
THINK TANK



Behavioral Economics Key to Maximizing Human -Technology Engagement in a Digital Supply Chain

By Mark Cotteleer and Tim Murphy

In an effort to make high-stakes decisions easier, supply chain practitioners are increasingly turning to advanced analytics and real-time sensor technology for insights. Ironically, many executives find that these enabling, time-saving technologies, and the mass amount of information they derive, can often make the decision making process more complex and, at times, overwhelming. This technology conundrum begs the question: how should technology and humans work together?

We may be able to find direction on how to navigate these issues through the emerging field of behavioral economics. By combining insights from psychology and economics, we are offered a clearer lens into how people think. When we look closely, we find that seemingly fact-based decisions can be fairly irrational. Research has revealed that our judgments and decisions are frequently biased, influenced as much by our own proclivities as by any available data. When making decisions, humans often rely on mental rules of thumb, commonly referred to as heuristics. These heuristics trigger people to make sweeping generalizations, disregard statistical probabilities, and demonstrate a high degree of overconfidence in their personal judgments.

For example, the behavioral concept of present bias demonstrates that we routinely overvalue near-term payoffs versus long-term benefits. This explains why many of us save too little, eat too much, and many times, defer making any decision at all when confronted with too many options. Not surprisingly, this same form of bias can have significant implications for businesses as well.

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We can see this dynamic at work within the supply chain, when an inventory manager “calculates” how much of a given product needs to be ordered to keep production lines running optimally. The inventory manager may consult the ERP system, check historical replenishment patterns and make an assessment within the context of current economic conditions. But few stop there. In the Deloitte report, [“The Answer is 9,142: Understanding the Influence of Disruption Risk on Inventory Decision Making.”](https://dupress.deloitte.com/dup-us-en/deloitte-review/issue-14/dr14-the-answer-is-9142.html) (“<https://dupress.deloitte.com/dup-us-en/deloitte-review/issue-14/dr14-the-answer-is-9142.html>”) we find that inventory managers, when confronted with the possibility of a supply disruption, routinely disregard analytical approaches and instead rely on their knee-jerk judgments to make important decisions. While this is hardly an Earth-shattering revelation, prospect theory in behavioral economics reveals an unexpected result: when faced with a low probability of disruption, most people will overreact, yet when the probability of disruption is high, there is a tendency to underreact. In the case of our inventory manager, this would likely translate either to unnecessary JIC (just in case) inventory buildup or insufficient buffer and possible threat of production standstill.

Does this mean that even with sophisticated tools and analytics, people will find a way to sabotage their success? Not at all. Leveraging behavioral science, organizations have the opportunity to redesign their technological environments to work in harmony with best practices from human psychology.



Consider these examples: Doctors prescribe significantly more generic prescriptions when the electronic medical systems they interact with automatically defaults to the generic equivalent, regardless of whether the brand name was originally input. Similarly, we are more likely to invest in our future if we are presented with fewer, not more investment options.

Those tasked with managing complex supply chain networks can benefit from similar changes in their own choice environments. For example, in our earlier case regarding supply chain disruptions, practitioners may benefit from having a default in place that requires adhering to the system recommendations unless manually overridden by a superior. Or, if looking to achieve a more sustainable supply chain network, individuals may benefit from analytics that identify fewer potential vendors, rather than a multiplicity of options.

Concepts of modern psychology and behavioral economics have just begun to scratch the surface of how they can positively impact decision making within today's supply chain

organizations. But it is clear that by understanding human tendencies, we can assure that the human spirit remains at the core of our technological future.

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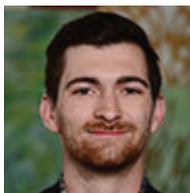
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