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1/ I recently finished digging into a body of work around extracted tacit mental models of business expertise, and it is wild.

It turns out that business experts all share a common mental model of business, and you can do all sorts of interesting things if you have that model.

https://twitter.com/ejames_c/status/1416707600784060423
(https://twitter.com/ejames_c/status/1416707600784060423)

2/ Lia DiBello writes, of her work:

“... we noticed that highly talented business performers are very similar to each other. (...) business is an orderly closed system of relations between principles, and so-called intuitive experts in business have an implicit grasp of this.”

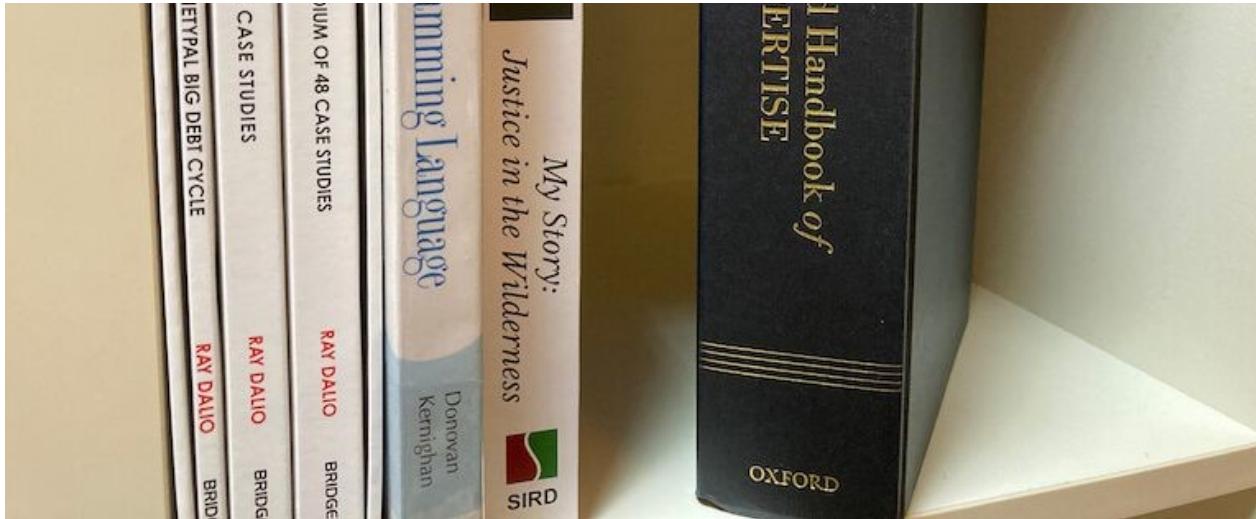
After several years using different methods, we noticed that highly talented business performers are very similar to each other. That is, they have *decoded* the domain of business much like chess masters had decoded chess (see Chapter 2, “The Classic Expertise Approach and Its Evolution,” by Gobet, this volume). This led us to realize that—as a domain—business itself is an orderly closed system of relations between principles, and that so-called intuitive experts in business have an implicit grasp of this. If this is the case, it would follow that all highly skilled business experts should recognize each other and share a common mental model of these principles, although they may manifest differently in different industries. Since business has been evolving in recent years, this model would have to be very robust, running deeper than recent societal changes.

(https://pbs.twimg.com/media/E6ymC8kVIAA_CZU.png)

3 / That's an excerpt from her chapter in the Oxford Handbook of Expertise, a chonky book that I shouldn't have any right in owning.

The excerpt was so compelling I dove into Lia DiBello's entire publication history.





(<https://pbs.twimg.com/media/E6ymqCfVIAwzLMb.jpg>)

4/ What I found: DiBello has spent her entire career extracting tacit mental models of expertise from business experts.

To my surprise, she hasn't published as much, but that's mostly because she has spent the bulk of the past 20 years consulting for companies.





(<https://pbs.twimg.com/media/E6ynMH0VEAE6GV-.jpg>)

5/ So what is that model? Glad you asked.

The basic idea is this:

Business expertise consists of two main things — domain-specific mental models, and a property called cognitive agility.

The domain-specific mental models map to a core shared model of business expertise.

6/ That core shared mental model is basically a triad. For convenience we'll name it first, before diving in:

a) Supply

- b) Demand
- c) Capital

This is taken from her 2010 chapter in Informed by Knowledge (snippet below):

Our research revealed that people who have achieved a high level of business expertise have a deep understanding of the following three core areas: (1) factors involved in effective operations, (2) forces influencing the market, and (3) those driving business finance and economic climates. Consistently successful business leaders have been shown to intuitively understand these areas and their impact on each other, and to pay attention to this fundamental triad in a uniquely dynamic way within a guiding context of business strategy. For example, these experts are able to sense that market conditions change based on environmental indications that others may fail to notice. Further, they foresee the consequences to their business operations and finances, and thus make necessary adjustments proactively. Unlike most business professionals, they are attuned to the early indicators of widespread change. Beyond this, they are expert at keeping the triad in balance, or shifting the balance when external conditions are conducive to do so (e.g., focusing on marketing during favorable economic times). In contrast, competent managers (one level down from experts) tend to be very talented in only one or two of these areas; however, they often do not understand the dynamics between these areas as well as the “superstars” do. Competent managers are likely to be very successful when larger market or economic trends are favorable to their specific skills.

