

# A R T I C L E S

## ESCALATION OF COMMITMENT: WHEN TO STAY THE COURSE?

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**When an important venture seems to unravel, decision makers may face a dilemma. Do they persist and risk becoming caught up in a spiral of escalating commitment, or “apply the brakes” when they may be within an ace of success? Escalation of commitment is thought to be a ubiquitous and costly mistake. Yet sometimes organizations should “press on the accelerator” and stay the course despite adversity. This paper explores what might drive organizations to erroneously abandon a potentially successful venture.**

Through adversity to the stars.

Motto of the British Royal Air Force

In 1961 a remarkable event occurred in the Libyan desert. For seven fruitless years an entrepreneur named Bunker Nelson Hunt and British Petroleum (BP) had drilled for oil. Finally, operatives were told to stop and come home. This is not what they did, however. Giving it just one more chance, the rig superintendent drilled another 3 meters into the sand before removing the bit and, in doing so, uncovered Hunt’s ace. That extra 3 meters made all the difference in the discovery of what was to become one of the world’s largest oil fields (Fay, 1982).

Almost any venture involving uncertainty can fail. When an important venture appears to falter managers may face a dilemma: Do they quit or continue? Instead of culling poor projects, managers may reinvest in them well beyond an economically defensible point, a phenomenon known as escalation of commitment (e.g., Staw, 1976). Examples abound. The U.S. Air Force wasted six years and \$1 billion on a new combat support system that didn’t work (Stross, 2012). It took six years and losses of at least £850 million to persuade Tesco that its plan to storm the United States via its “Fresh and Easy” brand had failed (Butler, 2012).

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And despite a decade of losses totaling roughly \$8.5 billion, Sony is reluctant to exit its electronics business (Tabuchi, 2014). What drives organizations to throw good money after bad?

The question has intrigued scholars of organization behavior, as evidenced by the burgeoning corpus of research (for reviews see Brockner, 1992; Drummond & Hodgson, 2011; Slesman, Conlon, McNamara, & Miles, 2012; Staw, 1997; Staw & Ross, 1987a). Yet few studies mention the opposite form of error. What might drive organizations to *abandon* an economically viable project, as BP so nearly did?

This question is important because giving up too soon can mean losing stellar rewards. Consider, for example, Pepsi Raw, a new drink made of natural ingredients that was abandoned after a two-year trial in the United Kingdom. Having invested so much, and come so far, should Pepsi have tested the product in at least one other country before giving up? Microsoft sold tablet computers long before the Apple iPad appeared. Should Microsoft have persisted with its invention? Was it wise of Hewlett-Packard to withdraw its first tablet computer just days after launching the product? Apparently only one third of divested foreign operations of U.S. firms were actually unprofitable (Berry, 2013). Were some of those divestments unwise?

We will probably never know if these ventures would have succeeded if pursued. Abandonment can be described as erroneous only if the decision maker’s information suggests there is a reasonable

**TABLE 1**  
**Persistence vs. Abandonment**

<b>Forces for persistence</b>	<b>Forces for abandonment</b>
Overconfidence	Aversion to loss
Sunk costs	Opportunity costs
Perceived need for self-justification	Perceived risk of persistence
Denial	Intolerance of failure
Social costs of admitting failure	Publicly stated limits
Completion effects	Reluctance to renew budgets
Exit barriers/organizational entrenchment	Shifting tides of organization

chance that persistence will yield success. (Discovering Hunt's ace was sheer luck because experience suggested that drilling was futile.)<sup>1</sup> Yet we know that decision makers may quit investing when experience tells them nothing (e.g., Brockner, Rubin, & Lang, 1981; Heath, 1995). Researchers may even have missed instances of erroneous abandonment because they were not looking for it (Heath, 1995).

These contraindicators suggest that it may be important to educate managers to avoid escalation as well as the opposite form of error, which is giving up too soon (Heath, 1995). For instance, which is worse, giving up too late or too soon? This question has been ignored by most researchers, perhaps because the focus on avoiding escalation detracts from situations where organizations should press on the accelerator despite adversity. Consequently, there has been little synthesis of the conceptual tools or heuristics that might help an organization stay the course when it is wise to do so. This largely conceptual and theoretical paper begins to address this gap.

Why does the gap exist? Reviewers agree that rather than adding to the long list of potential drivers, we need a more nuanced understanding of escalation (see especially Slesman and colleagues, 2012; Staw, 1997). Exploring the opposite promises to move the conversation in that direction (Camerer & Weber, 1999, p. 80, discusses this point). More specifically, escalation theorists tend to assume that behavior is driven by a small set of one-directional forces. Yet beleaguered managers may confront multiple and conflicting forces. We know a lot about the pressures to persist. We know a lot less about what counterforces may enter the equation and how they may affect the ebb and flow of com-

mitment (Staw, 1997, p. 209). Managers may misallocate resources in adversity. But escalation is not the only mistake they can make (Heath, 1995, makes a similar point).

The gaps in the literature outlined here lead to three focal questions:

1. What might produce a breakdown of decision rationality in the opposite direction to escalation (i.e., abandonment)?
2. Under what conditions are organizations likely to be more prone to erroneous abandonment than to erroneous escalation?
3. How can organizations get decisions more right than wrong?

The exploration of these questions unfolds as follows. First I sketch what are thought to be the main escalation drivers (i.e., the forces for persistence) to create a springboard to discuss why persistence may be justified despite adversity. I then explore what counterforces may enter the equation and discuss under what conditions organizations are most likely to be vulnerable to erroneous abandonment. The paper ends with issues for research and practice.

### **WHAT DRIVES ESCALATION? FORCES FOR PERSISTENCE**

In theory, a venture fails when experience consistently suggests that important expectations will not be met (e.g., Bowen, 1987; Camerer & Weber, 1999). The left side of Table 1 summarizes what are thought to be the main escalation drivers (Slesman et al., 2012; Staw, 1997; Staw & Ross, 1987a): overconfidence, sunk costs, perceived need for self-justification, denial, social

<sup>1</sup> I am grateful to an anonymous referee for this definition.

costs of admitting failure, completion effects, and exit barriers/organizational entrenchment.

### **Overconfidence**

The seeds of project failure are often sown by overconfident planners (e.g., Flyvbjerg, Garbuio, & Lovallo, 2009; Staw & Ross, 1987a, 1987b). More specifically, psychologists believe that most people overestimate their abilities (e.g., Taylor, 1980). For example, Tesco expected to succeed even though several British retailers had failed in the United States (Butler, 2012). Likewise, Tata expected the Nano to be a huge success, but few Indian consumers wanted to own the world's cheapest car.

Organizations use sophisticated planning and forecasting tools to nullify human foibles. But these tools can heighten overconfidence because they are typically inward looking, focused on the organization's capabilities and aspirations and blind to competition and results of similar projects elsewhere (Lovallo & Kahneman, 2003). Although senior managers can revise overly optimistic prognostications, those revisions are rarely drastic enough because the initial cost/benefits estimates tend to act as powerful anchors (e.g., Kahneman & Lovallo, 1993; Kahneman, Lovallo, & Sibony, 2011).

Delusion may be compounded by deception. Politically adroit planners may conceal the true costs of a project and exaggerate the benefits knowing that by the time the truth emerges, they will have moved on. Contractors eager to win work may submit artificially low bids, knowing that overruns will be tolerated (Flyvbjerg et al., 2009; Lovallo, Viguerie, Uhlaner, & Horn, 2007). For instance, Taurus was a £50 million (1993 figures) IT infrastructure project intended to replace the London Stock Exchange's antiquated paper-driven system for securities trading. Stakeholders insisted on a maximum timescale of 18 months. Project managers believed this was highly optimistic—one manager noted that graphs plotting planned deliverables against actuals “were showing delivery at infinity” (Drummond, 1996, p. 98)—but no one protested publicly, and the 18-month timescale proved hopelessly unrealistic.

