



Organizational change and rigidity during crisis: A review of the paradox



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ABSTRACT

When and how do existential crises, threatening business continuity, stimulate organizational change or cause the opposite—rigid preservation of established business practices? This question remains unresolved, despite three decades of deliberations in the academic literature, which still yields contradicting theoretical arguments and empirical results. One view argues and finds support for the hypothesis that posits an amplified propensity to change within threatened organizations. The other view supports the threat-rigidity thesis, implying reinforcing habitual practices. In this paper, we provide a novel holistic typology of organizational crises and then review the literature on the topic, summarizing existing insights within a theoretical framework comprising three interrelated sequential processes: organizational cognition, decision-making, and implementation. We analyze the gaps in the field's knowledge within each process and propose a research agenda to address these voids.

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1. Introduction

The year 2015 should have been a crowning one for Volkswagen. In June, the company surpassed Toyota to become the largest automaker in the world and was well ahead of an ambitious plan laid out by the company's CEO, Martin Winterkorn, to become "the world's most profitable, fascinating and sustainable automobile manufacturer".¹ All that came crashing down on September 18, when the United States Environmental Protection Agency (EPA) issued a notice of a violation of the Clean Air Act to Volkswagen, alleging that model year 2009–2015 Volkswagen (and Audi) diesel cars equipped with 2.0 L engines—approximately 499,000 vehicles—contained software designed to circumvent EPA emissions standards. The number of "cheat vehicles" was later revealed to be 11 million worldwide, plunging the automaker's market value and enveloping the company in a crisis. A company long proud of its engineering talent, and ambitious in its global conquest, was in the

throes of a crisis, and as noted by an observer, "At best its reputation was in tatters, at worst its continued existence was in question."²

In 2012, the "Kodak moment" came in an unfortunate form for the 131-year-old Eastman Kodak Company, ultimately resulting in its filing for bankruptcy. The progenitor of new technologies imitated by countless newcomers, Kodak found itself in a full-blown crisis, where complacency, inertia, and, often, poorly conceived strategies, all contributed to the downfall of the behemoth.

These two events, one momentous for external observers and most managers (Volkswagen) and one slowly emerging yet culminating in a major disaster (Kodak), exemplify the modern, frequently observed phenomena of organizational crises. This leads us to a tantalizing question: how does the process of a firm's response to a crisis take shape? How do companies respond to crises—of either external or internal origin (e.g., an external shock, a steep drop in market share, or firm's own inability to respond to emerging disruption)—severe enough to threaten their survival? Up to this day, these questions have not been holistically analyzed in the management literature, particularly taking into account that

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¹ Source: Fortune, Sep/23/2015, <http://fortune.com/2015/09/23/volkswagen-martin-winterkorn-golf-emissions/>.

² C. Rhodes, "Volkswagen outrage shows limits of corporate power" (Sep/29/2015), <http://theconversation.com/volkswagen-outrage-shows-limits-of-corporate-power-48302>.

crises are events disrupting an organization's developmental trajectory at a specific time and place (Maitlis & Sonenshein, 2010; Pearson & Clair, 1998).

Getting a handle on answers to the above questions has attained an even greater urgency as markets become more globally integrated and as additional industries face disruption from technological advances, innovative business models, or shifts in regulatory environment from any corner of the globe. Before the rise of globalization, scanning the environment meant focusing on regional contenders and sources of potential competition. In contrast, the entrepreneurial landscape of today can present new challenges to firms from unexpected quarters. When that occurs, do organizations in crisis adjust, changing the established methods of doing business in an attempt to escape from, adapt to, or even thrive on new adversarial circumstances? Or do they choose to stick with the old, known, and tried solutions—products, business models, routines, and policies? In other words, do organizations in crises walk down the trodden path, avoiding any change and trying to ignore the adversity, in the hope that the situation will turn by itself? There is little agreement in the literature on this question. Some organizational researchers embrace the position that a crisis stimulates organizational adaptive change (e.g., Bowman, 1982; Bromiley & Wiseman, 1989; Gooding, Goel, & Wiseman, 1996; Mayhew, 1979; Miller & Chen, 2004), while others suggest rigidity and defiant resistance (e.g., Dorsman & Buckley, 2001; Iyer & Miller, 2008; Laughhunn, Payne, & Crum, 1980; Schendel, Patton, & Riggs, 1976; Shimizu, 2007; Staw, Sandelands, & Dutton, 1981).