(<https://pbs.twimg.com/media/E6yoKWVVkAcKyCr.jpg>)

7/ It's important to understand that this triad is extremely general in nature. How it is expressed is radically different, depending on the industry.

So, for supply — factors involved in effective ops looks different in a yoghurt company vs a mining company vs a SaaS.

8/ The key marker of skill is in the ability of the businessperson to intuitively understand how changes in one leg of the triad affects the other two legs.

This also explains how a good businessperson is able to recognise another good businessperson:

is guiding their behavior and can be specified by a systematic analysis of their behavior (Dreyfus, 1997). Experts in the same domain easily identify each other. Even if they don't agree with another expert's choices, they easily recognize that they share a common perceptual experience within their area of expertise.

(<https://pbs.twimg.com/media/E6ypBLIVoAcoyib.jpg>)

9/ So for instance, if there's a change in the capital environment, how does that affect competition? (The market — the demand leg of the triad).

And what changes must the company make? (This is supply).

10/ DiBello also uses the names leadership/strategy/finance. To map it to our previous terms:

Supply — Leadership (factors that affect operations)

Demand — Strategy (factors that affect the market)

Capital — Finance (factors that affect business finance or access to capital)

11/ How does this intuitive understanding of the triad express itself? DiBello's insight is that it allows the businessperson the ability to a) notice cues that novices

do not, and b) predict changes as a result of those cues in each leg of the triad.

This was a profound insight

12/ It meant, for instance, that business expertise MAY BE EVALUATED. And that it may be trained.

Before we talk about the evaluation technique she invented, we need to talk about the second component of business expertise: cognitive agility.

13/ Cognitive agility is defined as the ability of an exec to update his or her mental models in response to changing situations.

within a distributed team mental model. Researchers must not overlook the fact that decision making at the top is a distributed enterprise, requiring a great deal of coordination within the organization to achieve performance objectives. Assessments of executive decision making may be more effective when we are able to tap into the mental model guiding decisions that evolve over time, rather than looking into specific traits or attributes of the decision makers themselves. The term *mental model* refers to mental structures that instantiate long-term domain knowledge and that are used to reason through a specific task. Mental models develop as a function of experience, and are not based on pure logical deduction. Mental models enable simulation; that is, decision makers mentally “run” the model to make predictions about possible events in the environment or in a system and to prepare for future outcomes (Gentner & Stevens, 1983). In the present discussion, moreover, mental model is understood to be embedded within emergent complexities of an organization, and to be distributed across organizational members.

Furthermore, decision-making expertise may be best understood as a developmental process. Given the volatility of markets and the complexity of team decision making in large organizations, we need not be as concerned with the general cognitive ability of today’s executive so much as his or her domain-specific expertise

and cognitive agility, which is often associated with the kind of intuitive expertise developed through experience. Cognitive agility is what allows executives to rapidly respond to changing situations and revise guiding mental models to meet performance demands. In sum, these insights require us to shift away from thinking of the cognitive ability of business leaders as fixed and static, and instead to focus on the way in which expertise evolves over time in response to dynamic environments. It also requires us to discard attempts to locate decision-making expertise as a fixed capacity that resides within the individual decision maker.

(<https://pbs.twimg.com/media/E6yrG2xUcAEc800.jpg>)

14/ Cognitive rigidity is the opposite: where the person is impervious to new data, and is 'dominated by a rigid framework or paradigm that acts to filter out new, possibly relevant, information, creating blind spots.

Building on theories of emergence, adaptation, and flexibility from complexity science and NDM, we use the term *cognitive agility* to refer to the extent to which an individual revises his or her evaluation of a situation in response to data indicating that conditions have changed. The converse is *cognitive rigidity*, where the person is impervious to new data, being dominated by a rigid framework or

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266

Lia DiBello, Whit Missildine, and David Lehmann

paradigm that acts to filter out new, possibly relevant, information, creating blind spots (DiBello, 1997).

(<https://pbs.twimg.com/media/E6yre1qUYAIGiOB.jpg>)

15/ This explains a LOT. I've written about how I am uncomfortable with frameworks in the past, because I've often been put in situations in business where no framework could fully explain the effects I saw around me. I've grappled with this topic a lot: [commoncog.com/blog/reality-w...](https://commoncog.com/blog/reality-without-frameworks/)
(<https://commoncog.com/blog/reality-without-frameworks/>)

16/ In fact, I've also observed that the WORST people to hire in a startup environment are those with high 'cognitive rigidity'. I even wrote an entire blog post attempting to pin down that property: [commoncog.com/blog/dismissiv...](https://commoncog.com/blog/dismissively-stubborn/)
(<https://commoncog.com/blog/dismissively-stubborn/>)

17/ DiBello got there more than a decade before I did. I was delighted to learn that other businesspeople have noticed:

For this chapter, we will present a case in which we used the Profiler to assess the senior management team of a medical device company. Our relationship with the company began when the chairman and acting CEO asked us to evaluate his senior staff for succession planning purposes. In particular, he wished to decide who, among the division presidents, would succeed him as the CEO. At the time, the company was growing very rapidly. During the four months we worked with the company between 2005 and 2006, we saw them grow from \$300 million to \$400 million. A pending acquisition was intended to increase the company's size to \$600 million by 2008.

The CEO of the company was aware that there is a qualitative difference between *competent* managers, who do very well in interviews or on personality tests, and *experts*, who can perform under challenging conditions. He wanted to protect himself from competence at a time when his industry was in a high growth phase. He was afraid that a favorable market might be masking a lack of skill—and cognitive agility in particular—among his senior staff.