### **Sunk Costs**

Eventually, chickens return to roost. Costs overrun, deadlines slip, and promised benefits may start to look doubtful. In such cases, managers are

expected to reevaluate the project and persist only if it still makes economic sense. Escalation theorists believe, however, that managers may ignore such advice because they have too much invested to quit (Teger, 1980). In other words, although these sunk costs are irrelevant because they cannot influence outcomes, managers may be reluctant to forgo them (Arkes & Blumer, 1985; Garland, 1990).

### **Perceived Need for Self-Justification**

Part of the cost of quitting may be psychological. To be more precise, self-justification theory suggests that managers who invest scarce resources will be driven to persist to prove to themselves and significant others that their decision was correct (e.g., Brockner, 1992; Drummond, 1994; Staw, 1976).

### **Denial**

Self-justification may be accompanied by denial and other ego-defensive behaviors. For instance, experience in the real world is usually equivocal, capable of both positive and negative interpretation (e.g., Bowen, 1987; Camerer & Weber, 1999). Managers in denial tend to pay more attention to positive experience and information while downplaying or even ignoring negative experience (Nisbett & Ross, 1980; Staw & Ross, 1978; Zhang & Baumeister, 2006).

Since such confirmation traps tend to operate unconsciously, managers may genuinely believe that a success is close when objective analysis clearly suggests otherwise (Conlon & Parks, 1987). For instance, an experiment by Boulding, Morgan, and Staelin (1997) found that 80% of participants persisted with a project even though experience strongly suggested that persistence would end in failure. Rather than quit, participants interpreted experience to justify persistence. Similarly, when Taurus was running over 18 months late, a member of the project-monitoring group said, “I think [the project team] . . . couldn't believe that it wouldn't work. They believed they knew how to make it work but it would just take longer and would cost a bit more” (Drummond, 1996, p. 141).

### **Social Costs of Admitting Failure**

Admitting failure privately is hard; admitting it publicly is harder still. Self-presentation theory

suggests that people strategically manage impressions, striving to appear competent and in control (Goffman, 1959). The theory implies that managers may persist to maintain face (Staw & Ross, 1987b; Teger, 1980). For instance, firms are often slow to deinternationalize operations because the wider business community sees divestment as failure (e.g., Benito & Welch, 1997; Decker & Mellewig, 2007). This may be one reason why Tesco did not abandon its U.S. venture sooner.

### Completion Effects

Even if failure is acknowledged, quitting can be prohibitively expensive—particularly if little can be salvaged from the project (Porter, 1976; Staw & Ross, 1987a). Contractors may levy penalties; there may be redundancy payments, costs of ripping out partially completed work, and obligations on leases. For example, planning for the London (2012) Olympics began in 2005. When the world financial crisis broke in 2008, it was too late to turn back as hundreds of contracts had already been let. Similarly, Tesco expects to pay £250 million to £500 million on top of existing losses to exit the U.S. market (Felsted, 2013).

Ultimately completion rather than success may become all important (Conlon & Garland, 1993). For instance, the technical team realized that Taurus would never work as envisaged. Latterly, all they cared about was finishing the task: “Let’s get the bloody thing done and behind us,” said one manager (Drummond, 1996, p. 140).

### Exit Barriers/Organizational Entrenchment

Over time, formidable exit barriers may be erected. Vested interests may press for completion. For instance, politically adroit executives may be economical with the truth. If so, decision makers may end up focusing primarily on the positive trends and discounting worst-case scenarios, thereby boosting overoptimism (Bragger, Bragger, Hantula, & Kirnan, 1998; Moon & Conlon, 2002). Organizational forces can also perpetuate economically poor projects. An elaborate administrative infrastructure may have been created to support the project. For example, full deinternationalization typically involves major upheaval (e.g., Benito & Welch, 1997). All in all, “sometimes it’s easier not to rock the boat,” concluded Straw and Ross in an article looking at organizational entrenchment (1987b, p. 71).

To summarize these seven forces for persistence, escalation theorists believe that managers may see their predicament as follows. Abandonment means incurring a sure loss—loss of investment and credibility, increased exiting costs, and major upheaval. Persistence offers a small chance of avoiding that loss, but risks seriously compounding it. Prospect theory predicts that when choices are negatively expressed (framed) in this way, managers tend to become risk seeking. That is, a small chance of success and risk of bigger losses is preferable to accepting a sure loss (e.g., Kahneman & Tversky, 1979, 1982; Whyte, 1986).

### WHEN TO STAY THE COURSE?

If decision makers gave up whenever important objectives were not met, projects such as the Sydney Opera House, the refurbishment of London’s Savoy Hotel, and Amsterdam’s new subway system would never have been finished. Indeed, cost overruns and benefit shortfalls of 50% happen regularly in major projects. Even overruns of 100% are not unusual (e.g., Flyvbjerg et al., 2009; Keil & Mähring, 2010). But not all runaways should be culled. In a provocative paper titled “Dollars, Sense, and Sunk Costs,” Gregory Northcraft and Gerrit Wolf (1984) argued that persistence may be economically wise despite severe cost overruns and/or benefit shortfalls. This determination, said the authors, should be based on three factors: (1) the size of the likely cost overrun, (2) the likely benefit shortfall, and (3) the timing of expected returns, known as the “region of rationality” (p. 233). The calculation is beyond the scope of this paper, but the principle is simple: Even though a project will never live up to planners’ extravagant claims, persistence may still make economic sense when future costs and the full range of future benefits are considered. In this view, what matters is net gain.

In other words, projects should be seen not as a series of investments that began in the past, but as a series of investments beginning *now*. For example, consider a filmmaking project. Say the projected cost was \$150 million. So far, actual costs are \$200 million, and the film will cost another \$85 million to finish. Clearly, expectations have not been met. By contrast, expected box office returns are \$200 million. Assuming that a half-finished film is worthless, the \$200 million expected revenues far outstrip the \$85 million cost of completion. Persistence makes economic sense even though it means spending \$285 million to earn \$200 million (Camerer & Weber,

1999). This view of persistence is summed up in the article by Northcraft and Wolf (1984, p. 233):

The more a manager has invested in a project early on, and the larger and later the payoffs, the wiser it is to stay in a project. . . . It should not be surprising that in many cases managers persist in a course of action even in the face of negative feedback. What may need explanation is why a manager may not persist when his or her project is well within the region of rationality.

### FORCES FOR ABANDONMENT

Why might a manager abandon a project that is well within the region of rationality? Theory limits what we see and how we see (e.g., Bacharach, 1989; Whetten, 1989). Escalation theorists stress quitting costs, but persistence is not without cost either. As mentioned earlier, managers may face conflicting pressures, namely the cost of quitting versus the cost of persistence (Northcraft & Neale, 1986). The right side of Figure 1 summarizes the main counterforces for persistence adduced from extant theorizing and research: aversion to loss, opportunity costs, perceived risk of persistence, intolerance of failure, publicly stated limits, reluctance to renew budgets, and shifting tides of organization.

#### Aversion to Loss

Although managers may be overconfident, psychologists believe they are also deeply loss-averse (e.g., Kahneman, 2011; Kahneman & Lovallo, 1993; March & Shapira, 1987). In this view, managers take risks but only because they believe they will probably never materialize (e.g., Kahneman & Lovallo, 1993). But if those risks materialize, managers may start to worry about the cost of persistence and the possibility of financial disaster (Drummond, 1995, 1996; Staw & Ross, 1987a; Wong, Yik, & Kwong, 2006). Moreover, a considerable battery of research suggests that loss aversion can make people too cautious, preferring to avoid losses than realize gains (reviewed in Kahneman, 2011). What factors might amplify the loss prospect?

#### What Might Have Been: Opportunity Costs

Opportunity costs are one possibility. Recall, escalation theorists believe that persistence may be ultimately driven by managers' reluctance to incur a sure loss (e.g., Whyte, 1986). Again, this perspec-

tive is partial because *both* persistence and abandonment entail a sure loss. That is, if a project requires more investment, then "[t]he forgone opportunity to invest those resources elsewhere becomes *a certain and wasteful loss*," (Northcraft & Neale, 1986, p. 350; italics in original). For example, opponents of the U.K.'s proposed superfast rail project (HS2) have argued that the £80 billion investment could generate £320 billion of economic benefits if the money were spent on upgrading roads and existing railways (e.g., Stacey, 2013).

