# Persuading with Quant

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(The following represents my person views and not the views of any other corporate or other organizations)

Thinking fast and Slow, by Daniel Kahneman, was an excellent description of some of the widespread behavioral issues impacting the human race. I listened to it a few times in audiobook format while making the long and straight drive down to southern France. One thought experiment struck me, and it's one that I often repeat as an example why it's so difficult to persuade with numbers, and why stories still hold such a strong pull on us all.

The reference is to an experiment described in the book that begins with a description of a test called the 'bystander effect'. This is when, in a university, 8 people are placed in separate booths, connected by a common phone line, and are asked to describe themselves. Each talks about their hobbies, favorite movies, etc. One, a planted actor, fakes a heart attack, and the experiment is to observe how many of the other participants exit their boots to help this person. The effect is simple: if in a small group, everyone is a keen helper. As the group grows, so people become hesitant, and the probability of exiting the booth to help decreases. This experiment is then explained to another control group of participants, who are shown small videos of the booth participants, talking about themselves. They are friendly people, and the idea is to portray the every-day happy, common citizen. This control group is then asked that, of the ten or so videos they have seen, how many they thought would exit the booth to help the person. Because the videos are friendly, most people opt for a high percentage, say around 80/90% would have come out to help. They are then told, that actually of the hundreds and hundreds of people that took the booth experiment, only 30% came out. They are then asked if they want to change their opinion about their specific subjects. Of the people they saw in the videos, how many of them do you think came out to help, if you know that the population probability is 30%. This is clearly a problem: if you think 9/10 people you saw come out to help, but you know that only 30% of the total hundreds of people did, this is an inconsistency. The scary thing was: people didn't change their mind. They were happy to ignore the larger probability estimates in favor of their local sample observation. They were happy to argue through deduction (reasoning from the few to the many) rather than deduction. For psychology and data-led social sciences, this was a problem: people didn't learn from large scale experiments. How useful would a science be in that case?

As quants, we often talk about behavioral problems as they relate to investment decision making. We tout the importance of process, consistency, impartiality, objectivity and the idea that human judgement and intuition can easily be re-framed as human bias, inconsistency, framing, anchoring and so on. While we are happy to abandon the notions of pure human judgement, many of us retain some element of it as a fail-safe.

When pitching our wares, however, we encounter these humanism again. The world of finance is filled with skilled storytellers who weave data seamlessly through their narratives, even when the statistics don't warrant it. (Freakonomics, and Lies, Lies and Statistics are both entertaining reads on the abuse of data and statistical causation). We are not them, sadly. As quants, like engineers, we spend a lot of time thinking about 'under the hood' problems of data and information structure, and most often end up optimal allocations that lean on diversification above insight, averages about specifics, and cross-sectional diversification above timing. Our stories rely on the strength of the many, the links between, the networks and two dimensional topography of financial markets that often emphasize uncertainty and place great virtue in steady drip-feed outcomes. Like a samurai sword, we layer truths on other truths, and carefully work to eliminate biases. Often sharpening and sharpening to sometimes unnecessary lengths. We tend to argue top-down, on the law of averages and statistics. We focus on the center of the expected variable distribution and make pains to create the stable expectations from our models, eliminating outliers and jumps. Our measures for KPIs value low-volatility, stable performance, and an example often used to evaluate a signal being a Sharpe Ratios.

We are kind of like the Volvo salesmen on the car park of investment strategies. Steady, safe, and sensible. No unusual activities, no 'high octane' option. Just A to B, and more recently, focusing on economy (of scale, not fuel in this case). Unfortunately, our safety record is not really better than any other car in the parking lot, and the other dealers are only too quick to point out that we crash just as many times as any other car, though admittedly, perhaps at slower speeds.

Where we fail is in persuasion. We fail to weave intuition with technical expertise effortlessly. Whereas others tout the possibility of finding gold in the mountains, a low probability but high impact event, we want to mine salt, and lots of it. In some asset classes where uncertainty is particularly high, like equities, we are easily outmatched by the speculative spirits of clients and competitors.

The world is becoming more and more technical of course. But other highly technical services and products, from your iPhone to your BMW iDrive will touch on the expansive and complex engineering in passing, they will persuade using youth, energy, light and emotion. They will argue from the individual's experience, even though their product is mass scaled, average, and has little tailored for an individual. They are happily divorcing the engineering from the marketing departments, whereas investment management, as showcasing the investment performance, has to connect both.

A great recent example where quants have had an opportunity to shine is alternate data. Over the past five to six years, we have increasingly had access to a mountain of new and exciting datasets that show us the world with brilliant clarity. We can create stories of real-time shipping, flight information, geo-thermal imaging, satellite navigation, all the way to tracing intricate details of shoppers and their activities. The images are fascinating, imaginative, and beg to be brought to life. For those organizations that have adopted this way, they have used this new potential alpha source primarily to showcase that they are innovating, but also to tell stories about how data illuminates and not complicates our lives.

What about data science and machine learning I hear you ask. Here is a field so heavily ingrained in data and statistical pattern recognition, where is their story? Yet to be tested I think. The results of the outcomes of these models have spoken for themselves: voice recognition, image recognition, and the other successes have 'sold' the methodology. Whereas they lifted the accuracy of a problem that was previously solved by humans from 60 to 90% say, in finance, the benefit to date (on a wide scale) is marginal. It is less obvious that something sells itself if it lifts probabilities from 50 to 52%. Although quant hedge funds have had amazing success, this is far from widespread, and doesn’t cover the field in glory.

What is a collective challenge for our industry, not only the quants but systematically minded investors, is how to become more robust, data-led, and systematic in our processes, while retaining the human persuasion element, in a way that is not disingenuous to the underlying models. I am not advocating a complete divorce between the marketing department and the investment team (though you may imagine robo-advisory going this way), but I am advocating for more 'systematic storytellers' in our industry that bring data-led work to life, and bring the talented scientific research into the main-stream. I would love to see a CNBC or Bloomberg special on factor investing, a regular showcase on portfolio construction, and monitoring of new datasets, including alternate data, or an intelligent engagement in why timing the market is near impossible. I would love to have an open dialogue about machine learning and algorithms as they pertain to better investment decisions, rather than the usual 'well, that’s all very hard to understand, so we won't go into it' kind of opening sentences.

The evolution of our industry to a more systematic, and I believe thoughtful and complete view of financial markets relies not only on better data, better models, but also better quant-storytelling.

**Comments:**

* Stories from numbers don't sell very well. The idea of influence through arguments of deduction from mass scale numbers, and the language and ideas around that are dominated by induction and the idea of case specific ideas. That was the example from the book “Thinking fast and slow” that I mentioned.
* There is scope to create significant value in the financial industry by improving decision-making through more objective and systematic analytics. This comes from reducing human biases as well as being able to learn from failure and applying the knowledge gained from failure to improve the decision model. To implement this process requires story telling that engages people at an emotional level.