Organizational crises provoke significant disruption in an organization's activities (Maitlis & Sonenshein, 2010), manifested in specific ways, such as a dramatic fall in market value or bankruptcy. However, the crisis literature has to date concentrated overwhelmingly on extreme or “deviant” events (James, Wooten, & Dushek, 2011) or environmental jolts, including disasters and other abrupt shocks, overlooking events with underlying roots going further back in time, yet whose outcome can be even more important and dramatic than those of sudden extreme events, such as ignoring the long-term demographic trends that slowly erode the company's customer base. Moreover, crises can be triggered not only by unpredictable, exogenous, and extreme negative events (e.g., earthquakes, terrorist attacks, executive malfeasance, and environmental contamination) but also by endogenous factors, hinging upon vulnerabilities at different levels of the organization (Pauchant & Mitroff, 1992; Roux-Dufort, 2009) that had been left unaddressed by the management.

The nature and peculiarities of organizational responses to crises remain poorly understood in the management literature, which has been rightly criticized for being fragmented by a myriad of disciplinary approaches (James et al., 2011); unfortunately, this fragmentation has kept crisis research on the periphery of mainstream management theory (James et al., 2011; Pearson & Clair, 1998). While crisis management remains a relatively new field in early stages of development, the varied disciplinary voices and diverse issues and audiences have created a veritable “Tower of Babel” effect (Shrivastava, 1993, p. 33), hindering further development of the field (Pearson & Clair, 1998; Pearson & Mitroff, 1993). Given this fragmented and interdisciplinary nature of the emerging literature, scholarship in the field would benefit from a theoretical refinement and integration.

Another reason for the current lack of understanding of organizational responses to crises is the proliferation of extreme event reflections (James et al., 2011), with a preference for “monolithic methodological approach characterized by the frequent use of case studies of major industrial disasters” (Roux-Dufort, 2009). This has led to descriptive—rather than theoretical—frameworks (Weick, 1999), generating more knowledge about accidents than

organizations, which is another obstacle in the reconciliation with theories of organizations (Roux-Dufort, 2009). However, the causes of crises not only include the immediate failures triggering a crisis but also “the antecedent conditions that allowed failures to occur” (Shrivastava, 1993, p. 30).

These gaps set the motivation for the present study. To address them, we theoretically scrutinize the following primary research question: when does a crisis stimulate organizational change? Within the context of this paper, the word “change” is used broadly and refers to any alteration of the company's products, services, business model, routines, practices, or policies. Grounding our reasoning in the literature on organizational risk taking and action in times of crisis within broader frameworks of the interpretive view on organizational decision-making (Barr, Stimpert, & Huff, 1992; Daft & Weick, 1984; Dutton & Jackson, 1987) and behavioral theory of the firm (Cyert & March, 1963), we develop a conceptual three-stage framework linking the crisis-causing events with organizational actions through the processes of organizational sensemaking and cognition, decision-making, and decision implementation. The selected theoretical lens is particularly suitable in the contexts theorizing concerns on “how certain events and experiences set in motion processes of decision-making, routine development, or routine selection that change organizational behavior” (Argote & Greve, 2007, p. 338). The intuition behind the developed framework is that prior inquiries within the crisis-rigidity and crisis-change domains neglected essential factors, moderators that influence the decision-making and implementation processes, leading either to adoption of new methods of doing business or reinforcement of the old ones.