Research has consistently shown that awareness of opportunity costs curbs escalation (Harvey & Victoravich, 2009; McCain, 1986; Northcraft & Neale, 1986)—sometimes even regardless of sunk costs or completion (Keil, Truex, & Mixon, 1995). For example, Northcraft and Neale (1986) found that when opportunity costs were made plain, decision makers were more confident about selling a partially completed project than they were when opportunity costs were largely implicit. Early on opportunity costs may be obscured (Keil & Robey, 1999). As experience becomes more consistently negative, however, managers may worry about the possibility of being held responsible for an even bigger loss—not just sunk costs and additional exiting costs, but the forgone opportunity cost as well (Northcraft & Neale, 1986).

#### “That Decision Makes Itself”: Perceived Risk of Persistence

More consistent negative experience plus growing awareness of opportunity costs is likely to highlight project risk. Research has consistently shown that perceived risk discourages persistence (e.g., Drummond, 1996; Schaubroeck & Davis, 1994; Wong, 2005). For example, when it emerged that Taurus would need another three years plus an additional £90 million to be completed a stakeholder said, “Well, maybe that’s four years and £120 million. There isn’t that amount of value in the project. . . . That decision makes itself” (Drummond, 1996, p. 159).

The risks of continuing with Taurus were huge. Yet managers may be reluctant to accept responsibility even if the probability of failure is small (Kahneman & Lovallo, 1993). Moreover, contrary to what escalation theorists believe, perceived risk may override responsibility effects (e.g., Drummond, 1995; Schaubroeck & Davis, 1994; Staw & Fox, 1977). For instance, Schaubroeck and Davis found that when allocating resources for the future,

decision makers preferred the less risky of two projects regardless of what they chose initially. Moreover, if a potential loss looms large, decision makers may not reinvest, even though their data say they should take the risk (Schaubroeck & Davis, 1994). More recently, Wong and colleagues (2006) found that participants tended to abandon situations causing negative emotions. Indeed, said the authors, escalation predicaments can stir such unpleasant anticipatory emotions that managers feel driven to escape regardless. Similarly, regret theory predicts that people will avoid choices they may subsequently rue.

Those fears may be very real, as the consequences of both persistence and abandonment are uncertain. In experiments, participants are usually provided with reliable information about future costs and benefits. In reality, those estimates can be fraught with error. For example, when Tullow Oil abandoned North Sea explorations to pursue richer possibilities in Uganda and Ghana, shares rose 827%. But some new wells have since proved dry—wiping a third off Tullow's share price (Kavanagh, 2013). So persistence, scaling back, or outright abandonment may reflect what decision makers believe they are least likely to regret (Ku, 2008; Wong & Kwong, 2007). Regret theory implies that if a project seems risky, and managers fear ruing any decision to reinvest, they are more likely to desist than persist—particularly if seemingly attractive alternative investment opportunities beckon.

Managers may sometimes see more risk than is normatively appropriate (e.g., Sitkin & Pablo, 1992; Sitkin & Weingart, 1995). That is, although managers analyze risk cognitively, they also react to it emotionally. Indeed, according to a study by Loewenstein, Weber, Hsee, and Welch (2001, p. 280), “People can experience fear reactions without even knowing what they are afraid of.” To be more precise, emotional reactions to risk are basically substitution heuristics in which “the answer to an easy question (How do I feel about it?) serves as an answer to a much harder question (What do I think about it?)” (Kahneman, 2011, p. 139).

Besides, even when managers analyze risk cognitively, they may be prone to error. This is because projects that are below expectations are usually bad news. The human brain processes bad news more thoroughly than good news (e.g., Kahneman, 2011). Negatives, therefore, tend to weigh much more heavily than positives. For instance, Dunegan (1993) found that projects described negatively (“glass half-empty”) received more intense scru-

tiny than projects described positively (“glass half-full”), even though the two situations are mathematically equivalent. Such negative framing can also lower decision makers' confidence in a project (Kuvaas & Selart, 2004) and reinforce doubts about the wisdom of persisting (Bragger et al., 1998). For example, firms experiencing problems in one country may become more pessimistic about all international operations and scale down activities accordingly (Liesch, Welch, & Buckley, 2011). In short, doubt can be corrosive.

### **Intolerance of Failure**

How do managers resolve their doubts? De-escalation research suggests that far from lapsing into denial, managers soon recognize that expectations are not being met (e.g., Bragger et al., 1998; Drummond, 1995; Monteagre & Keil, 2000). Moreover, far from being obsessed with justifying past decisions, managers may be more interested in being seen as acting rationally in the future to reassert their competence (Staw & Ross, 1978, and Wortman & Brehm, 1975, discuss psychological reactance) through intensified control. For example, managers are likely to place more emphasis on targets and monitoring of results and express intolerance of failure (e.g., Drummond, 1995, 1996; Keil & Robey, 1999). While such hypervigilance can curb unwarranted persistence (e.g., Ross & Staw, 1991; Simonson & Staw, 1992), it makes erroneous abandonment more likely.

### **“Look Good to Quit”: Publicly Stated Limits**

There are two reasons why. First, these measures are also substitution heuristics that deliberately ignore a lot of information. Just as triage enables prompt identification of casualties urgently needing medical attention (Gigerenzer, 2008; Gigerenzer & Gaissmaier, 2011) but risks a live casualty being left literally for dead, targets, limit setting, and so forth stand as surrogates for the state of the project as a whole. “Managers may mistake the map for the territory” (Taleb, 2008, p. xxv) and wrongly declare failure—or use the map as an excuse to declare failure.

Second, limit setting can create social pressures for consistency, resulting in “lock-in.” For instance, Brockner and colleagues (1981) found that individuals who set limits in public (as distinct from those who set limits in private) tended to stop investing when those limits were reached, even

when their economic data said “persist.” Afterward, participants in the study said they thought it would “look good” to quit. In other words, abandonment can also provide a potentially attractive opportunity for managers to strategically manage impressions by appearing resolute and decisive.

### **Reluctance to Renew Budgets**

Organizations use budgets to prevent costs from spiraling out of control. But managers may overreact as budget depletion highlights what persistence is costing. More specifically, research has shown that as budget limits are reached, decision makers tend to decrease investment (Heath, 1995; Heath & Soll, 1996). Moreover, experiments with multistage projects have shown that projects that promise to generate net benefits tend to be abandoned. Abandonment happens even when additional expenditures at a particular stage would not threaten the project as a whole (Tan & Yates, 1995).

This kind of thinking is irrational because budget depletion merely tells managers that a certain amount has been expended; it says nothing about whether the project is still feasible and worth completing on economic grounds. Indeed, the budget may have been inadequate to begin with. For example, most of the cost overruns in the refurbishment of London’s Savoy Hotel were due to contractors discovering hidden walls (Blitz, 2010). Given the age and size of the building, a bigger budget for surprises might have been wise. Yet even sophisticated decision makers may heed noninformative losses (Heath, 1995).

Budget depletion can amplify the loss prospect in other ways. Brockner, Shaw, and Rubin (1979) found that decision makers were more likely to quit a questionable activity if a decision to remain had to be made actively versus passively. Budget renewal usually requires an active decision, forcing managers to confront their options and consider opportunity costs. Furthermore, requests for additional investment may be hotly contested. For instance, powerful coalitions competing for scarce resources may argue that having expended the budget, a project has had a fair chance to prove itself. Such arguments may be hard to resist. Indeed, the fate of major projects can turn on internal politics (Pfeffer, 1981a). For example, it is thought that powerful factions within Microsoft may have killed development of the tablet computer, citing opportunity costs.

### **Shifting Tides of Organization**

Recall that escalation theorists believe that economically poor projects are frequently perpetuated by organizational forces, including entrenched management, organizational politics, and inertia (e.g., Drummond, 1994; Staw & Ross, 1987). Again, this perspective is partial as it overlooks the shifting tides of organizations (Staw, 1997) and managers’ ability to twist and turn accordingly.