(<https://pbs.twimg.com/media/E6ysiTXVUAIptI9.jpg>)

18/ The key point that DiBello makes re: cognitive agility is that it is by far the more important skill when it comes to business. More important than general problem solving ability.

And she developed a way to evaluate it, too.

19/ I'm skipping over a lot of methodological detail to justify the assessment, which you can read in the actual paper: wtri.com/wp-content/upl...
([https://wtri.com/wp-content/uploads/2015/06/Informed-By-Knowledge-Chapter-12.pdf](http://wtri.com/wp-content/uploads/2015/06/Informed-By-Knowledge-Chapter-12.pdf))

One last thing before we talk about the assessment. Expertise in a given company is by nature a form of distributed cognition.

20/ The implication is that the entire exec team has to be evaluated together, because deficiencies in some legs of the triad may be shored up if some members have it and others don't. The best business experts have all 3, of course.

But a team can collectively have all 3 too.

21/ DiBello's core innovation is something called a Profiler. It takes a similar company in the same industry, extracts public information about said company,

and then presents it to execs.

The execs are asked to predict performance of that company, given cues in the data.

Specifically, the Profiler asks users to answer several questions about the company to predict how its finances will develop over the next five years. Users' answers are evaluated in terms of Dreyfus's five-stage model of expertise (discussed above) to determine their business acumen and level of expertise within the domain of business strategy. The Profiler also helps us identify blind spots in users' thinking; that is, we can discern areas where users seem to miss aspects critical to the company's performance. Moreover, for each prediction or judgment users must indicate the specific materials they relied on, such as discrepancies in annual report statements or the general state of the company's finances. This aspect of the Profiler taps into the heuristics that are guiding users' decision making.

(<https://pbs.twimg.com/media/E6yu2q9UcAIganZ.png>)

22 / The questions ask users to evaluate that company with respect to its (you guessed it!) strategy, leadership, and finances.

These questions are predictive of expertise because they map closely to real world decision-making these execs have to make.

strategy, leadership, and finances. These are areas that senior executives would be expected to make valid predictions about and are good ways to reveal their underlying business expertise. For example, a question about finances would be: As the senior manager for the business, which aspect of financial performance most urgently requires your attention? This question would then be followed by a series of options, such as "cost of goods sold," "fixed assets," "receivables," or "R&D." To answer this question—that is, to know what is troubling or of concern in the total context of the company at that time—the user must understand operations, finance, and market trends. Answer options reflect levels of expertise, 1 through 5, corresponding to the five stages in the Dreyfus model. The "correct" answer is empirically determined. Because these are actual cases, the outcomes are known and the root causes of prob-

tems have been identified.

In addition to these Dreyfus questions tapping their business expertise, users are asked to provide three predictions that refer to quantitative outcomes in the company's performance. These questions can vary slightly, as the instrument is customized according to a company's needs; however, they will ask about issues, such as profits and revenues, that are indicative of how well a user can synthesize information about the company to predict real-world outcomes. For example, we may ask: What is your prediction of the company's profits for the next 12 months? Users then indicate their answers along a 5-point Likert scale whose points are labeled appropriately, for instance, in the preceding example, options may range from "down 20% or greater" to "up 20% or greater."

(<https://pbs.twimg.com/media/E6yv384VUAI0CvV.jpg>)

23/ Then, the users are presented with the next year of results, and they are given feedback on their predictions.

This is how DiBello is able to evaluate cognitive agility.

Users then go on to Year 2. After reading through the Year 2 materials, they are able to see whether or not their predictions were validated by the company's performance. In other words, they receive feedback as to the accuracy of the previous year's predictions. They repeat this exercise for five years of material, making predictions and getting feedback as to whether or not their predictions have been validated. This iterative process taps into users' cognitive agility, allowing us to assess the degree to which users are able to revise their thinking in the face of feedback about company performance and their own predictions. Cognitively agile individuals learn from their inaccurate predictions or judgments and improve as they go along.

Furthermore, we can see persistent blind spots that may exist and occur consistently across all five years. Thus, the Profiler can provide windows into the acumen, blind spots, mental models, and agility with which users approach complex decision making for a real company. It is important to keep in mind that all of the data provided are from real companies. We do not determine the outcomes, as they are taken from actual annual reports and actual finances over a given period of time.

In addition to evaluating users' direct responses to the Dreyfus and Likert questions, we also ask users to point to sections of the material they reviewed (including statements in the annual reports and financial summaries) that informed their decision on a particular question. For example, the annual report might mention a recent acquisition. This may reflect a strategic turning point for the company. As such, after users respond to the question on strategy, they must indicate what sections of the

material influenced their decision. Users are allowed to choose up to five reasons for their decision. In this case, users should be aware that the recent acquisition plays a major role in the company's strategy going forward, even if this is not immediately

(https://pbs.twimg.com/media/E6yz9b_VEA0Q6c6.png)

HOW DO YOU FIND AN EXPERT?