By providing a structured crisis-response framework, this paper intends to contribute to the limited but important body of literature on organizational actions in times of crisis, within the broader research streams of behavioral strategy (e.g., Hu, Blettner, & Bettis, 2011; Osiyevskyy & Dewald, 2015).

Dealing with crises becomes a high priority because of the substantial costs, including emotional impact, to organizations when they are not resolved (Dutton, 1986). The need for managers and leaders to be savvy in crisis handling is undeniable, and hence the importance of such handling is not limited to academic scholarship as “business crises are a practical matter; indeed, it would be a disservice for the academic community not to consider the potential relevance and impact of theoretical contributions on practicing managers” (James et al., 2011, p. 457).

2. Crisis: definition and essential characteristics

2.1. Defining a crisis

The word “crisis” has frequently been invoked in the management literature (in conjunction with other emotive terms such as “scandals,” “disasters,” “threats,” or “fiascos”) to denote some ambiguity of cause, effect, and means of resolution and a belief that decisions needed to be made swiftly (Pearson & Clair, 1998). The under-theorization of the concept has led to a struggle in defining the term (Roux-Dufort, 2009), with its meaning yet to be well detailed (Dutton, 1986). Nevertheless, most definitions pivot around the notion of a crisis as a specific, unexpected, and nonroutine event or a series of events that create high levels of uncertainty and threat (Seeger, Sellnow, & Ulmer, 1998).

Particularly, we use the anchor definition of a crisis as “a rare, significant, and public situation that creates highly undesirable outcomes for the firm and its stakeholders and requires immediate corrective action by firm leaders” (James & Wooten, 2010, p. 17). While encompassing other generally accepted dimensions of crisis, this definition explicitly envisages and incorporates a

strategic response by the firm. When representing a turning point, a crisis interferes with the normal business operations, endangering its public image and damaging its bottom line (Spillan & Hough, 2003). Crisis situations can be represented not only as extreme and abnormal (Pearson & Clair, 1998) but also processual, where the exceptionality of the triggering event is made possible by pre-existing vulnerabilities that make the crisis event possible (Roux-Dufort, 2009). These can include a sudden fall of a firm's market share or stock price, often triggered by external developments such as technological or competitive changes or scandals such as Volkswagen's emission fiasco. Processual crises situations can cause the cessation of the entire business, bankruptcy, forced sale, or loss of license to operate (Osiyevskyy & Dewald, 2015).

2.2. Essential features of a crisis

Having either an external or internal origin, a crisis implies “a perception that an individual or set of individuals face a potentially negative outcome unless some type of corrective action is taken” (Dutton, 1986, p. 502). Dutton argues that this perception is drawn from three distinct characteristics within the cognitive framing of a particular business issue: (1) importance of the issue (i.e., the magnitude of possible losses if no corrective action is taken), (2) immediacy, and (3) uncertainty. Although Dutton's reasoning on the characteristics informing a crisis have been expanded upon by others (e.g. James & Wooten, 2010; Pearson & Clair, 1998), these three features have remained in their essential forms in the latter discussions on crisis.

While the advent of a crisis carries with it a high level of risk, losses, and possibilities of continued losses (Seeger, Sellnow, & Ulmer, 2003), the characteristic of *importance* reflects the perceived magnitude of the negative outcomes if no corrective action is taken. Some scholars (Dutton, 1986; James et al., 2011; Osiyevskyy & Dewald, 2015; Shimizu, 2007) had earlier argued that there is a need to distinguish between a reduction in performance and *critical threat*, where the latter serves as the basis for informing a crisis perception in organizations. In our discussion, we frame crisis within the more refined construct of “critical threat” perception, distinct from regular business challenges. Furthermore, as we noted earlier, the critical threat incorporates not merely an extreme “act of God” unpredictable type of events (Gundel, 2005) but also events precipitated by discontinuities in the environment such as political upheavals, shifts in government regulation, and technological breakthroughs (Haveman, Russo, & Meyer, 2001). Such occurrences “disable organizations' routinized responses, plunging decision makers into strange and bewildering new worlds” (Haveman et al., 2001, p. 253).