Organizations change constantly. By the time problems emerge, those responsible for planning and authorizing the project may have moved on. Thus, diffusion of responsibility can be a counterforce for persistence (Leatherwood & Conlon, 1987; Whyte, 1991). For example, Leatherwood and Conlon (1987) found that freedom to blame a setback on a third party meant less persistence, despite significant sunk costs. We can infer from this study that a new manager faced with a troubled (but potentially economically viable) project may abandon it rather than risk subsequently being held responsible for both losses out of pocket and the forgone opportunity cost should the project ultimately fail. For example, he or she may subdivide a major project into less risky mini-projects rather than risk persisting with the more valuable but more uncertain whole (Schoorman, Mayer, Douglas, & Hetrick, 1994).

Yet those risks may well be exaggerated. To be more precise, although a new manager may have no sunk costs to honor (e.g., Ross & Staw, 1991; Simonson & Staw, 1992), he is not without ego. Ego may lead an incoming manager to devalue his predecessor’s work (Taylor, 1980, discusses this point). For example, research has shown that supervisors may systematically underrate staff if they disagreed with the appointment (Schoorman, 1988) and overrate poorly performing staff they appointed—and make more optimistic predictions about their future performance—than staff they did not personally appoint (Bazerman, Beekun, & Schoorman, 1982).

These studies also imply that a new manager may systematically underrate a project she did not initiate, particularly if she disagreed with it (the “not invented here” problem). So when it comes to calculating the region of rationality managers may unconsciously overestimate future costs and/or underestimate future benefits. Ego may also lead them to overstate the opportunity costs of persistence. A new manager may also succumb to reverse confirmation traps, paying more attention to negative

experience while downplaying or even ignoring the positive. In short, a new manager may be just as biased as his predecessor but in the opposite direction.

Even if the original decision makers are still in post, they may not be as irrevocably bound as escalation theorists think. Politically adroit managers may forget their initial enthusiasm for a project, quietly shuffle responsibility onto other people, and play up alternative investment opportunities. Hindsight biases may also come into play (e.g., Bazerman & Moore, 2009, p. 38; Lovallo, Clarke, & Camerer, 2012) as managers assert that they “knew all along” that the project was doomed. Sensing a sea change, others may judge it expedient to join the bandwagon.

#### UNDER WHAT CONDITIONS IS ERRONEOUS ABANDONMENT MOST LIKELY?

Having discussed the forces for abandonment, the next logical question to ask is this: Under what conditions are organizations most likely to give up too soon? In practice, a project really fails only when people will no longer support it. Or, as Sauer put it, “Failure finally and irreversibly occurs when the level of dissatisfaction [with the project] is such that there is no longer enough support to sustain it” and all work ceases (1993, p. 27).

The most likely scenario is a crisis. For instance, the explosion at Chernobyl in 1986 destroyed the myth that nuclear power was safe, thus paving the way for dismantling the controversial Shoreham nuclear plant (Ross & Staw, 1993). Similarly, the London Ambulance Service abandoned its controversial computerized system when a patient allegedly died while waiting for an ambulance (South West Thames Regional Health Authority, 1993). The patient might have died anyway, the system might have been made to work, but it was abandoned all the same—possibly erroneously because of people’s somewhat irrational aversion to loss. More recently, in 2002, city officials decided to build a new metro line in Amsterdam, even though drilling tunnels below the wooden pillars that support one of Europe’s oldest cities seemed like folly. By 2008 several buildings along the new metro route suddenly sank a few centimeters, forcing people to escape through windows and prompting vociferous calls to abandon the project. One philosopher, quoted in *The Economist* (2009), appealed to civic leaders to stop the project and give the city back to bikers, but those calls were rebuffed by city authorities, who insisted that Amsterdam would

modernize unless it became clear that the metro was impossible, which city officials doubted.

Crises like these highlight loss and uncertainty—important escalation inhibitors. Managers may overreact because the fear sparked by vivid events does not always reflect statistical probability (Kahneman, 2011). More specifically, if anecdotal information is vivid and salient, statistics may well be ignored, even though they give a more accurate picture of reality (Nisbett & Ross, 1980). For instance, in April 2006, the U.K. Ministry of Defense rolled out a highly ambitious £200 million IT-based payroll platform for the armed forces, known as the Joint Personnel Administration (JPA) program. Problems ensued. Some allowances were not paid. Some payments were wrong. Call centers made mistakes. Because of the intense media interest in the armed forces, those teething troubles made headline news (Kelman, Weatherhead, & Weatherhead, 2009). Yet most payments were correct. Unfortunately, vivid images of soldiers’ wives with no money obscured this telling statistic.

#### A Question of Balance?

Barring a crisis much may depend on the balance between perceived likelihood of loss and responsibility. Figure 1 summarizes the possibilities aduced from the foregoing exploration of the literature. Recall, escalation is thought to be most probable in condition 1, which is characterized by high responsibility coupled with low perceived likelihood of loss resulting from overconfidence (e.g., Staw, 1997; Staw & Ross, 1987a). Erroneous abandonment seems most probable in condition 2, which is characterized by high risk and low responsibility. Such conditions may apply where the original decision makers have moved on so responsibility is diffuse. Recall, diffusion of responsibility is associated with less escalation (Dunegan, 1993; Whyte, 1991). For instance, if persistence seems risky, loss-averse decision makers may say to themselves, “This project could end in disaster. I am not going to be blamed if it is canceled now. So why take the risk of continuing when I might regret it?”

Pursuing this line of logic, condition 3, which is characterized by low perceived risk coupled with low responsibility, may give rise to “escalating indecision” (Denis, Dompierre, Langley, & Rouleau, 2011), where not much happens (except passive reinvestment) because there is little fear of loss and little fear of being held accountable to galvanize decision makers into action. For instance, Denis et



**FIGURE 1**  
**When Erroneous Abandonment Is Most Likely to Occur**

Level of responsibility	High	Escalation of Commitment  1	Economically Wise Decision  4
	Diffuse	Escalating Indecision  3	Erroneous Abandonment  2
		Low	High

al. (2011) found that escalating indecision was strongly associated with diffuse power and the absence of leadership. Those conditions might apply where long timescales are involved, decision makers come and go, and problems with the project are sporadic. In contrast, decision makers are most likely to get things about right under condition 4, which is characterized by high risk combined with high responsibility. This is where decision makers are living in the real world. They know what the risks are and that they will be called to account. Even so, they believe that their role is to overcome problems despite poor odds (e.g., March & Shapira, 1987).

**When Is Erroneous Abandonment Most Likely to Happen?**

The middle of a project is probably the most vulnerable time for erroneous abandonment. Early

on, confidence is likely to be high as risks and opportunity costs are hidden (e.g., Drummond, 1996). Later, responsibility effects and completion may become all important (Conlon & Garland, 1993). Indeed, Sleesman and colleagues (2012) suggested that at high levels of felt responsibility or project completion, opportunity costs may actually fuel escalation, as they add to the enormity of the potential loss. In contrast, the mid-phase is likely to be murky. Costs have been incurred, but revenues are distant. Risks and opportunity costs emerge, sapping confidence and motivation. Significantly in experiments, perceived risk decelerates escalation mainly in the middle phase of project completion (Harvey & Victoravich, 2009; He & Mital, 2007).