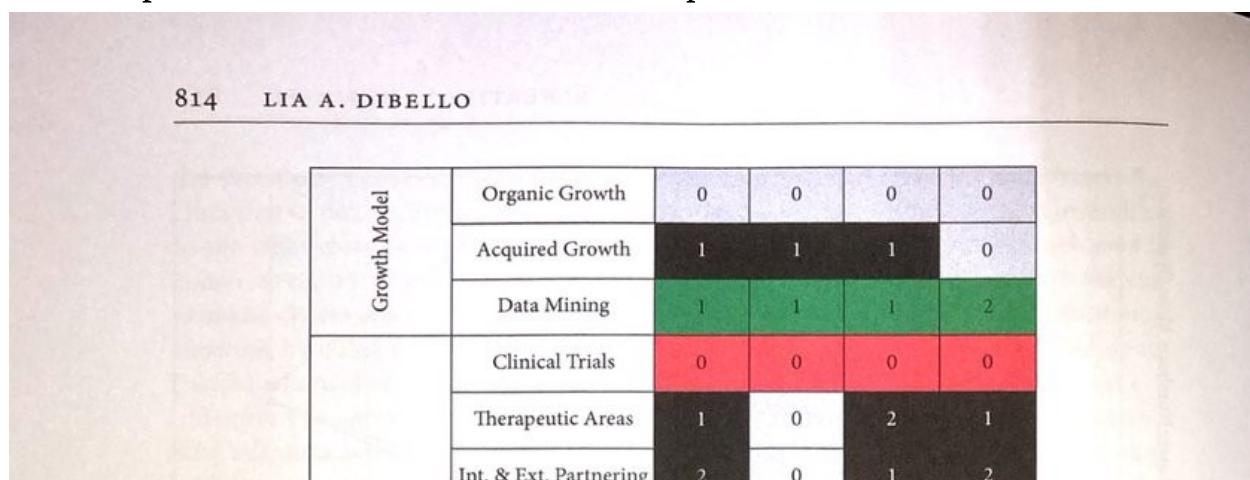
209

obvious. As such, when users answer this particular strategy question, they should be pointing to the acquisition as a basis for their decision. This not only allows us to evaluate the expertise and accuracy of their responses, but also gives us a window into the kinds of information they use to approach the decision-making process. Furthermore, this aspect of the Profiler allows us to determine whether users are utilizing information based on the three core areas listed above: supply, demand, and finance. Specifically, we can see whether users approach the questions in an expert manner by evaluating the degree to which they are paying attention to these core areas as they make decisions.

(<https://pbs.twimg.com/media/E6yz-QsUYAIfAJJ.jpg>)

24/ The end result is that DiBello and team can generate a heatmap of exec team blindspots, and use that to guide their interventions/training.

Here's a picture of an actual Profiler heatmap of an exec team:



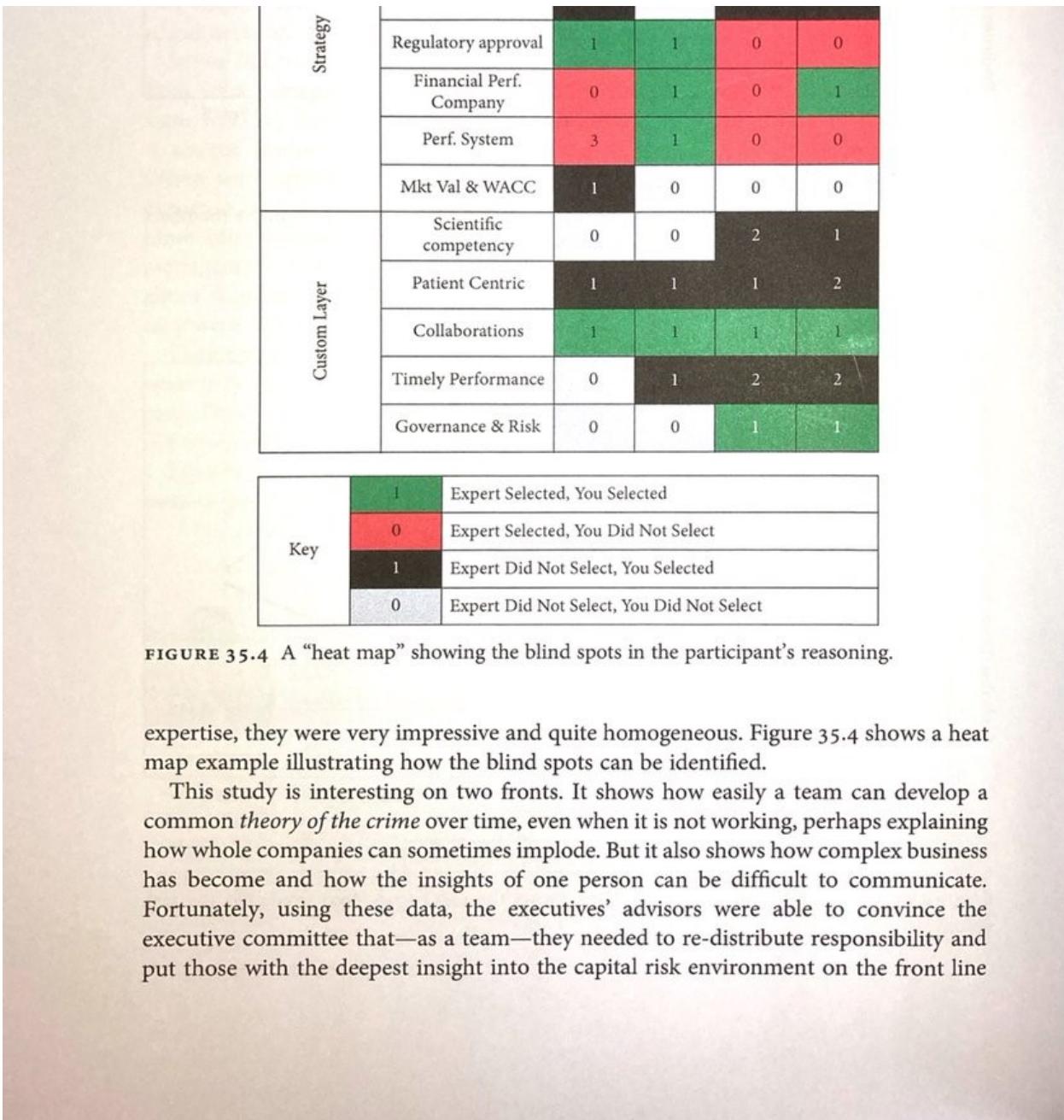


FIGURE 35.4 A “heat map” showing the blind spots in the participant’s reasoning.

expertise, they were very impressive and quite homogeneous. Figure 35.4 shows a heat map example illustrating how the blind spots can be identified.

This study is interesting on two fronts. It shows how easily a team can develop a common *theory of the crime* over time, even when it is not working, perhaps explaining how whole companies can sometimes implode. But it also shows how complex business has become and how the insights of one person can be difficult to communicate. Fortunately, using these data, the executives’ advisors were able to convince the executive committee that—as a team—they needed to re-distribute responsibility and put those with the deepest insight into the capital risk environment on the front line

(<https://pbs.twimg.com/media/E6y2d-AVcAI-upu.jpg>)

25/ Some of these intervention stories are wild. For instance, DiBello and team was called to do an assessment for a financial services company in the wake of the 2007 financial crisis. The exec team disagreed with the CEO and wanted to oust him. (Oxford Handbook):

instruments have proven to be extremely reliable predictors of expertise for both executives and—more important to our clients—executive teams, and are routinely used by companies for succession planning, executive coaching, and executive committee coaching. They are also useful for observing what is *broken* in the thinking of an executive or a team of executives. What follows is an example of how the instrument was used to help a *broken* team.

An Example of a Broken Executive Team and One Expert

Having a useful model of an ideal business expert that has stood the test of time for ten years has been useful in helping companies find out what is lacking in their executives. Comprehensive business expertise rarely occurs in one person; more likely, it occurs among an executive committee or team, and for the most part, it is more useful to ensure that—as a team—an executive committee is working as an expert.

One of our most dramatic cases was a financial services company in Europe which was badly hurt in the sub-prime mortgage crisis in 2007–2008. This company is not a *bank* in the normal sense, but the kind of services company that has other banks or countries as its customers. Being on the brink of implosion was a crisis not only for the company, but for its country. The executive committee had a misunderstanding of mortgage risk and reinsurance enormous holdings of extremely risky subprime mortgages. In order to survive they had to borrow \$3 billion overnight with an interest rate of 12 percent, with pre-payment penalties of 44 percent. We used one of our online assessments to elicit the working mental model of the executive committee and their staffs. About 70 people were evaluated. Our assessment revealed that the entire issue was caused by a failure to anticipate a market crisis that was obvious to many experts outside the company. Unfortunately, it is common for an entire executive committee to

~~outside the company. Unfortunately, it is common for an entire executive committee to share a blind spot that can cascade down through major decisions.~~

The assessment used here was a version of our online business simulation in which each participant must solve a business mystery by predicting what will happen over the course of a business's life in one-year intervals after being given a year's worth of data at a time and *judge* the actions of the executives in the case. We chose an actual *case* that was similar to this company's but which encountered its challenges in a different time of history. In contrast to their company, the company in the *case* had not made the same mistakes. After removing all identifying information—including dates—we presented each person with five years of material, one year at a time, and asked them to examine the company's data, decisions, plans, and declarations and predict the outcomes of the following year and judge the actions of the executives. We use a scoring scheme designed to evaluate the presence or absence of our model of an *ideal* business expert. We also ask the participants to choose the *clues* in the material that drove their thinking. Each *clue* is like DNA or fingerprints at a crime scene. An expert will not only see that it is significant, but *what* it signifies. Therefore, if the participants predict that

(<https://pbs.twimg.com/media/E6y3jWeVcAMObGT.jpg>)

812 LIA A. DIBELLO

the executives in the case do not see that a market downturn is coming and choose the clues that in fact are an early warning sign of that fall, we can see that they are attending to the right clues in the *market* portion of the model. Each question and each *clue* is coded using an association matrix that links back to the model. From this we can generate charts of a person's mental model compared to an ideal *expert*, and a *heat map* showing by color where good clues were identified and where there are blind spots (black) where clues were overlooked.

Figure 35.1 shows some material that a participant would examine. The question and clue selection screens are all online and involve easy clicks. The participant can stop mid-stream, save their work, and come back to it later. The idea is to replicate the actual decision process of busy business executives.

In real life, the banking executives were having a particularly difficult crisis as a team. They were having serious disagreements with their CEO about how to recover. Some were working behind the scenes to have him removed by the board of directors. A unique feature of our instrument is that it can show how a *team* is thinking. When we mapped the executive team's results—as a team—on the dimensions of expertise critical to their recovery, we found that they were at risk for making the same mistake again due to a shared blind spot in the area of finance and risk management. The only person on the team who could mentally simulate the eventualities accurately was the CEO with whom they were violently disagreeing and whom they were trying to depose.