The *immediacy* characteristic reflects the perception of the firm's available time window for making and implementing the decision in response to the threat (Dutton, 1986). After this time has passed, no decision can be made at all, or the late decision will be made and implemented under substantially less desirable circumstances (James et al., 2011, p. 460). Low immediacy suggests an abundance of time available to consider all possible strategies of dealing with the issue at hand, including sufficient time to pilot or experiment with different solutions, ultimately allowing making the best possible choice. High immediacy, on the other hand, reflects a perception of urgency when making a decision respecting the criticality of a strategic issue.

The “*uncertainty*” characteristic is conceptualized as a managerial framing of the business issue where the diagnosis and assessment of a situation is complex and generally involves unfamiliar and ill-defined outcomes (Dutton, 1986). Uncertainty creates pressures for top management to give an account of why the crisis

has occurred and to produce the actions necessary to resolve it. Conceptually, the perception of uncertainty informs the situational framing of the business issue, suggesting a lack of confidence in a decision maker's ability to foresee, predict, and communicate how the state of the external environment will develop in the future. Similarly, Gundel (2005) emphasized “predictability” (inversely related to uncertainty) as an important dimension of crisis analysis.

2.3. The classification of crises by origins

What possible forms can crises take? How immediate should the action be? What is the context of a crisis? In recognition of the fact that a crisis is not a homogeneous event, some scholars have created typologies to differentiate between the sources and the kinds of crises that organizations experience (e.g. Pearson & Mitroff, 1993; Rike, 2003). However, as observed by Coombs and Holladay (2002), these typologies of crisis events were created as distinct from the typologies of crisis response strategies. As such, the available typologies are mostly unusable as integrative frameworks linking particular types of crises with the response strategies. Moreover, little distinction has been made between internally provoked and exogenous threats. Importantly, any such framework should reflect not only exogenous and extreme random events or “deviants” (Bennett & Robinson, 2000) that dominated the literature so far but also the processual type of crises.

While the increasing diversity of the global organizational context makes creating sustainable crisis typologies difficult (James et al., 2011), in what follows, we base our analysis on shared characteristics along two important dimensions suggested by the prior literature. Characterizing each crisis along these dimensions sets the essential conditions that will influence the subsequent organizational response.

The first dimension (horizontal axis in Fig. 1) determines the primary perceived origin of the crisis: technological/economic versus human/social (as in Pearson & Mitroff, 1993). The technological/economics breaks—referred to as “marketplace” for the sake of brevity—are illustrated by events ranging from major product defects to steep falls in market share, while human or social crises can be sabotages, sexual harassment incidents, terrorism (Pearson & Mitroff, 1993), or environmental damage. Although a two-category framework for capturing the origins of a crisis might be considered an oversimplification of this complex phenomenon, we nevertheless argue that the “technological/economic” versus “human/social” dichotomy, with broadly defined categories, properly accounts for the majority of real-world situations and hence serves an accurate representation of the reality.

In real-world situations, it is also not uncommon that the decision-maker cannot properly attribute the crisis to a single objective origin, in that crises come as a consequence of multiple intertwined factors, such as technological events leading to subsequent major social adversities and vice versa, e.g., the alleged negligence of safety practices (human/social origin) leading to the methyl isocyanate gas leak (technological origin), resulting in numerous deaths, injuries, and long-term health deterioration of local population (human/social origin) during the Bhopal gas tragedy in 1984. In such cases, the classification of the crisis has to be performed on the basis of the *primary* origin perceived by the company's top management, which will guide the subsequent processes of cognition, decision-making, and actions.

