



PANTHERA
SOLUTIONS

THE KNOWING-DOING GAP IN BEHAVIORAL FINANCE

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INVESTMENT DECISION

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INTRODUCTION

As independent applied behavioral finance experts, our consulting and training empowers professional investors to make more rational investment decisions. This article is a sequel to our widely published article on "Ambiguity Tolerance Beats Artificial Intelligence" (Schuller, 2017a). Back then, we have made the case for the primacy of the human investment decision maker, despite the availability of more advanced decision support systems (DSS).

Our related conceptual framework (Schuller, 2017) allows to categorize academic and practical insights on how to embed DSS, like artificial intelligence, in the choice architecture of a professional investment process.

Today's article intends to explore a non-trivial phenomenon within this framework, namely **why professional investors tend to talk more about behavioral finance than actually make use of its insights in favor of more rational decision making**. A phenomenon that was described in the previous article as follows:

- First, many still consider the rational agent model and its related theories and methodologies as state-of-the-art.
- Second, even those considering behavioral finance insights, use it as a monstrosity of knowledge, showing how considerate they are when being aware of cognitive biases while not making use of them.
- Third, those who started working on solutions based on behavioral insights, are rather outward-oriented, trying to sense the sentiment of others (economies, groups of market participants, etc.) for instance through sentiment indices, client questionnaires or cognitive finance.

All three share the same foundation of resistance: decision makers need to adapt their own behavior in response to adaptive markets, but tend to avoid it. Change and related challenges are widely researched in the general management literature.

For the asset management industry instead, it can be considered an under-researched knowledge frontier (Epstein, 2015). The complexity of the task to induce and manifest individual and organizational change has proven to be non-trivial in any field. Citing the doyens of learning organizations, Harvard professors Robert Kegan and Lisa Lahey: *"We all know there is a big gulf between insight and the ability to act upon it."*

ANALYZING THE WHY

For a better understanding of why this phenomenon even more dominantly exists in the asset management industry, we introduce two of our discoveries, derived from academic literature and our professional experience when working with clients on improving their investment processes.

The combination of both is part of our primary research activities, during which we reflect on our own lessons learned, while intending to contribute to the knowledge frontier in our field.

PANTHERA DISCOVERY 1

The least resistant way of changing a person's behavior is the one without awareness

As outlined in previous articles (Schuller, 2017; Schuller 2017a), it is not a matter of choice but of our cognitive default setting that our limbic system manages our thinking process, including by how much the process is influenced by more rational reasoning.

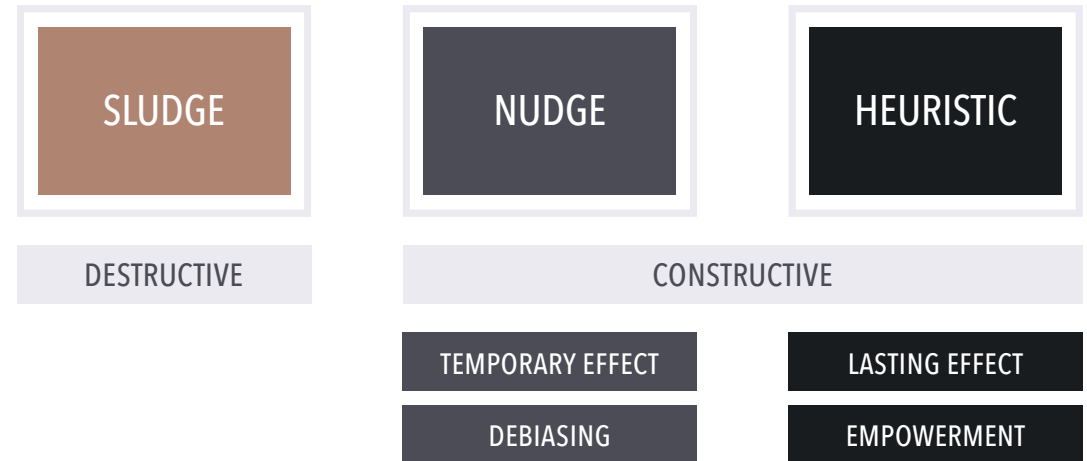
The synapses of our cortex area (rationality/consciousness/System 2) can change the structure of their connections faster (= learning) than S1-related brain areas. For doing so, the cortex consumes large amounts of oxygen and sugar, especially during phases of high concentration also being sourced from other brain areas. Using our consciousness is physically demanding.