Figure 35.2 shows the teams' results on this important dimension. This chart shows what they predict will happen in the case versus what actually happened in the real case. They did not see the impending disaster (the executives in the case did) and did not agree with what the executives in the case did to prepare.

Figures 35.3 and 35.4 show the CEO's predictions on the same instrument. As can be seen, he predicted exactly what happened in the case. On other dimensions of business



FIGURE 35.1 Material from CAAT.

(<https://pbs.twimg.com/media/E6y3kONVkAEIvh0.jpg>)

26/ But only the CEO showed high predictive accuracy for financial risk in the Profiler. With the results of the cognitive assessment, DiBello and team convinced the board of the firm not to fire the CEO.

Like I said, wild.

814 LIA A. DIBELLO

Growth Model	Organic Growth	0	0	0	0
	Acquired Growth	1	1	1	0
	Data Mining	1	1	1	2
Strategy	Clinical Trials	0	0	0	0
	Therapeutic Areas	1	0	2	1
	Int. & Ext. Partnering	2	0	1	2
	Regulatory approval	1	1	0	0
	Financial Perf. Company	0	1	0	1
	Perf. System	3	1	0	0
	Mkt Val & WACC	1	0	0	0
Custom Layer	Scientific competency	0	0	2	1
	Patient Centric	1	1	1	2
	Collaborations	1	1	1	1
	Timely Performance	0	1	2	2
	Governance & Risk	0	0	1	1

Key	1	Expert Selected, You Selected
	0	Expert Selected, You Did Not Select
	1	Expert Did Not Select, You Selected
	0	Expert Did Not Select, You Did Not Select

FIGURE 35.4 A “heat map” showing the blind spots in the participant’s reasoning.

expertise, they were very impressive and quite homogeneous. Figure 35.4 shows a heat map example illustrating how the blind spots can be identified.

This study is interesting on two fronts. It shows how easily a team can develop a common *theory of the crime* over time, even when it is not working, perhaps explaining how whole companies can sometimes implode. But it also shows how complex business has become and how the insights of one person can be difficult to communicate. Fortunately, using these data, the executives’ advisors were able to convince the executive committee that—as a team—they needed to re-distribute responsibility and put those with the deepest insight into the capital risk environment on the front line

(<https://pbs.twimg.com/media/E6y3q86VEAEpA8o.jpg>)

during the recovery. As a committee, they could function as an *expert* but only if they knew where the different elements of their expertise resided.

This company did recover, enjoying a doubled stock price in less than a year, but it was by developing a shared understanding of how they were going to divide up running the business and yet keep all the parts linked in the way they ran the committee meetings. In the end, they followed the insights of the one lone wolf in one area, abandoning their preferred notions of what would work while they came up to speed on what he was seeing.

Achieving Expertise with Rehearsal

WTRI fixes a company that is underperforming or failing in the market with custom-designed emulations of our clients' companies which allow companies to *rehearse* the probable future facing their companies, somewhat like a *war game* used in the military. The context of these emulations is a simulation of the world economy with the emulated company and its competitors in it. The idea originally was to help companies adapt to changes in the business world, usually having to do with implementing enterprise information technology, but we realized early on that we are actually helping individuals and teams develop new capabilities for addressing competitive issues in a dynamic economy. Expertise comes from experience, and specifically from experience with difficult and complex problems in which one can link the decision made with the outcome that occurred. It is generally believed that it can take many years of mistakes and reflection to develop enough exemplars to see the pattern between decisions and the outcomes that occurred. Most corporate professional development plans of promotability assume five to ten years before managers can navigate complexity. In today's business world, this learning curve is too long.

With *rehearsals*, *expertise* can develop quickly under the right conditions. In fact, the European financial company discussed in the previous section was turned around with a rehearsal in a very short time, although the rehearsal was extremely complex. Rather than chronological time, cycles of trial and error against a highly visible goal with granular feedback can accelerate the development of expertise. We believe that we are actually accelerating cognitive reorganization of existing procedural knowledge or propelling new levels of expertise with compressed cycles of experience, or both. We are exploring both hypotheses in our lab.

In our rehearsals, we found that compressing time and providing instant feedback could result in five to ten years' worth of expertise in a few short days. If the emulated company resembled the *real* company in a reality-analogous way (from the point of the view of the participants and their experience), the transfer back to the real workplace was immediate and profound (DiBello et al., 2010).

In most cases (see Figure 35.5), we built actual physical models of the company emulated the actual enterprise technologies and the worldwide distribution and economy.

(https://pbs.twimg.com/media/E6y3rOsVoAI5T_L.jpg)

27 / DiBello believes that business expertise relies not on superior analysis, but is

instead on better organisation of knowledge, which allows the expert to perceive better, and therefore make better decisions.

much more complex, we discovered a shared mental model among all of them. Like experts in other domains, business experts rely not on greater analysis or greater information, but *better ways of structuring or organizing their knowledge* (in the sense of Ericsson et al., 2006; Ross et al., 2004). Further, a business expert differs in the *manner in which he or she looks at the business landscape, particularly with regard to what is linked with what and what is important to manipulate*. For those interested in the details of the model, the results of that research are published in-depth elsewhere (DiBello, Lehmann, & Missildine, 2011).