The second dimension (vertical axis in Fig. 1) captures the temporal dimension of the crisis progression: those provoked by extreme or deviant causes (“cataclysm”) versus processual crises whose latent causes have existed for a while, having culminated in the crisis proportions (“endangerment”). The former group includes events such as natural disasters or major changes in the

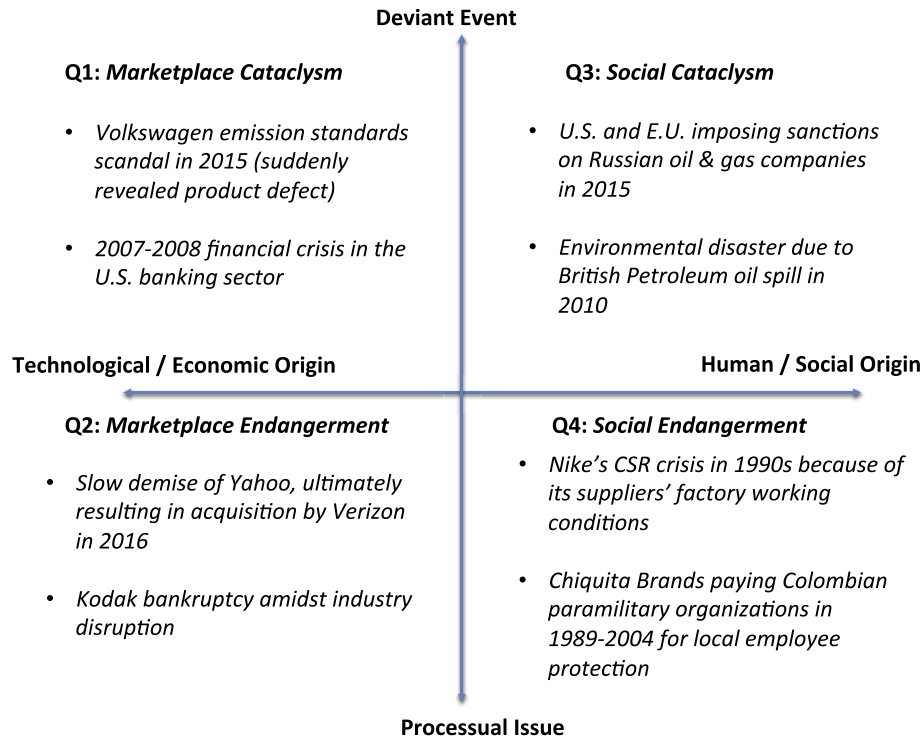


Fig. 1. The classification of crises.

political environment (e.g., wars or revolutions), while the latter group is exemplified by cases of disruptive innovations gradually dethroning market leaders or demographic changes eroding the company's customer base.

Adverse situations that belong in Quadrant 1 ("Marketplace Cataclysm") are well illustrated, as discussed in the introduction case of Volkswagen (improper reporting of emission standards). This is a sudden, deviant event having an obvious technological origin; moreover, the magnitude of potential losses is so severe that the whole situation becomes a crisis for the firm. Even though with regard to this case one might also argue that the internal practices that ended up in the crisis have existed in the company for a while, culminating in a major crisis, for most company managers and external observers, the situation was unexpected and had characteristics of a cataclysm.

An example of a situation in Quadrant 2 ("Marketplace Endangerment") is the slow demise of Yahoo, Inc.; the company's market capitalization peak of around \$140 billion in the year 2000 had all but vanished by 2016, resulting in the sale of the remaining parts of the firm for \$4.8 billion to Verizon.

The economic sanctions imposed by the governments of the EU and US on the Russian oil and gas companies in 2014–2016, leading to falling revenues and hardships related to debt servicing, fall in to the "Social Cataclysm" (Quadrant 3) type of crisis.

Finally, the long history of Chiquita Brands' policy of supporting the local left-wing and right-wing Colombian guerilla and paramilitary organizations in its areas of operations (resulting in major fines and reputational damages in 2007) illustrates a "Social Endangerment" (Quadrant 4) situation when slow-moving negative processes ultimately culminate in a major crisis.

