



**HARVARD**

Office of the Vice Provost for Advances in Learning



# **MODULE 3 UNIT 1**

## **Casebook Video 2**

### **Transcript**

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LAUREN COHEN: All right. Now we are lucky to be able to chat with BIA's current chief executive officer and director, David Nydam, about what BIA is up to today. So, as you just read, BIA started with those very strong roots to the Central Intelligence Agency, and it built off of those, and continues to build off of those, in new paths today.

Now one of the real challenges that BIA is facing is that software and analysis, in order to try to figure out the veracity of corporate disclosures, especially on the textual side, have been becoming more ubiquitous across the market. So let's hear how they're dealing with that and how they're continuing to create an edge.

DAVID NYDAM: I'm Dave Nydam. I'm the CEO of BIA and I've been here for about three years and came into the business with a history in information services for businesses. So, and then sort of transformed that into, specifically now, the information services for the investment world.

### **How has BIA's business model evolved since the company was founded?**

NYDAM: Company was founded about 16 years ago, and initially it was primarily a training company around our core methodology, which is a behavioral analysis product around identifying levels of deception or transparency when someone is answering a question. That then evolved into a data and research product for the investment community, specifically hedge funds, large-scale investors, that sort of thing.

And, since then, we built on the training advisory services, plus the data product, and then several years ago branched into adding a hedge fund of our own, which trades on the signal that we see using our behavioral analysis, and then more recently have begun to add initial products around new industry verticals, outside of financial services to broaden the portfolio.

### **In what ways has the company changed its strategic direction from its original intentions?**

NYDAM: Initially, if you go back to the founding of the firm, we were looking at actually using some of our products more for things like Homeland Security, and security offerings, as opposed to the financial services world, but relatively early on we had some initial interest within that world, and so adapted the product for them. That was 12, 13 years ago now, and then that became the basis for the company going forward. Since then, what we've done is then focused on not just providing our services, training and data, to the investment world, but also added, the, our own investment and trading based on that information. And then since then have looked to branch out into other verticals that use our methodology in a way that creates value for those customers.

### **Tell us some more about the Tactical Behavior Assessment™ methodology developed and used by your firm.**

NYDAM: Our core methodology, which we abbreviate as TBA, is a behavioral analysis methodology that looks at the response from stimulus, specifically asking a question. So, what we were able to do is analyze the response from someone who's being asked a question, and look for signs of deception or transparency, and where people fall on that spectrum.



And so the core methodology is based on a bunch of psychological research that was done both in the US intelligence community, and at a set of related universities about 15 years ago. Since then we've refined that, specifically targeting the investment world, but also just refining the methodology across a spectrum of other interactions that people might have outside of just the investment vertical.

### **How does BIA envision complementing its approach with a more automated process?**

NYDAM: Machine learning is a major strategic initiative and tool for us at this point. We started looking at that as a way to either enhance or add to our offering five or six years ago, but in our initial look the, the technology just wasn't there yet. We actually have a fairly complicated use case for that type of tool. It requires a knowledge of, or at least a simulated knowledge of what the context of the question and answer are, how to, how to evaluate them, how to identify different behaviors in the speech of the person who's responding. Then beginning about a year, two years ago, as we continued to evaluate the technology, we were able to start getting some good signal, using some more advanced machine learning techniques. And so what we've now done, is begin to use that to enhance our analysis within the financial services world, but also as a major enabler for products that then go outside of the investment finance worlds.

### **Are there certain aspects of BIA's methodology that machines simply cannot replicate or capture?**

NYDAM: When we've looked at the machine learning models and run our data against it, the, the challenge that the machine usually runs into is a knowledge of the context of the question, and, if in the training data sets that we use with those questions, if there are instances or language combinations that show up that is new and unique to the model. And so, for us, a lot of what we're looking at is the technology not to drive all the way to an end analysis, or end determination of the situation, or the hypothesis we're looking to test; what we're mainly looking at it is a way for the machine to be an enabler and a force multiplier for the people.

### **Are there any new areas that BIA is looking into, both inside and outside of finance?**

NYDAM: In the use cases that we're looking at, both within financial services, but also outside of it, what we're looking at this as, is a way to use the machine really in two ways. So one is, the core part of our methodology is to try to remove the bias of the observer from the analysis being done. So, obviously a machine is going to be the ultimate non-biased observer, because there's no emotion attached to whether a specific hypothesis is true or false. The second piece is really on a force multiplier side, in that if we have a large set of interviews, transcripts, or other questions and answer responses to look at, what this allows us to do is to filter up to the top, those that have the characteristics that we're most looking for. Usually in our case is those questions or those responses that have the highest degree of likely deception in them. And so, what we'll then do is pass that off to a human analyst, to then review the 10, 15, up to 20% of those responses that are most likely to contain true positives. In the context of the man versus machine debate, I wouldn't so much see it as a versus, I would see it as a complement. So, in our case, we would look at them as really working together, not against each other.



**Where do you think data and the processing of that data will be applied to the financial services sector in the future?**

NYDAM: In terms of the processing of the data that people are using specifically for their investment decisions, which is the world we live in, I mean, I think there's a lot right now of, there's a huge amount of data, specifically around earnings call transcripts and all of those more established method sources of data right now. Those are places that have a lot of scrutiny. But even within those, there's obviously going to be ongoing and increased parsing of that data, using machine learning techniques.

If we're looking forward into the future, and specifically if I look at the, the areas that our firm specializes in, I think where we would begin to branch out as we have more generalized and sophisticated models, would be to look at the information flows coming from non-standard sources. So for example, being able to automatically pull in things like the interviews that are being done, videos of executives and management speaking at conferences that may end up on YouTube or other platforms, and to be able to pair the technology with robust speech-to-text models, having that, those being able to pair and sort of cast a wider net, I think is where a lot of the future innovation will lie.

**Are there any new areas that BIA is looking into, both inside and outside of finance?**

NYDAM: In terms of new areas within finance and then outside of it, the main things we're looking at within finance is really, kind of, is really looking to advance the sophistication of the models. Both the core methodology and the machine learning applications of it, going forward, and that's both for our clients and in our own investing activities.

Outside of the finance world, we have, since our models are explicitly founded on the finance world, what we're looking at there are those areas that have the most overlap, and have very similar characteristics, so that we can use the models that we've already created as the basis for models to be able to jumpstart into those other industry use cases.