(<https://pbs.twimg.com/media/E6y4QcCUYAAFX3E.jpg>)

28/ As a result, her training methods focus on 'cognitive reorganisation' — she doesn't really aim to teach new mental models, but instead attempts to reorganise what existing domain-specific models they already have, perhaps by establishing the triad organisation in their heads.

29/ Ok, this is the high-level thread. I've written about this body of work (and linked to all the relevant papers) in this week's Commonplace members-only post: commoncog.com/blog/tacit-men... (<https://commoncog.com/blog/tacit-mental-model-of-business/>)

30/ This happens to be Part 7 of my series on tacit knowledge, but also the first part of a new series on tacit business expertise. DiBello's work is fascinating enough that there are still a few elements I have yet to explore.

[commoncog.com/blog/the-tacit... \(\)](https://commoncog.com/blog/the-tacit-knowledge-series/)

31/ For instance, how can we use this if we are business practitioners? My instinct is to use the core expertise model as a syllabus for learning.

Knowing that shape of business expertise looks like a triad of relationships is VERY useful to know.

32/ But the truth is that I'll have to test all of that. And I haven't even gotten into the meat of DiBello's training work.

(Again, if you're not aware, she contributed to Accelerated Expertise, a book prepared for the DoD on accelerating trial and error cycles).

33/ Follow if you'd like more tweets on business or career decision making. I have one on 7 Powers in action that I particularly like:

https://twitter.com/ejames_c/status/1403915367655776259?s=20
(https://twitter.com/ejames_c/status/1403915367655776259)

34/ Or subscribe to my newsletter, if you'd like notifications on new pieces:
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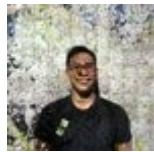
In in Hualien County a private 6ha butterfly reserve is being used to also grow indigo plants, which were a major cash crop until about a century ago. Underneath the trees indigo plants provide food and shelter for the butterflies: excess indigo leaves are harvested and sold.

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Sep 27

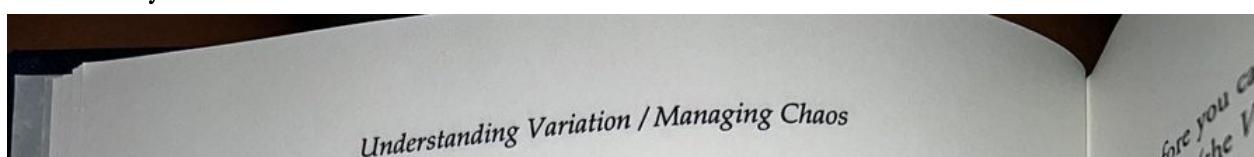
One of my working theories is that all the horror stories about data and incentives are due to lack of exposure to W. Edwards Deming and his ilk.

That, to be clear, includes me.

I mean, look at this! From Understanding Variation, by Donald Wheeler:

“When people are pressured to meet a target value there are three ways they can proceed

1. They can work to improve the system
2. They can distort the system
3. Or they can distort the data”



packing line. As these units passed down the line, the automatic counters would count them as finished units. As a result of this exercise the department would have another "good" month and the foreman would not have to "explain a bad value." Of course, at the end of the year, the warehouse inventory was short by about a million dollars worth of finished product. This shortage got the plant manager fired. Naturally the new plant manager was nervous. He monitored the routine plant data very carefully, seeking explanations for all values which were unfavorable relative to the targets. Since the pressure to perform was maintained, the production foreman continued as before, and at the end of the fiscal year the warehouse was again about a million dollars short on inventory. The second plant manager was fired.

The new plant manager was *very* nervous. He took inventory after only three months. Of course the warehouse was about a quarter of a million short. At this point the manager took action—he built a fence around the plant site and placed guards at the gates. After another three months he had another inventory done—now they were a half-million short for the year! In desperation the manager built a fence around the warehouse itself and placed a guard on the gate. While this finally stopped the shrinkage in the warehouse, the production figures took a considerable dive.

Notice how the emphasis upon meeting the production target was the origin of all of the turmoil in this case. People were fired and hired, money was spent, all because the production foreman did not like to have to explain, month after month, why they had not met the production quota. When people are pressured to meet a target value there are three ways they can proceed:⁵

1. They can work to improve the system.
2. They can distort the system.
3. Or they can distort the data.

5

Brian Joiner came up with this list several years ago.

the system (the inputs affect the desired results. This is an environmental philosophy. Comparing management of the process to the Voice of the Process provides insights into how management can be unable to improve processes in two ways of meeting arbitrary numeric targets of the specification. Data can look favorable or unfavorable, but it does not improve the system.

Therefore, we know that if a system is not meeting its targets, it will not tell us what needs to be done to get out of the situation. An alternative approach may be needed for planning, as specifications are arbitrary.

COMPARISON

There are so many ways to do things. Perfection. We can never reach it. Workers injured, customers frustrated, environment damaged.



(<https://pbs.twimg.com/media/FdrLZLsakAAPrLX.jpg>)

This is way more useful than pithy Goodhart's Law, which goes "when a measure becomes a target, it ceases to be a good measure" — which is great, but what do you DO about it?

Breaking it down to 3 things allows you to target each behaviour separately.



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Sep 27

I say this as a writer, and in the most loving way possible, but there is very little correlation between the frequency and quality of one's writing (or note taking) and one's effectiveness in business or in life.

Yes yes writing is thinking and good writing is good thinking but oh — are you avoiding that important thing that is gnawing at you that is just too painful to face?

