Struggle with the awkward “What have you been up to?” question? Avoid it: start writing! Your network will know exactly what you’re doing and will want to talk about it.

People will seek you

Blog posts seem to remain in the ether, but they affect reality.

Because of my writing, People let me know if they are moving to my hometown of Cleveland, or even if they are just passing through. Authors whose books I reviewed have contacted me to say thanks. Friends from grade school to last month have contacted me for help with Excel or for work advice.

Don’t just do something, write there!

I no longer see writing as a pastime for a slow night in. It’s just as important to a good network as live events.

Try it — like a message in a bottle, you never know how it will help you!

Unoriginal Idea, Original Delivery

Is this statement true? I don't know. If anything, it's a tautology.

It does imply something about creativity. So what if it's been done before? Communicate it differently.

Nothing new to say, but new ways to say it

Some friends who see my work online say that they've tried blogging but find it futile. They can't think of anything original.

I have the same struggles. Microsoft Excel is the staple of my blog. Yet what Excel formula couldn't have possibly been written about online?

I had feared posting the same old formulas and functions. But the solution to unoriginal ideas is original delivery. Storytelling becomes part of the story.

Ann Handley and C.C. Chapman have a great example in their book *Content Rules.*

"Consider *Pawn Stars*, a popular show on the History Channel, and compare it with *Antiques Roadshow*, which airs on PBS," they write. "Both shows are essentially the same … But the approaches are vastly different, and so are the brands."

This was a breakthrough. I felt like my content had to be original. Now I understand this isn't so important as it is to make my *brand and approach* original.

Not another Excel function!

I've positioned my blog not by cataloging every Excel function under the sun but instead by providing a resource for recent grads and others who are interested in becoming analysts but don't know where to start.

I've posted quick Excel tips and other analyst tidbits on Instagram. So far as I know this is the only Excel content regularly being posted on that medium.

I'm currently working on an online course which will cover how to start using Excel as an analyst. I've put this off for a while for fear that "it's been done before." There are dozens of Excel courses, I thought. Really, another?

Like my blog, though, I am targeting this course toward job-seeking analysts. This is all the stuff I've learned over the past few years that I had no idea about as a rookie straight out of business school.

You'll find some these concepts sprinkled about the blogosphere, but I want this course to mold them into a coherent story. The base is just functions, but the brand and approach make it helpful.

No new ideas? Fine. Just tell them differently.

Five Ways to Find a Tribe

Seth Godin's *Tribes* *has been* influential, showing that connections fuel today's economy, and success depends on finding your network.

The problem: I have not found my tribe. Is it healthcare analysts? Microsoft Excel geeks? Advice for recent college grads?

I'm not sure yet. But here are the places which have been most helpful for me to find it. All familiar platforms, but these have been the most powerful.

1. **Twitter hashtag search.** I've had a Twitter account for month but had no idea where to start. Building a Twitter following seemed like bottling the ocean. I was tweeting across the internet with no strategy.

   Then I focused my energies on one hashtag at a time. I pick one for the day and add the most value I can to conversations containing it. This strategy paid off big — just today, I connected with people as far away as Finland on topics we both care about.

2. **Twitter lists.** You probably follow many "tribes" on Twitter. I follow data analysts, economists, and other groups. When logging into Twitter, it is confusing to sift through the noise of competing tribes. Twitter groups allow you to curate any Twitter account into a group. Here you will get a "mini-feed" of all the activity from that list's users. You don't

even have to be following that account. You can set lists to private or public, and view others' public lists. This makes engaging on Twitter less intimidating. It also helps me spot trends within different industries and look for areas where I could provide opinion.