As a consequence, our brain operates per default in System 1, with faster and more energy-efficient routines, or in other words by relying on cognitive shortcuts also known as heuristics (Roth, 2003).

The current standard model in cognitive neuroscience considers S1 to be divided into the *preconsciousness*, driven by intuition, and *unconscious-ness*, driven by instincts. Intuition constitutes our long-term memory, in which all our experiences and reflections thereof are condensed. Including intuition in our thinking process increases the likelihood of a more rational outcome (Roth, 2007). The only disadvantage of intuition – it takes time.

Including our instinct-driven, limbic system-based unconsciousness ("gut feeling") in our decision making should be avoided.

In the past, applying behavioral insights was predominantly used to install "sludges" to make us consume goods and services not necessarily in our best interest. The consumer psychology literature is full of those destructive forms of nudges (Shiller, 2015).



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Sludges make use of our cognitive default setting that operates on the basis of heuristics, either intuition or instinct driven. In other words, if our short attention span is not guided towards a more rational thinking, we subconsciously repeat our routines.

System theory and cybernetics have described this phenomenon through the concept of "Autopoiesis", referring to a system capable of reproducing and maintaining itself (Maturana, 1988). It distinguishes between cognition and consciousness as the organism may be unaware of the foundation on which decisions are made.

If changes are introduced through unconsciousness by addressing our limbic system, we might adapt to the new normal without being aware of the change itself. This happens as per default, as we seek for “normality” through which routines can be established that enable efficient forms of Autopoiesis.

These “below radar”-forms of adaptation can even lead to a phenomenon called “unethical amnesia”. When we act unethically, we’re more likely to remember these actions less clearly ([Kouchaki, 2016](#)). It is driven by the desire to lower one’s distress that comes from acting unethically. That is, part of our brain is inclined to avoid ambiguous and complex situations caused by external sources or ourselves.

Let’s reflect on the implications of Panthera’s discovery: Changing a person in a least consciously perceived way might lead to the least resistance, but is it also the most effective way of empowerment? In short, no.

If the goal is to temporarily change the behavior of an individual, empowerment is not needed. One simply has to arouse the limbic system and our instincts will make us respond to it by adapting our behavior immediately. One can even enforce change against the will of an individual, but the result will not be an empowered decision maker with a higher degree of creative and critical thinking, but an assimilated one.

Can one expect a lasting change in behavior when being such enforced? Not necessarily beyond the short term as once the source for arousal is gone, the need for an immediate response fades as well. Though, over time we develop fight-flight response patterns that do change our behavior lastingly. This is the reason why sludges work even today, after generations of consumers were misled by overly promising results in many forms.

If the goal is to lastingly empower an individual, a more conscious form of development is required. And it starts with story-telling. Citing James Hillman, the founder of archetypal psychology: *“The only way a person can change is if they change the story they tell themselves about themselves.”* This can be used as litmus test for whether an intervention might lead to higher or lower empowerment. When applying the test, we can conclude that neither simple interventions like disclosures or traditional education like seminars or keynote speeches, nor nudges are effective intervention methods to lastingly empower the individual (Davies, 2016).

| “Beyond Nudge” | Empowerment | Examples |
|-----------------------|-------------------|--------------------------------------|
| Disclosure | Little, or none | Caveat emptor, Disclaimer |
| Traditional Education | Little, or none | Seminars, Speeches |
| Nudges | None, or negative | Auto-enrollment, Default |
| Engaged Choice | Yes | Just-in-time education, Gamification |

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(modified by replacing “knowledge” with “empowerment”)

As a consequence, the standard change model for an individual can be called dysfunctional. It is defined as follows (Lahey, 2016):

A clear goal + a careful action plan + monitoring of our behavior toward that goal + willpower = successful change

The dysfunctionality is rooted in 2 unrealistic assumptions:

1. That we can consistently apply our willpower.
2. That we can succeed by directly changing our problematic behaviors into desired behaviors.

A more conscious form of development will need to address both assumptions.