We suggest that prior studies of organizational actions in times of crises, to a large extent, neglected the two focal dimensions of a crisis: origin and temporal contingency (see Fig. 1). Arguably, organizational responses to crises characteristic to each of the four quadrants resemble each other and at the same time are

qualitatively different across quadrants.

2.4. Temporal contingency

The temporal dimension of a crisis (deviant event versus processual issue) determines the complex interplay of diverging outcomes explained by the behavioral theory of the firm (suggesting the emergence of problem-centric search in response to an issue [Cyert & March, 1963]) and threat-rigidity thesis (risk-averse behavior of threatened firms [Staw et al., 1981]). While the processual issues imply low time pressure for decision-making, extreme deviant events put a strong time pressure on organizational actors. According to decision-making studies, perceived urgency leads to "hypervigilance, a decline of information processing capabilities, and panic" (Billings, Milburn, & Schaalman, 1980, p. 306; Janis & Mann, 1977). The lack of time needed to gather all information necessary to evaluating all feasible alternatives forces decision makers to reach decisions quickly, employing heuristics and intuition as shortcuts in reasoning. In the face of urgency, decision makers analyze only the most salient factors and evaluate only a limited number of options closely linked to the existing solution. In line with this reasoning, Whyte (1991) pointed out, "In responding to threats and crises, the urgency of the situation encourages a tendency to minimize response time and to go with first impulses" (p. 28). Therefore, when reacting to severe adversity coupled with urgency, decision makers limit the scope of conceivable alternatives, by this means limiting any change. On the other hand, provided enough time, even a major threat to the business will not result in rigidity, as the manager will have the ability to rethink the situation and adapt in the most rational way, embracing change when needed—according to the considerations of the behavioral theory of the firm.

Empirically, perceived urgency suppresses change by inducing stress. This connection was first demonstrated by Ganesan and Subramanian (1982) in an experimental study of agricultural

scientists. Recently, neuroscientists have provided a physiological explanation to this phenomenon, arguing that urgency has a detrimental effect on decision-making performance because of the mediating role of striatum in influencing behavioral affect “by releasing motor circuit inhibition to facilitate fast but possibly premature responses” (Jones, Minati, Harrison, Ward, & Critchley, 2011, p. 6). In addition, Kellermann and Park (2001) demonstrated that perceived situational urgency increases participants’ preferred level of efficiency, which arguably leads to inhibiting the exploratory (i.e., change and innovation) activities.

Moreover, perceived urgency arguably interacts with the perception of crisis to suppress change according to the mechanism predicted by temporal motivation theory (Steel & König, 2006), which asserts that the expected utility of an action is inversely related to the perceived delay. Therefore, the perceived critical threat (perceived utility value of anticipated losses) from an urgent event will be exponentially amplified as the perception of urgency increases, by this means strengthening the discussed above threat-rigidity mechanism in suppressing the change. Lack of time prevents decision makers from carefully performing a thorough situation analysis, generating and assessing all possible alternatives, and experimenting with unfamiliar solutions.

In summary, there is a strong case for expecting the temporal dimension of a crisis (nonurgent processual issue versus urgent deviant event) to have a profound effect on organizational actions (change or rigidity).

2.5. The origin contingency

Whereas the temporal contingency determines the dominance of rigidity or problemistic search tendencies in an organizational response to a crisis, the perceived origin of crisis (technological/economic versus human/social) will determine the direction of problemistic search activities. The primary motivation for introducing this contingency is the fact that the problemistic search is local in nature, directed toward resolving a pressing problem within its domain (Argote & Greve, 2007; Cyert & March, 1963). In other words, the nature of organizational response is likely to be tightly coupled with the perceived origin of the crisis. Hence, “Marketplace” crises (having technological/economic origins) are likely to result in changes in the company’s market or technological approaches (e.g., new products, new technologies, new markets, internationalization, etc.). The “Social” crises, on the other hand, will lead primarily to changes in policies and practices related to human interactions (e.g., transactions with employees and consumers).