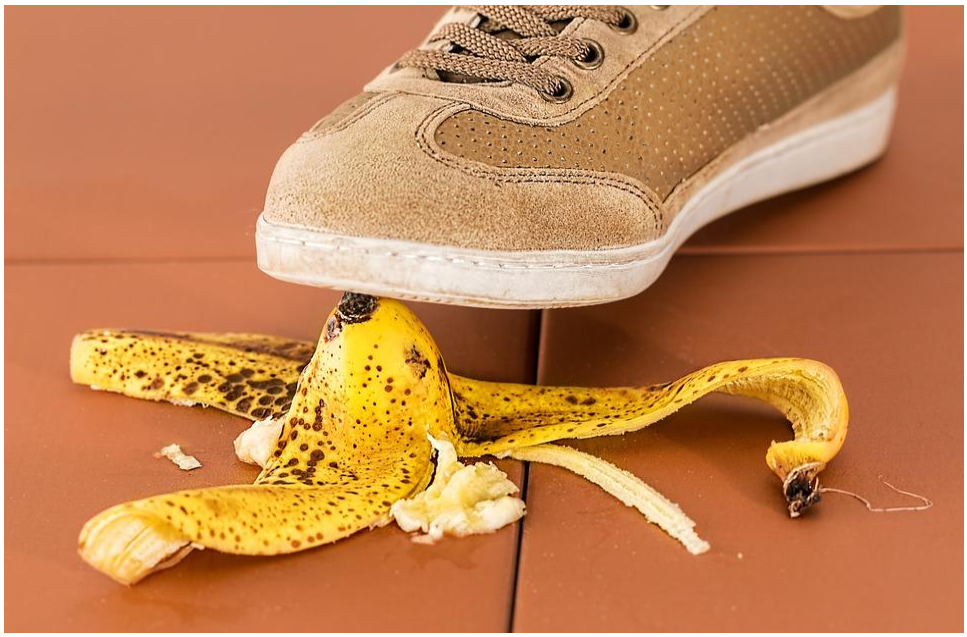
3. **Quora.** Post a question on anything from copyright law to online dating, and other users will give you free information. Readers can then upvote the most helpful answers. Quora is able to do what even Google can't — make sure you get the most *helpful* content, not just the best-optimized. I'm just getting started on this platform, and a big help was Tom Corson-Knowles's *Complete Guide to Quora*. Here I can see how I can help the most people without worrying about website design or SEO.

4. **LinkedIn Pulse.** Another tribe-building strategy is to comment on news stories. This can be another bottle-the-ocean scenario. There is so much news across so many websites. LinkedIn Pulse will curate the "best of the web" in various channels. You can also follow the posts of Influencers, top thought leaders.
   I provide value to my existing network by sharing relevant stories to them. And I also grow my network by seeing what others have to say across the world's largest professional network.

5. **LinkedIn Posts.** I've been blogging on and off for a few months, with admittedly soft traffic results. Someone suggested that instead of trying to generate new traffic, I just hitch my content to LinkedIn. After one post, my readership increased tenfold. Not only this, but my readership base diversified.

I am still in the process of finding my tribe. But the first step, as Seth Godin also taught me, is to "ship": get your product out there, even when it's scary. If I can provide value through these tools, I will find my tribe.

Want to be Authentic? Risk Being Wrong.



Sometimes I wonder when the charade will end. When will impostor syndrome convince me I have no business writing online?

Ann Handley and C.C. Chapman provided a boost of impostor vaccine with *Content Rules: How to Create Killer Blogs, Podcasts, Videos, Ebooks, Webinars (and More) That Engage Customers and Ignite Your Business.* Although the book's focus is on the tactics of content marketing, it left me with a grander message.

Good content must be authentic. Fears of inadequacy or "messing up" is authentic. Want to be authentic? Let yourself be wrong.

The following sections start with quotes from *Content Rules.*

You are demonstrating growth

"When we say to be authentic, we mean you should make it clear that your stuff has the stamp of an actual person or actual people and that that person or those people have the qualities (a point of view, a personality, a sense of enthusiasm for the subject, and suitability to your audience) that make for a compelling approach to content as a solid foundation for the start of your relationship with your audience."

Creating content is exposing vulnerability. You make your thoughts public. So what if that video could have been a little cleaner or your prose needs help? You're human, you're not perfect, so your work will not be, either. Sometimes content becomes so perfect as to become sterile.

The more you wrestle, the better your content becomes. Many of my favorite bloggers have kept up their earliest posts online and recommend readers check those archives as proof that things haven't always been so smooth. You find ugly and slapdash before hitting the good stuff. The trajectory shows growth and authenticity.

I've seen this in my own work. I've been posting short Excel clips to Instagram. My first attempts were terrible, blurry, and confusing. With each clip I get a little better.

You are letting your audience grow, too

"You want your audience to have room to add their voices and opinions, too."

Don't let trolls scare you. If you publish your best, there will be nice people around to help you! Excel is a staple of my blog, and I've posted some tips which have better solutions. Rather than chew me out, other Excel bloggers have graciously pointed me to alternatives. It's a spirit of collaboration that you only benefit from once you start creating.

If you have questions or ideas, let that become your content. Rather than looking foolish, you give your audience a chance to improve, too.

You are having fun

"If you aren't having fun creating content, you're doing it wrong"

My best professors in college told us not to think of us as the final authorities, just other students who were a few years ahead of us.

I try to bring this attitude to writing online. I write to demonstrate what has worked for me, and to explore what I find interesting. Sometimes I find a better workaround in Excel, for example, than what I'd written before. Cool! I add it to the mix.