We also know that as projects near completion, the perceived value of the goal can increase, while alternatives are undervalued (Ting, 2011). In the middle phase, however, beleaguered managers,

**TABLE 2**  
**Avoiding Value-Destroying Abandonments**

Forces for Abandonment	Countermeasures	Rationale
Loss aversion/cost salience	Keep project on track.	Uncertainty increases salience of loss potential (Brockner et al., 1979; Rubin & Brockner, 1975) and is liable to provoke negative emotions (Schaubroeck & Davis, 1994; Wong et al., 2006).
Reluctance to renew budgets	Sacrifice benefits rather than incur overruns.	Cost overruns are more salient and more provocative than benefit shortfalls (Fox & Staw, 1979; Northcraft & Wolf, 1984). Avoids issues of budget renewal (Heath, 1995).
Perceived risk	Keep two sets of books.	Optimism sustains motivation in adversity (Taylor & Brown, 1998). Comparing results against realistic expectations may reduce perceived risk (Wong et al., 2006) and reluctance to renew budgets (Heath, 1995).
	Don't let failure become self-fulfilling.	Dissonance theory implies that managers act out their expectations (Festinger, 1957). Negative information is destructive (Kahneman, 2011). Symbols direct attention to the positive (Pfeffer, 1981b).
Awareness of opportunity costs/alternatives	Evaluate alternatives in advance.	Makes it harder to overstate opportunity costs to justify switching. Adjustments will be anchored in originals (e.g., Kahneman & Lovallo, 1993).
	Weigh hidden benefits of persistence.	Real options and indirect advantages of persistence may outweigh opportunity costs (McAfee et al., 2010).
Intolerance of failure	Apply "one good reason" heuristic.	Reduces reliance on target setting and other outcome-based heuristics. Enables managers to scythe through uncertainty (e.g., Bowen, 1987; Simon, 1979) and potential bias and see the forest rather than just the trees.
"Lock-in" to publicly stated limits	Adopt a Janus face.	Managers can reassert their competence, impose control, and manage impressions without becoming publicly committed (Brockner et al., 1981).
"Not invented here"	Take an external perspective.	Enables more robust challenge appraisal of risk and opportunity costs of persistence (Lovallo et al., 2012).
Diffusion of responsibility/shifting tides of organization	Burn the boats.	Alternatives inhibit escalation (Keil et al., 1995; McCain, 1986); eliminating them forces managers to stay the course.
Lingering uncertainty	Heed intuition.	All decisions involving uncertainty risk failure. Intuition can be uncannily accurate (Klein, 1999; Schoemaker & Day, 2009)

anxious to exit with honor, may systematically overvalue alternatives to justify switching, though perhaps only to end up jumping from the proverbial frying pan into the fire. As to what type of projects are most vulnerable to erroneous abandonment, Kahneman and Lovallo (1993) suggested projects big enough to matter but not so big as to cause catastrophic losses. The latter are more likely to make managers risk-seeking than risk-averse.

**HOW CAN MANAGERS AVOID VALUE-DESTROYING ABANDONMENTS?**

**Keep the Project on Track**

Table 2 summarizes the main forces for erroneous abandonment mentioned earlier in this paper, countermeasures, and the rationale for those measures. Prevention is better than cure. By refusing to countenance overruns, managers may prevent potentially corrosive doubts from gaining a hold in the first place (e.g., Schaubroeck & Davis, 1994; Wong et al., 2006). For instance, in mid-2005, nine months from planned rollout, the aforementioned JPA project suffered a setback when some software modules failed an integration test. That meant more reengineering than expected. Yet decision makers refused to increase budgets and timescales. A senior manager working on the project

said, "I knew once we [allowed slippage] . . . it would never stop slipping. . . We needed to maintain top level confidence, project team morale . . . and momentum. . . Similar projects had slipped into oblivion and we would have gone the same way" (Kelman et al., 2009, p. 14).

If something has to give, managers can sacrifice benefits. Loss of benefits merely represents gains forgone, whereas overruns amplify the loss prospect (Brockner et al., 1979; Northcraft & Wolf, 1984; Rubin & Brockner, 1975). Sacrificing benefits also enables managers to sidestep issues of budget renewal (Heath, 1995) and is less likely to provoke potentially debilitating challenges and resistance (Fox & Staw, 1979). For example, rather than exceed budgets and timescales, certain JPA benefits concerning access to service records were postponed. Although those benefits were part of the *râison d'être* for JPA, losing them did not unduly harm confidence in the project (Kelman et al., 2009). By contrast, if overruns had been allowed, JPA might have become dogged by failure, ultimately becoming long delayed and over budget.

**Keep Two Sets of Books**

Wildly optimistic plans may not be entirely counterproductive. Delusional optimism can kin-

dle excitement and sustain employees through adversity (Taylor & Brown, 1988). Compiling a second set of predictions firmly grounded in reality may attenuate perceived risk (e.g., Wong et al., 2006) and reluctance to renew budgets (e.g., Heath, 1995) by enabling managers to show that the project remains economically defensible.

### Don't Let Failure Become Self-Fulfilling

Dissonance theory implies that managers act out their expectations (Festinger, 1957). If delusional optimism can be self-fulfilling, so can pessimism (e.g., Seligman, 1975). For example, expecting a product launch or a new foreign operation to fail, managers may invest little time preparing, thus guaranteeing failure (Welch & Wiedersheim, 1980). Similarly, Liesch and colleagues (2011) found that firms regarding exporting as extremely risky tended to retreat too readily in the face of adversity. Bad experiences can also create failure myopia. That is, having declared “never again,” firms forgo potentially profitable opportunities to reenter previously abandoned markets (Javalgi, Deligonul, Dixit, & Cavusgil, 2011; Welch & Welch, 2009). Failure begets failure, but it needn't.

To break the vicious circle, managers can avoid negative connotations, as they are extremely destructive (e.g., Dunegan, 1993; Kahneman, 2011), and accentuate the positive. For example, “glass half full” does less psychological damage than “glass half empty.” Adroit manipulation of symbols can also stop failure from becoming self-fulfilling by directing attention to the positive and away from the negative (Pfeffer, 1981b, discusses symbols). For example, when JPA faltered, EDS, the contracting firm, ostentatiously flew in their “top technical experts” (Kelman et al., 2009, p. 18), thereby signifying that problems were being taken seriously and that something would be done. Language is also symbolically important—for example, “postponed” rather than “canceled.”

### Evaluate Alternative Investment Opportunities in Advance

This is basic good management. More important, it makes it harder for new managers (and incumbents) to exaggerate opportunity costs. Even if those evaluations are subsequently revised, revisions are likely to be “anchored” to the original estimates, so they should be less outlandish than they otherwise might

be (e.g., Kahneman & Lovallo, 1993; Kahneman et al., 2011).

### Weigh Hidden Benefits of Persistence

Opportunity costs should be weighed against the wider economic benefits of staying the course—including potentially valuable information (McAfee, Mialon, & Mialon, 2010). More specifically, the argument for culling mediocre projects is if they suck resources from good ones. In this view, Hewlett-Packard may have been wise to have culled its first tablet computer if it had little chance of competing against rivals such as the Apple iPad, and if resources could be redirected to more profitable possibilities. Yet persistence might have yielded feedback from the market that could have informed future design and marketing activities. Abandonment stems losses, but it also stems the flow of information. In addition, firms known to honor onerous contracts may ultimately do better than firms notorious for walking away (McAfee et al., 2010). For example, Siemens's decision to abandon several particle-therapy cancer centers when costs exceeded expectations provoked public hostility (*The Economist*, 2013).

Likewise, there may be a hidden option value in persistence (Leslie & Michaels, 1997). An option is a toehold investment that confers the right (but not the obligation) to take action in the future (e.g., Janney & Dess, 2004). For instance, if a troubled software project is abandoned in favor of an off-the-shelf product, the potentially valuable option of licensing the bespoke software (once it is finished) to other firms is lost. Similarly, if a factory building with adjoining land is sold off, the option of building on that land is also gone, as are all the other options connected with the factory. Before abandoning a project, managers should consider what options would be destroyed. Ultimately it may be worth switching only for a really large gain (McAfee et al., 2010).

### Apply the “One Good Reason” Heuristic

Recall that overreliance on targets and the like can lead managers to declare failure too soon. Invoking different heuristics—such as “what is one good reason to persist with this project (Gigerenzer, 2008)?” and “what is one good reason to abandon it?” and/or “what is one good reason to pursue an alternative?”—can enable managers to scythe

through uncertain and potentially biased cost/benefit analyses and see the forest rather than just the trees—and perhaps even a brilliant opportunity staring them in the face.

Time may be a good reason to abandon a project. More specifically, in the midst of a troubled project, managers should focus on what remains to be done and how long it will take. For instance, a member of the Taurus monitoring group said:

The City could have swallowed the money bit. They would have said, “OK, there is an overspend of £100 million—let’s fight about who is going to fund that because we can see the benefits coming through.” It was the time that killed them all (Drummond, 1996, p. 164).