ABOUT WILLPOWER

The assumption that people have self-control because they're good at willpower, is increasingly falsified. Self-control and all the benefits from it, may not be related to inhibiting limbic-system impulses at all (Shefrin, Thaler, 1978; Hofmann, 2012; Inzlicht, 2017). Instead, recent research suggests a few lessons we can draw from people who are good at self-control (Resnick, 2018):

- „Want to“ goals are more likely to be obtained than „have to“ goals – **meaning matters**
- Structure your life in a way to avoid having to make a self-control decision in the first place, by having learned better habits – **choice architecture matters**
- Some people just experience fewer temptations by being high in conscientiousness – a personality trait that can also be influenced by genetics (Power, 2015) – **genetics might matter**

ABOUT DIRECT CHANGE

The Hillman quote on facilitating change by changing the story we tell ourselves about ourselves, summarizes well why a direct change of problematic to desired behavior is not possible. A lasting, more conscious form of change requires rewriting our narrative identity (McAdam, 2013) by adapting our mental immune system (Kegan, 2009).

NARRATIVE IDENTITY & MENTAL IMMUNE SYSTEM

The “narrative identity” is the unwritten, unspoken and usually subconscious story that defines a person’s role with regards to who we are, what we do and why we do it and is constantly operating as a template for our actions (McAdams, 2013). To rewrite one’s own narrative, one has to intervene the mental immune system.

Like the physical immune system, the mental one comes with a self-protective purpose, namely to protect us from the psychological trauma and danger that sudden change can bring (Kegan, 2009). The very same immunity to change can also hold us back from making significant positive changes in our lives. Our mental immune system is often rooted in unexamined beliefs. Therefore, rewriting our narrative begins with instilling a more conscious set of beliefs (Sholl, 2011).

Building on Ronald Heifetz’s distinction between “technical” and “adaptive” challenges, personal-change goals can be categorized as adaptive. Adaptive change requires a shift in mindset, not just behavior (Heifetz, 2009).

FRAMEWORK FOR CHANGE

We are now one step further in creating a framework for change that draws from the science of the brain. At the heart of it is the idea that empowerment requires redirecting attention to change the functions of a brain. It follows what literature calls neuroplasticity (Schwartz, 2003). When consciously changing attention, we can influence the facilitation of self-directed neuroplasticity (Rock, 2009).

CONCLUSIONS

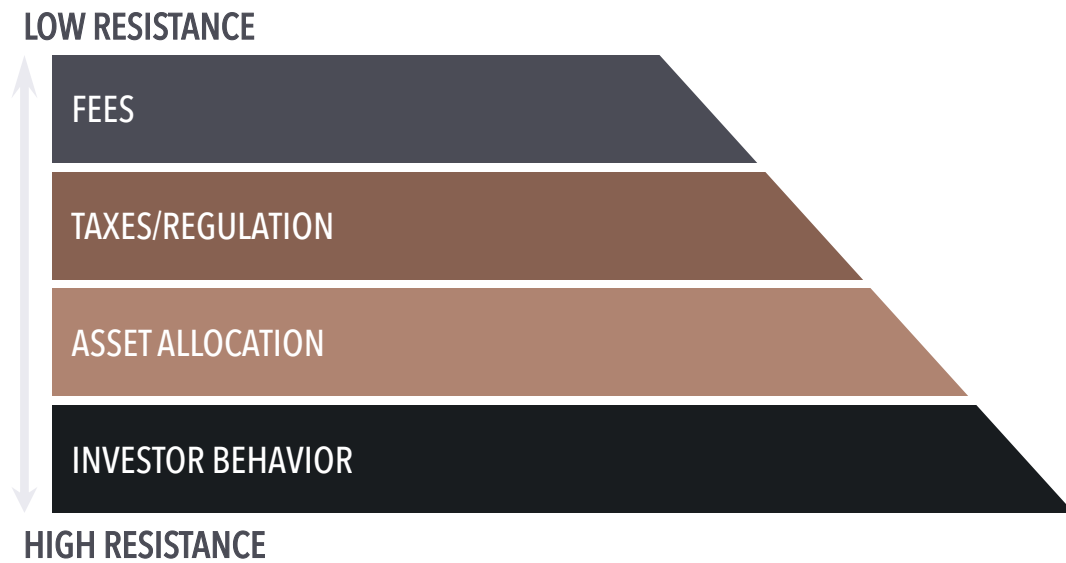
- To lastingly empower an individual decision maker towards more rational decision making, sludges are to be avoided, choice architecture-embedded nudges and intuition-driven heuristics are to be used.
- The aligned choice architecture is of relevance to minimize the dependence on willpower.
- A periodic reflection on our heuristics-driven narrative function is a key element of the choice architecture to support desired behavior, as it can minimize the prohibiting effects of contradicting beliefs that compose our mental immune system.