It’s more enjoyable to tackle new concepts than to dryly repeat stale thoughts. If my blog were just to document everything I know, it wouldn’t be helpful to anyone. Instead, I focus on how my experiences as an analyst could benefit new analysts.

Be creative, be wrong

We’re afraid to be wrong, but okay not to be creative. Writing online has taught me that authenticity and growth come with being wrong. Be honest that you’re still learning — your audience will respect you and you’ll enjoy it more.

Poke the Box – and Count Beans, Too

I never took a marketing class in college. But I found a better substitute — read every Seth Godin book. I've only got a few left, and I have learned a huge amount.

My latest Godin read: *Poke the Box.*

In this short, blog-posty book, he challenges us not to wait for permission but to create, to keep shipping. Don't let fear keep you from something great.

Lofty ideals. What do they mean for the analyst, who has to produce timely, accurate work? How innovatively can one run an income statement? "Creative" and "accounting" aren't often used well together.

Here are ways to poke the box, even when counting beans:

Re-invent the wheel – make it round this time

Inefficient data analysis is rampant. Reports have morphed and grown unwieldy. Hard-coding and other dangerous spreadsheet practices increase the chance of error. Analysts can do the same report for so long that they don't realize how inefficient it is.

So think of ways to re-create your standard reporting. Put it in a PivotTable. Add a visualization. People might not understand why you're reinventing the wheel with a new report. Just say that it was never a very good wheel.

Branch out your skills

The worst attitude? "I'm not a _____ guy."

"Sorry, I can't do that. I'm not a numbers/IT/marketing guy."

This diminishes your value and leaves you powerless. You do your work, others do theirs, and you can't help what happens.

Analysts can't get away with this attitude because they are constantly liaisons — between finance and IT, marketing and accounting, etc.

Nobody is asking you to be an expert in all these subjects. In fact, specialization is a good thing. But you should have some basic understanding of what other people in your team do. Because you need to translate between these groups to solve problems.

Start a mastermind group

It's easy to get caught up in your own data set and not see how your work fits into the whole. Or you spend hours fidgeting in Excel that you could have spent doing real data analysis.

To avoid tunnel vision, set up a brief "mastermind" session with your fellow analysts. It doesn't need to be formal — do it each second Friday during lunch, for example. You all need to have lunch, right?

Ask questions and share tips with each other. If you're struggling with something, someone will offer guidance.

With the right attitude, you can poke the box — and make things balance, too.

Hey, Data Analyst, Learn Some Content Marketing

One resource that's been particularly helpful since I've started writing is theContent Marketing Institute. Much to my amazement, this organization is based in my hometown

I'm a business analyst, and most fellow "numbers guys" are quick to question my interest. Before even understanding what concept marketing is, they assume it's something gimmicky. Content marketing, though, is a fact of life — especially in the digital age.

Even if you're in a data-heavy position with few marketing duties, it's a good idea to learn about content marketing. Here's why:

Shotgunning doesn't work

When you're looking for a promotion or new job, the first instinct is usually to shoot your resume to as many people as possible. You hope to get *someone's* attention just through brute volume.

This is how advertising used to work: spend millions on a Super Bowl ad. Even if you convert a small fraction of viewers, that's still a lot of people!

With consumers now more in charge of how they receive content, interrupting them with a thirty-second ad spot doesn't work anymore. It's the same with resumes, what I call the "thirty-second ad spot of job hunting."

Analysts might not think their success hinges on others' trust. But shotgunning resumes in the hope of getting in the door does not build a relationship. Analysts need to engage employers with ideas and goals rather than interrupt them with resumes. Content marketing can show you how to do that.

If you do something brilliant and nobody sees it, did you really do it?

Everyone is a content creator. As an analyst, you might not be making videos or blog posts at work. But you're still trying new models and visualizations. It's important to share them effectively.

Is there a way to "brand" what you are saying? How does this fit into the overall brand of what you do as an analyst? If you can consistently share work that communicates your thoughts as an analyst, employers and coworkers will become loyal to your ideas.

Content marketing will show you how to get your ideas noticed and build a reputation around those ideas.

Keep a blog or podcast. Start a conversation with other analysts and share your ideas. Find people in other industries who could benefit from your knowledge base and give freely.

Content marketing is for "data geeks," too

While it seems like data analyst and content marketer have no overlap, there is quite a lot for analysts to learn from content marketing.

Sure, you may not be managing a Twitter account for your company. But don't be deceived. You are telling stories and building a tribe. Content marketing can make you a better analyst.