### **Adopt a Janus Face**

No law requires managers to be consistent. The ploy of publicly threatening to abandon a troubled project at an unspecified time in the future, while quietly pumping resources into it, enables managers to strategically manage impressions (e.g., Goffman, 1959) by being seen to reassert control without binding themselves to publicly stated limits (Brockner et al., 1981). This ploy also enables managers to gauge the results of additional investment before giving up (Bowen, 1987).

### **Take an External Perspective**

If introducing an outside view can improve project appraisals (Lovallo et al., 2012), it may also promote a more measured assessment of a troubled project. An external perspective may be particularly helpful in assessing the risks and opportunity costs of persistence, and in challenging any tendency to undervalue work done by other people. For instance, if similar projects have succeeded elsewhere, why abandon this one?

### **Burn the Boats**

Recall that alternatives can undermine confidence in an existing project (e.g., McCain, 1986; Northcraft & Neale, 1986). Alternatives may also make commitment seem less irrevocable (McCain, 1986) and promote regret as decision makers compare what is with what might have been (e.g., Kahneman, 2001). Eliminating alternatives forces people to stay the course (e.g., Ariely, 2009; Drummond, 2012). For example, when JPA escalated into a crisis, there was no question of reverting to legacy systems. Thousands of re-

cords had already been transferred. Moreover, many small but important software updates had been made to JPA but not to legacy systems. JPA had to be made to work because there was simply no other way of getting servicemen and servicewomen paid (Kelman et al., 2009).

### **Intuition: The Ultimate Heuristic?**

Ultimately, whatever managers decide, outcomes may still turn on luck. Indeed, Napoleon preferred lucky generals to competent ones. But what separates the two? Returning to BP and Bunker Hunt, was the apparently lucky decision a product of “seasoned intuition” (Klein, 1999; Schoemaker & Day, 2009) and tacit knowledge (Polanyi, 1962)? Neither can be codified and transmitted. But both can be uncannily accurate. For example, John Paul Getty recounts how geologists decreed that the Red Beds region of Oklahoma was barren:

To me, the area looked as if it might hide oil. Largely on a hunch, I decided to see for myself. I began drilling in the Red Beds, struck oil and brought in a vast new production field. I suspect that by relying upon such non-textbook thought processes and taking attendant risks, the biggest fortunes have been made—in oil and other endeavors (Adair, 2011, p. 16).

Having weighed everything, if the issues are finely balanced, managers may do well to let their intuition have the last word.

## **CONCLUSIONS**

Few complex projects go completely smoothly. Escalation theorists emphasize the perils of unwarranted persistence. Yet when it is wise to press on despite adversity, doubts and second thoughts can also be ruinous. More case studies and archival research are needed to advance the synthesis of ideas presented in this paper. In particular, we need to better understand how the twin, but contradictory, forces of loss aversion and overconfidence may play out in different contexts when important ventures are not going according to plan. What conditions are most conducive to erroneous persistence, and what conditions are most conducive to erroneous abandonment? A particularly fruitful avenue may be to explore whether and to what extent managers think about opportunity costs, how they think about them, and how they evaluate alternative

projects at different levels of completion. Investigating old questions from a new angle may also prove rewarding. For instance, if, as mentioned earlier in this paper, negative emotions such as anticipated regret and fear of blame can negate potentially potent responsibility effects, when might the reverse be true? These questions will be left for future research.

As for this paper, we are left with several important insights. First, educating managers to avoid foolhardy inconsistency means recognizing that some of the standard measures for curbing escalation, such as changing project managers, may amplify the risk of erroneous abandonment. Although managers should not be afraid to impose control and make necessary changes, they should be aware of possible side effects.

The second, and perhaps more important, insight for a more nuanced understanding of escalation is *why* doubts and second thoughts can be ruinous. More specifically, in practice conflicting forces may largely cancel one another out. If so, decisions may turn the residual balance of forces left in the equation. More often than not, that balance may favor persistence, but perhaps not always the reckless reinvestment in a project that is already doomed—as envisaged by escalation theorists. Unwilling to admit failure, but equally fearful of compounding the loss, conflicted managers may become trapped in the middle. That is, they may invest enough to keep the project alive and stave off the impression of failure, but not nearly enough to maximize the probability of success. In other words, conflicted managers may doom potentially successful projects by reinvesting too little.

And maybe too late as well. Experiments usually involve forced choices, yet aversion to loss is associated with decision avoidance (Anderson, 2003). Indeed, field studies have shown that faltering ventures can drift for months and even years (Denis et al., 2011; Drummond, 1994; Mähring & Keil, 2008). Avoidance affords temporary psychological shelter but at greater cost. For example, managers may demand information that takes weeks to produce but will not help to resolve the dilemma. We need to know more about when managers are most prone to avoidance and what forms of avoidance they tend to favor. For instance, do measures ostensibly intended to curb escalation, such as limit setting, sometimes mask decision avoidance—a ploy to postpone the inevitable? If so, avoidance might be more prevalent than we think.

As for which is worse, giving up too soon or too late, the answer may be neither. Plunging boldly through adversity may mean that costs are higher than expected and benefits far fewer. But the end product may be serviceable nonetheless. Persistence in adversity may even lead to the stars. Conversely, calling a decisive halt stops losses and enables remaining resources to be redirected to more profitable possibilities. In contrast, managers who stall and/or persist halfheartedly may only prolong the psychological pain and deepen the loss. For all that has been said about costly decision error—be it persistence or abandonment—is the wrong decision better than no decision?

## REFERENCES

- Adair, J. (2011). *100 greatest ideas for smart decision-making*. Chichester, UK: Capstone.
- Anderson, C. J. (2003). The psychology of doing nothing: Forms of decision avoidance result from reason and emotion. *Psychological Bulletin*, *129*(1), 139–167.
- Ariely, D. (2009). *Predictably irrational*. New York: HarperCollins.
- Arkes, H. R., & Blumer, C. (1985). The psychology of sunk costs. *Organizational Behavior and Human Performance*, *35*(1), 124–140.
- Bacharach, S. B. (1989). Organizational theories: Some criteria for evaluation. *Academy of Management Review*, *14*, 496–515.
- Bazerman, M. H., Beekun, R. I., & Schoorman, F. D. (1982). Performance evaluation in a dynamic context: A laboratory study of the impact of the prior commitment to the Ratee. *Journal of Applied Psychology*, *67*, 873–876.
- Bazerman, M. H., & Moore, D. A. (2009). *Judgment in managerial decision-making*. New York: Wiley.
- Benito, G. R. G., & Welch, L. S. (1997). De-internationalization. *Management International Review*, *37*(2), 7–25.
- Berry, H. (2013). When do firms divest foreign operations? *Organization Science*, *24*, 246–261.
- Blitz, R. (2010, October 8). Savoy reopens after £220 million revamp. *Financial Times*. Available at <http://www.ft.com/intl/cms/s/0/34545190-d30e-11df-9ae9-00144feabdc0.html>
- Boulding, W., Morgan, R., & Staelin, R. (1997). Pulling the plug to stop new product drain. *Journal of Marketing Research*, *34*, 164–176.
- Bowen, M. G. (1987). The escalation phenomenon recon-