Well, bad news, no amount of journalling is going to help you fire that employee or execute that break up.

There are smaller, more pernicious forms of this. Like — no amount of good writing is going to help you go from customer worldview to executed marketing campaign.

Hell, no amount of good note taking is going to help you get from book notes to effective application.



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Sep 20

One of the things that I have struggle expressing that can be viscerally felt is the idea that certain frameworks reduce reality in useful, good ways, while others do not.

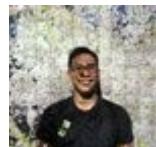
Learning to differentiate between the two becomes important if you want to accelerate expertise.

One example (and I'm sorry about this example, because it's useless to anyone who isn't a Judo player) is that ALL of Judo grip fighting can be reduced to a system of four rules.

Once you learn the four rules, you can see way more when observing a high-level match.

The four rules:

1. Don't let your opponent get a usable grip.
2. If your opponent gets a usable grip, break it.
3. If you can't break it, attack.
4. If you can't attack, get ready to defend or counter.



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Sep 15

1/ There's an old quote, often attributed to Peter Drucker, that goes 'culture eats strategy for breakfast'.

It sounds pithy and wise, but the origins have always been a mystery to me.

Well, it turns out the original context was about execution of strategy.

2/ Quote Investigator has a good 2017 post about the origins. The basic idea is that whatever strategy a company can execute is constrained by existing organisational culture.

quoteinvestigator.com/2017/05/23/cul... (<https://quoteinvestigator.com/2017/05/23/culture-eats/>)

Planning tends to go in cycles. Strategy and operations can be positioned at either end of a continuum. As operational issues become all-consuming, such as in times of severe downturns, then strategy tends to get pushed aside—“**Culture eats strategy for lunch.**” This is similar to dismissing the sales staff during downturns in revenues or orders. It is sales staff that should bring in the new business, yet they just walked out the door.

(<https://pbs.twimg.com/media/FcqwnpmakAITXP4.png>)

More and more management consultants are recognizing these types of problems and are noting explicitly that, because

“culture constrains strategy,” a company must analyze its culture and learn to manage within its boundaries or, if necessary, change it.

Schein also included another precursor expression:^[3]

Yet, if **culture determines and limits strategy**, a cultural mismatch in an acquisition or merger is as great a risk as a financial, product, or market mismatch.

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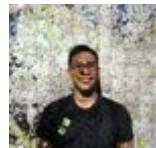
The team’s headquarters was a windowless conference room next to a long row of engineers’ cubicles. The walls of the conference room are papered with charts, goals and timetables. One of Fields’ favorite slogans on the wall: **“Culture eats strategy for breakfast.”**

“You can have the best plan in the world, and if the culture isn’t going to let it happen, it’s going to die on the vine,” Fields said.

(<https://pbs.twimg.com/media/FcqwnpsakAApFJp.png>)

3/ There's another way of looking at the quote, which is that in some industries, in some cases, a company with superior culture beats its competition.

Culture = an interlocking set of mechanisms, incentives, and org structures, unique to the competitor.



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Sep 13

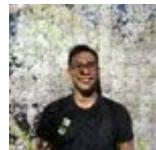
My data hot take is that the most data driven companies run their analyses in Excel in the beginning, the modern data stack be damned, while companies who start out with a modern stack tend to have over-engineered data departments serving execs who prefer to go with their gut.

This is totally not backed by anything more than idle speculation, extrapolating from a very small sample size.

But ... if the company is seeded with really good metrics-driven operational types, they tend to start out with Excel? Because they can't wait for data infra?

“Oh yeah, we figured out that these good outcomes are driven by these five leading indicators, so we have Joe in finance update them manually for us every week. Took us awhile to get there, though.”

“You have who do what how?!”



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Sep 6

I've talked a lot about cognitive task analysis, which is this fairly new (30 yo) technique to extract expertise from the heads of experts.

You know how pros can't tell you how or what they're doing? e.g. “It just feels right”

Yeah, CTA solves for that.

Some podcast clips.

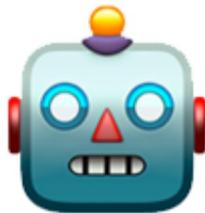
“What are some of the biggest challenges in CTA”

“One major problem is figuring out who, exactly, has expertise (...) often we get recommended people who are well liked (but just not very good)”

Sometimes experts tend to leave out certain decisions that they make. Because it's so intuitive to them.

But this has problems when you're training students.

Clark tells the story of surgeons leaving out a major decision in training, resulting in bad outcomes for patients:



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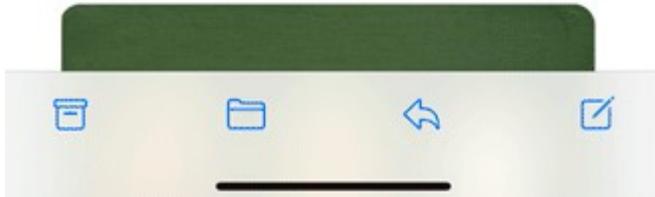


A lot of people are buying extra grains and cereals "just in case" right now. Which is good. Every family should have a few months of food at home, if at all possible. Rice is a good basic staple to keep, and if you can find it, at least half of it could be brown rice.



Brown rice has far more dietary fiber,

minerals, and vitamins than white rice.
White rice is good if you are trying to gain weight, if you are body building, etc. or if you have a weak stomach or problems chewing. Brown rice is better for everyone else.



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