PANTHERA DISCOVERY 2

The less personal the variable to be Optimized in an investment process, the lower the resistance

As described in our article "[Survival Strategy: A Learning Investment Team](#)", throughout our consulting work we gained the insight that when optimizing an investment process, levels of organizational resistance change depending on the optimization goal. Minimizing fees, for instance, triggers low organizational resistance.

For example, the re-allocation into ETFs or the re-negotiation of transaction fees with brokers can be named. As a general rule, professional investors acknowledge the advantages and follow the collaboratively prepared recommendations. Professional investors are equally willing to act when it comes to optimizing tax structures or implementing regulatory changes.



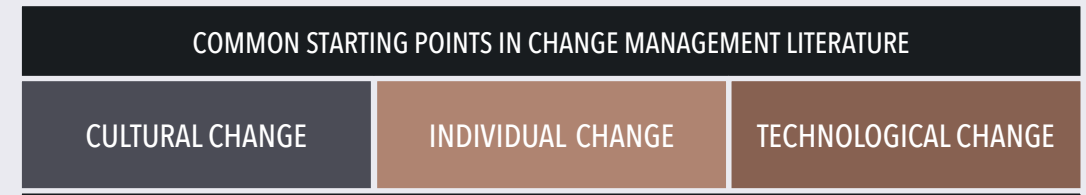
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As shown in the diagram above, increased organizational resistance can be viewed in relation to Asset Allocation-related topics. With respect to subject-specific input on methodologies, resistance is low where professional investors are academically or professionally socialized and increases as this input moves beyond the academic or professional socialization of the professional investor.

For example, if a CIO, trained during his university years in modern portfolio theory (MPT), applies the mean-variance optimization, a request to use minimum-variance optimization will likely encounter little resistance. If the same CIO is asked to switch from correlation-based risk management to causality-based risk management, the resistance level will likely increase because this goes beyond the CIO's original professional socialization. Resistance is usually greatest when the investment process variable relates directly to the individual, like optimizing the daily work routine, configuring the team role profiles, or reducing the knowing-doing gap, as shown in the bottom layer of the diagram above.

STARTING POINTS FOR INTERVENTIONS

Change management literature approaches the change of the individual through interventions from a cultural or technological perspective.



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Cultural change is the result of individual behavior and not its starting point. Technological change as starting point induces the notion of assimilation and not adaptation. In a relatively static environment, with traditional forms of leadership (autocratic style, hierarchical top-down delegation, non-inclusive choice architecture) being applied, technological change could lead to a change of behavior, but not to empowerment. It doesn't pass the test of what Heinz von Foerster calls the ethical imperative: *"I always act so as to increase the number of choices."*

Both, the cultural and technological angles, are invalid starting points to induce lasting empowerment as they are not targeting the individuals' response elasticity. Both try to invert the cause-effect logic in change management, trying to avoid the most challenging, thus most yielding trigger for change: the individual.

Lasting individual empowerment leads the way to more adaptable individuals and, as a consequence, organizational behavior. Ambiguity and complexity tolerance allows a more reflected list of heuristics through which an individual perceives the world. Thus, if the perceived world changes, some heuristics might have to be adapted either through replacement, change in weight or by adding complementary heuristics to the individual's adaptive toolbox.

The toolbox itself provides a framework for non-optimizing visions of bounded rationality, emphasizing psychological plausibility, domain specificity and ecological rationality (Gigerenzer, 2001).

When starting with individual empowerment, it has proven ineffective to reduce it to leadership traits. The field of *leadership development* has overattended to *leadership* and underattended to *development* (Kegan, Lahey, 2009). Libraries are full of literature that tries to identify the most important elements of leadership and help leaders to acquire these abilities.

Though, without a better understanding of human development, relevant for all individuals in an organization, leadership development rather turns out to be leadership learning or training (Kegan, Lahey, 2009). Both represent a rather superficial development perspective, whereas empowerment enables the individual to a more fundamental adaptation in making meaning.

Only recently, cognitive neuroscience showed that a) the adult development dimension in organizational learning theory represents the key success factor and b) that qualitative changes in our mental equipment after adolescence are achievable (Kegan, Lahey, 2009). Citing Harvard Professor J. Kotter to summarize the above: *"The central issue is never strategy, structure, culture, or systems. The core of the matter is always about changing the behavior of people."*

CONCLUSIONS

Organizational resistance increases the more personal the matter.

If lasting change is the goal, there is no short-cut to starting with empowering the individual, thereby making it personal.



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