- sidered: Decision dilemmas or decision errors? *Academy of Management Review*, 12, 52–66.
- Bragger, J. D., Bragger, D., Hantula, D. A., & Kirnan, J. (1998). Hysteresis and uncertainty: The effect of uncertainty on delays to exit decisions. *Journal of Applied Psychology*, 88, 6–14.
- Brockner, J. (1992). The escalation of commitment to a failing course of action: Toward theoretical progress. *Academy of Management Review*, 17, 39–61.
- Brockner, J., Rubin, J. Z., & Lang, E. (1981). Face-saving and entrapment. *Journal of Experimental Social Psychology*, 17(1), 68–79.
- Brockner, J., Shaw, M. C., & Rubin, J. Z. (1979). Factors affecting withdrawal from an escalating conflict: Quitting before it's too late. *Journal of Experimental Social Psychology*, 17(5), 492–503.
- Butler, S. (2012, December 9). Fresh, but not so easy: Tesco joins a long list of British failure in America. *The Observer*. Available at <http://www.theguardian.com/business/2012/dec/09/fresh-not-easy-tesco-british-failure-america>.
- Camerer, C. F., & Weber, R. A. (1999). The econometrics and behavioral economics of commitment: A re-examination of Staw and Hoang's NBA data. *Journal of Economic Behavior and Organization*, 39(1), 59–82.
- Conlon, E. J., & Garland, H. (1993). The role of project completion information in resource allocation decisions. *Academy of Management Journal*, 36, 402–413.
- Conlon, E. J., & Parks, J. M. (1987). Information requests in the context of escalation. *Journal of Applied Psychology*, 72, 344–350.
- Decker, C., & Mellewigt, T. (2007). Thirty years after Michael E. Porter: What do we know about business exit? *Academy of Management Perspectives*, 21, 41–55.
- Denis, J. L., Dompierre, G., Langley, A., & Rouleau, L. (2011). Escalating indecision: Between reification and strategic ambiguity. *Organization Science*, 22, 225–244.
- Drummond, H. (1994). Too little too late: A case study of escalation in decision-making. *Organization Studies*, 15, 509–605.
- Drummond, H. (1995). De-escalation in decision-making: A case of a disastrous partnership. *Journal of Management Studies*, 32, 265–281.
- Drummond, H. (1996). *Escalation in decision-making: The tragedy of Taurus*. Oxford, UK: Oxford University Press.
- Drummond, H., & Hodgson, J. (2011). *Escalation in decision-making: Behavioral economics in business*. Farnham, UK: Gower.
- Dunegan, K. J. (1993). Framing, cognitive models and image theory: Toward an understanding of a glass half full. *Journal of Applied Psychology*, 78, 419–503.
- Fay, S. (1982). *Beyond greed*. New York: Viking.
- Felsted, A. (2013, April 8). Tesco counts cost of failed US venture. *Financial Times*. Available at <http://www.ft.com/intl/cms/s/0/a4aa2fbc-a077-11e2-a6e1-00144feabdc0.html>
- Festinger, L. (1957). *A theory of cognitive dissonance*. Redwood City, CA: Stanford University Press.
- Flyvbjerg, B., Garbuio, M., & Lovallo, D. (2009). Delusion and deception in large infrastructure projects. *California Management Review*, 52(2), 170–193.
- Fox, F., & Staw, B. M. (1979). The trapped administrator: The effects of job insecurity and policy resistance upon commitment to a course of action. *Administrative Science Quarterly*, 24, 449–471.
- Garland, H. (1990). Throwing good money after bad: The effect of sunk costs on the decision to escalate commitment to an ongoing project. *Journal of Applied Psychology*, 75, 728–731.
- Gigerenzer, G. (2008). Why heuristics work. *Perspectives on Psychological Science*, 3(1), 20–29.
- Gigerenzer, G., & Gaissmaier, W. (2011). Heuristic decision making. *Annual Review of Psychology*, 62, 451–482.
- Goffman, E. (1959). *The presentation of self in everyday life*. New York: Doubleday.
- Harvey, P., & Victoravich, L. M. (2009). The influence of forward-looking antecedents, uncertainty, and anticipatory emotions on project escalation. *Decision Sciences*, 40, 759–782.
- He, X., & Mittal, V. (2007). The effect of decision risk and project stage on escalation of commitment. *Organizational Behavior and Human Decision Processes*, 103, 225–237.
- Heath, C. (1995). Escalation and de-escalation of commitment in response to sunk costs: The role of budgeting in accounting. *Organizational Behavior and Human Decision Processes*, 62, 38–54.
- Heath, C., & Soll, B. (1996). Mental budgeting and consumer decisions. *Journal of Consumer Research*, 23, 40–52.
- Janney, J. J., & Dess, G. G. (2004). Can real-options analysis improve decision-making? Promises and pitfalls. *Academy of Management Executive*, 18(4), 60–75.
- Javalgi, R. G., Deligonul, S., Dixit, A., & Cavusgil, S. T. (2011). International market re-entry: A review and research framework. *International Business Review*, 20, 377–393.

- Kahneman, D. (2011). *Thinking, fast and slow*. London: Penguin.
- Kahneman, D., & Lovallo, D. (1993). Timid choices and bold forecasts: A cognitive perspective on risk taking. *Management Science*, *39*, 17–31.
- Kahneman, D., Lovallo, D., & Sibony, O. (2011). Before you make that big decision. *Harvard Business Review*, *89*(6), 51–60.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*, 263–291.
- Kahneman, D., & Tversky, A. (1982). The psychology of preferences. *Scientific American*, *246*(1), 162–170.
- Kavanagh, M. (2013, April 17). Tullow hit by dry well in French Guiana. *Financial Times*. Available at <http://www.ft.com/intl/cms/s/0/75b8da38-a779-11e2-bfcd-00144feabdc0.html>
- Keil, M., & Mähring, M. (2010). Is your project turning into a black hole? *California Management Review*, *53*(1), 6–28.
- Keil, M., & Robey, D. (1999). Turning around troubled software projects: An exploratory study of de-escalation of commitment to failing courses of action. *Journal of Management Information Systems*, *15*(4), 63–87.
- Keil, M., Truex, D. P., III, & Mixon, R. (1995). The effects of sunk cost and project completion on information technology project escalation. *IEEE Transactions on Engineering Management*, *40*, 372–381.
- Kelman, S., Weatherhead, A. J., III, & Weatherhead, R. W. (2009). *A different kind of partnership: The UK's Ministry of Defense and EDS develop the Joint Personnel Administration program (JPA)* (Kennedy School of Government Case Program, CR16-09-1900-0, 1–22). Cambridge, MA: Harvard University.
- Klein, G. (1999). *Sources of power: How people make decisions*. Cambridge, MA: MIT Press.
- Ku, G. (2008). Learning to de-escalate: The effects of regret in escalation of commitment. *Organizational Behavior and Human Decision Processes*, *105*, 221–232.
- Kuvaas, B., & Selart, M. (2004). Effects of attribute framing on cognitive processing and evaluation. *Organizational Behavior and Human Decision Processes*, *95*, 198–207.
- Leatherwood, M. L., & Conlon, E. J. (1987). Diffusibility of blame: Effects of persistence on a project. *Academy of Management Journal*, *30*, 836–847.
- Leslie, K. J., & Michaels, M. P. (1997). The real power of real options. *McKinsey Quarterly*, *3*, 4–22.
- Liesch, P. W., Welch, L. S., & Buckley, P. J. (2011). Risk and uncertainty in internationalization and international entrepreneurship studies: Review and conceptual development. *Management International Review*, *51*, 851–873.
- Loewenstein, G. F., Weber, E. U., Hsee, C. K., & Welch, N. (2001). Risk as feelings. *Psychological Bulletin*, *127*(2), 267–286.
- Lovallo, D., Clarke, C., & Camerer, C. (2012). Robust analogizing and the outside view: Two empirical tests of case-based decision-making. *Strategic Management Journal*, *33*, 496–512.
- Lovallo, D., & Kahneman, D. (2003). Delusions of success: How optimism undermines executives' decisions. *Harvard Business Review*, *81*(7), 57–63.
- Lovallo, D., Viguerie, P., Uhlaner, R., & Horn, J. (2007). Deals without delusions. *Harvard Business Review*, *85*(12), 92–99.
- Mähring, M., & Keil, M. (2008). Information technology project escalation: A processes model. *Decision Sciences*, *39*, 239–272.
- March, J. G., & Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science*, *33*, 1404–1418.
- McAfee, R. P., Mialon, H. M., & Mialon, S. H. (2010). Do sunk costs matter? *Economic Inquiry*, *48*, 323–336.
- McCain, B. E. (1986). Continuing investment under conditions of failure: A laboratory study of the limits of escalation. *Journal of Applied Psychology*, *71*, 280–284.
- Monteagre, R., & Keil, M. (2000). De-escalating information technology projects: Lessons from the Denver International Airport. *MIS Quarterly*, *24*, 417–447.
- Moon, H., & Conlon, D. E. (2002). From acclaim to blame: Evidence of a person sensitivity decision bias. *Journal of Applied Psychology*, *87*(1), 33–42.
- Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice Hall.
- Northcraft, G. B., & Neale, M. A. (1986). Opportunity costs and framing of resource allocation decisions. *Organizational Behavior and Human Decision Processes*, *37*, 348–355.
- Northcraft, G., & Wolf, G. (1984). Dollars sense and sunk costs: A life cycle model of resource allocation decisions. *Academy of Management Review*, *9*, 225–234.
- Pfeffer, J. (1981a). *Power in organizations*. Boston: Pitman.
- Pfeffer, J. (1981b). Management as symbolic action: The creation and maintenance of organizational paradigms. In L. L. Cummings & B. M. Staw (Eds.), *Research in organizational behavior: An annual series of essays and critical reviews* (pp. 1–52). Greenwich, CT: JAI Press.

