

A series of

Thought Papers from Brookings Executive Education

Problem Solving Through Critical Thinking

“Don’t bring me problems; bring me solutions.”

We’ve all heard the saying, which many leaders consider good management practice. But the prescription results in failure more often than success, especially in novel situations. Research indicates that, in most cases, quickly derived solutions solve the wrong problems. In fact, studies have found that top management teams solve the wrong problem 75 percent of the time. An informal polling of more than 1,000 public-sector executives suggests that the percentage rises to approximately 90 percent in government. Because they fail to formulate problems, individuals and teams often jump to solutions before they’ve identified the right problem to solve, which leads to advocacy instead of analysis. Premature conclusions also eliminate inquiry — one of the pillars of critical thinking — into the true nature of the challenge.

My colleague Nick Argyres and I outlined the importance of critical thinking and inquiry in our December 2018 article in the academic journal *Strategy Science*. We examined the relationship between problem formulation (what we refer to as strategizing) and strategic decision making. Although management theory, education and practice provide many tools to assist in decision making, these tools almost always assume that the problem is known. Without inquiry to discover and validate what the real issue is, strategic decision making may be fundamentally flawed.

Problem formulation has a profound effect on both the development and implementation of strategies that create and capture value. The concept isn't new. Albert Einstein and his co-author Leopold Infeld wrote that "the formulation of a problem is often more essential than its solution." Our proposition has a slightly different take: "The formulation of a problem is essential to developing a valuable solution."

To illustrate our point, we highlighted a case study on a family owned, Midwestern beer distributorship that was confronting a multitude of long-term trends that could affect its profitability and, potentially, its survival. The owner had been a major-city beer distributor for more than 45 years. Yet despite his exclusive contract with AB InBev, his business was flagging as the demand for premium beer was declining. His son came up with a solution for turning things around: get an exclusive, statewide contract to distribute a brand of high-end tequila that was gaining market share. (The tequila isn't an AB InBev product.)

We found that students formulated the distributorship's "problem" in one of three ways. The first, and by far the most-common formulation, was whether to distribute the tequila — and risk damaging the distributorship's relationship with AB InBev. The second formulation, which only a few students developed, was how the tequila can be distributed profitably. And the third

formulation, offered by fewer than 1 percent of the students, focused on the age of the owner and how to create a succession plan that prepares the company's future leader (the son) for a constantly changing industry and business environment that will require entrepreneurial ability for the distributorship to survive and succeed.

Each of these formulations led to different solutions. The first formulation called for a “yes” or “no” decision. The second formulation contemplated the requisite conditions for a business model that could profitably distribute liquor across the state. The third formulation centered on a succession plan and the development of entrepreneurial ability in the owner's son. The students' alternative premises underscored that problem formulation is the necessary antecedent for strategic decision making. All three solutions represented “strategic” decisions — but with dramatically varied potential outcomes.

Critical thinking, as a discipline, began with Socrates, whose method of questioning emphasized reasoning over rhetoric. Aristotle highlighted fallacies in logic that result in incorrect conclusions and promoted valid argument. Through the ages, subsequent philosophers and logicians advanced the field of study. American philosopher and educator John Dewey coined the term “critical thinking” in the early 1900s. All too often, though, critical-thinking tools emphasize the logic of solutions rather than the discovery of the right problem to solve. Developing processes of inquiry that pinpoint the correct problems the first time is pivotal.

The critical-thinking approach we teach at Brookings Executive Education is based on a curriculum-development initiative I co-authored. Called Critical Thinking@Olin, it comprises four components: processes for mitigating biases and promoting problem formulation; sets of questions and probes that encourage the comprehensive formulation of the challenge and help

ensure the right problem is solved; standards that enable practitioners to evaluate the quality of their thinking; and disposition and reflection, meaning individuals are responsible for their own learning, assessment and improvement.

This approach to critical thinking can be expanded to teams. A team of individuals introduces additional challenges to the process, however. Team members frequently compete over solutions because of their personal knowledge, ego and self-interest. Unfortunately, this type of conflict precludes formulation and narrows the range of potential solutions the team considers. These impediments can be overcome by paying close attention to the process of inquiry and supporting it with specific facilitation techniques.

In sum, critical thinking is required for problem formulation, which, in turn, is crucial for strategizing and strategic decision making. Public-sector leaders address some of our nation's thorniest challenges. Let's make sure these leaders have the tools to tackle complex situations wisely.

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