- Polanyi, M. (1962). *Personal knowledge: Towards a post-critical philosophy*. New York: Harper Torch.
- Porter, M. E. (1976). Please note location of nearest exit. *California Management Review*, 19(2), 21–33.
- Ross, J., & Staw, B. M. (1991). Managing escalation processes in organizations. *Journal of Management Issues*, 3, 15–30.
- Ross, J., & Staw, B. M. (1993). Organizational escalation and exit: Lessons from the Shoreham nuclear power plant. *Academy of Management Journal*, 36, 701–732.
- Rubin, J. Z., & Brockner, J. (1975). Factors affecting entrapment in waiting situations: The Rosencrantz and Guildenstern effect. *Journal of Personality and Social Psychology*, 31, 1054–1063.
- Sauer, C. (1993). *Why information systems fail: A case study approach*. Henley, UK: Alfred Waller.
- Schaubroeck, J., & Davis, E. (1994). Prospect theory predictions when escalation is not the only chance to recover sunk costs. *Organizational Behavior and Human Decision Processes*, 57, 59–82.
- Schoemaker, P. J. H., & Day, G. S. (2009). How to make sense of weak signals. *MIT Sloan Management Review*, 50(3), 81–89.
- Schoorman, F. D. (1988). Escalation bias in performance appraisals: An unintended consequence of supervisor participation in hiring decisions. *Journal of Applied Psychology*, 73, 58–62.
- Schoorman, F. D., Mayer, R. C., Douglas, C. A., & Hetrick, C. T. (1994). Escalation of commitment and the framing effect: An empirical investigation. *Journal of Applied Social Psychology*, 24, 509–528.
- Seligman, M. E. P. (1975). *Helplessness: On depression, development and death*. San Francisco: W.H. Freeman.
- Simonson, I., & Staw, B. M. (1992). Deescalation strategies: A comparison of techniques for reducing commitment to losing courses of action. *Journal of Applied Psychology*, 77, 419–426.
- Sitkin, S. B., & Pablo, A. L. (1992). Re-conceptualizing the determinants of risk behavior. *Academy of Management Review*, 17, 9–39.
- Sitkin, S. B., & Weingart, L. R. (1995). Determinants of risky decision-making behavior: A test of the mediating role of risk perceptions and propensity. *Academy of Management Journal*, 38, 1573–1592.
- Sleesman, D. J., Conlon, D. E., McNamara, G., & Miles, J. E. (2012). Cleaning up the big muddy: A meta-analytic review of the determinants of escalation of commitment. *Academy of Management Journal*, 55, 541–562.
- South West Thames Regional Health Authority (1993, February). *Report of the inquiry into the London ambulance service*. London: Author. Available at [www.0.cs.ucl.ac.uk/staff/A.Finkelstein/las/lascase0.9.pdf](http://www.0.cs.ucl.ac.uk/staff/A.Finkelstein/las/lascase0.9.pdf).
- Stacey, K. (2013, August 18). Cost of HS2 could hit £80 billion claims Institute of Economic Affairs, *Financial Times*. Available at <http://www.ft.com/intl/cms/s/0/452a950e-07e7-11e3-badc-00144feabdc0.html>
- Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Decision Processes*, 16, 27–44.
- Staw, B. M. (1997). Escalation research: An update and appraisal. In Z. Shapira (Ed.), *Organizational decision making* (pp. 191–215). Cambridge, UK: Cambridge University Press.
- Staw, B. M., & Fox, F. V. (1977). Escalation: The determinants of commitment to a chosen course of action. *Human Relations*, 30, 431–450.
- Staw, B. M., & Ross, J. (1978). Commitment to a policy decision: A multi-theoretical perspective. *Administrative Science Quarterly*, 23, 40–46.
- Staw, B. M., & Ross, J. (1987a). Behavior in escalation situations: Antecedents, prototypes and solutions. In L. L. Cummings & B. M. Staw (Eds.), *Research in organization behavior: An annual series of essays and critical reviews* (pp. 39–78). Greenwich, CT: JAI Press.
- Staw, B. M., & Ross, J. (1987b). Knowing when to pull the plug. *Harvard Business Review*, 65(2), 65–72.
- Stross, R. (2012, December 8). Billion-dollar flop: Air Force stumbles on software plan. *New York Times*. Available at <http://www.nytimes.com/2012/12/09/technology/air-force-stumbles-over-software-modernization-project.html>
- Tabuchi, H. (2014, May 27). Sony's bread and butter? It's not electronics. *New York Times*. Available at <http://www.nytimes.com/2013/05/28/business/global/sonys-bread-and-butter-its-not-electronics.html>
- Taleb, N. (2008). *The black swan: The impact of the highly improbable*. London: Penguin.
- Tan, H.-T., & Yates, J. F. (1995). Sunk cost effects: The influences of instruction and future return estimates. *Organizational Behavior and Human Decision Processes*, 63, 311–319.
- Taylor, S. E. (1980). *Positive illusions*. New York: Basic Books.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103(2), 193–210.
- Teger, A. I. (1980). *Too much invested to quit: The*



- psychology of the escalation of conflict*. New York: Pergamon.
- The Economist*. (2009, February 15). Amsterdam's troubled metro: A big dig. *The Economist*. Available at <http://www.economist.com/node/13061969>
- The Economist*. (2013, August 3). Siemens: Crisis, what crisis? *The Economist*. Available at <http://www.economist.com/news/business/21582514-german-engineering-giants-new-boss-may-struggle-get-it-shape-crisis-what-crisis>
- Ting, H. (2011). The effects of goal distance and value in escalation of commitment. *Current Psychology, 30*, 93–104.
- Welch, C. L., & Welch, L. S. (2009). Re-internationalization: Exploration and conceptualization. *International Business Review, 18*, 567–577.
- Welch, L. S., & Wiedersheim, P. (1980). Initial exports—a marketing failure? *Journal of Management Studies, 17*, 333–344.
- Whetten, D. A. (1989). What constitutes a theoretical contribution? *Academy of Management Review, 14*, 490–495.
- Whyte, G. (1986). Escalating commitment to a course of action: A re-interpretation. *Academy of Management Review, 11*, 311–321.
- Whyte, G. (1991). Diffusion of responsibility: Effects on the escalation tendency. *Journal of Applied Psychology, 76*, 408–415.
- Wong, K. F. E. (2005). The role of risk in making decisions under escalation situations. *Applied Psychology: An International Review, 54*, 584–607.
- Wong, K. F., & Kwong, J. Y. (2007). The role of anticipated regret in escalation of commitment. *Journal of Applied Psychology, 92*(2), 282–297.
- Wong, K. F., Yik, M., & Kwong, J. Y. (2006). Understanding the emotional aspects of escalation of commitment: The role of negative affect. *Journal of Applied Psychology, 91*(2), 282–297.
- Wortman, C. B., & Brehm, J. W. (1975). Responses to uncontrollable outcomes: An integration of reactance theory and learned helplessness. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 277–336). Washington, DC: Academic Press.
- Zhang, L., & Baumeister, R. F. (2006). Your money or your self-esteem: Threatened egotism promotes costly entrapment in losing endeavors. *Personality and Social Psychology Bulletin, 32*(7), 881–893.



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