3. Toward a resolution of the paradox: the contingency factors

3.1. Organizational response to crisis: a general three-stage model

The holistic explanation of the complex process of organizational responding to crisis naturally follows from the insights provided in the interpretive studies of organizational decision-making (e.g., Barr et al., 1992; Daft & Weick, 1984; Dutton & Jackson, 1987; Thomas & McDaniel, 1990). Within this view, a crisis serves as a triggering event (Billings et al., 1980), initiating the process of organizational cognition and sensemaking, aimed at interpreting the focal external or internal event as a stimulus (Dutton & Jackson, 1987). This Process 1 (*organizational cognition*) leads to the formation of specific perceptions of the situation in the minds of organizational top-level decision makers, usually in the form of opportunity or threat framing (Jackson & Dutton, 1988; Thomas & McDaniel, 1990). This result becomes the input for the

following Process 2 (*decision-making*), in which the representation of the situation in managers’ minds influences their decision-making, resulting in formation of particular intentions to act or not to act in response to the crisis-causing events (Chattopadhyay, Glick, & Huber, 2001; Dutton & Jackson, 1987; Osievskeyy & Dewald, 2015). Finally, the formed intentions get translated into organizational actions within the subsequent Process 3 (*implementation*).

The essence of our subsequent argument is based on the assertion that these three consecutive interrelated processes (summarized in Fig. 2) determine the nature and form of the relationship between adversity and organizational actions of any sort, including change or rigidity, in their complexity.

In this context, the objective externally or internally originating crisis, representing one of the situations depicted in four quadrants of Fig. 1, serves as the input for the subsequent subjective interpretation and decision-making processes, ultimately resulting in objective organizational actions or lack of thereof. Thus, the classification of the initial objective crisis along the temporal and origin dimensions (Fig. 1) will be a crucial determinant of the subsequent response strategy.

In the next three subsections, we analyze the existing literature, scrutinizing the “threat-rigidity” paradox from the position of each of the three processes. In what follows, we review the key prior studies related to each of these interrelated processes (whose results are briefly summarized in Table 1), supplementing the review with the conjectures about this study’s focal contingencies—temporal dimension and the dimension of the origins of crisis.

3.2. Determinant of response within organizational cognition framework

Process 1 received much attention in the literature on organizational cognition and sensemaking, which focuses on the issue of how perception and interpretation of the situation by managers affects the representation of objective reality in their minds, influencing all further organizational actions.

Sensemaking is triggered when organizational members “confront events, issues, and actions that are somehow surprising or confusing” (Maitlis, 2005, p. 21). A crisis can trigger sensemaking, with consequent decision-making and actions that are aimed at preventing its occurrence or minimizing its impact (Maitlis & Christianson, 2014, p. 72). Within this research stream, the seminal paper by Daft and Weick (1984) proposed to look at organizations through the lens of interpretative systems, claiming that interpreting the environment is a basic requirement of individuals and organizations, and that this process is influenced by “the nature of the answer sought, the characteristics of the environment, the previous experience of the questioner, and the method used to acquire it” (p. 284). This interpretation process ultimately influences organizational structure, strategy, and—important for our study—decision-making. The authors acutely substantiate the latter point, showing that organizational decision-making is part of a more general interpretation process.

Through the lens of interpretation of the external events, the issue of organizational response to adversity was analyzed in detail for the first time by Ford and Baucus (1987), arguing that organizational adaptation to underperformance is driven by *managers’ collectively shared interpretations of the situation*, emerging through social interaction. Events are ambiguous, and have no inherent meaning, requiring interpretation regarding what they may imply, and what organizations are doing, wish to, or should do (Ford & Baucus, 1987). This means that top management has an enhanced role in interpreting a crisis, “translating events and developing

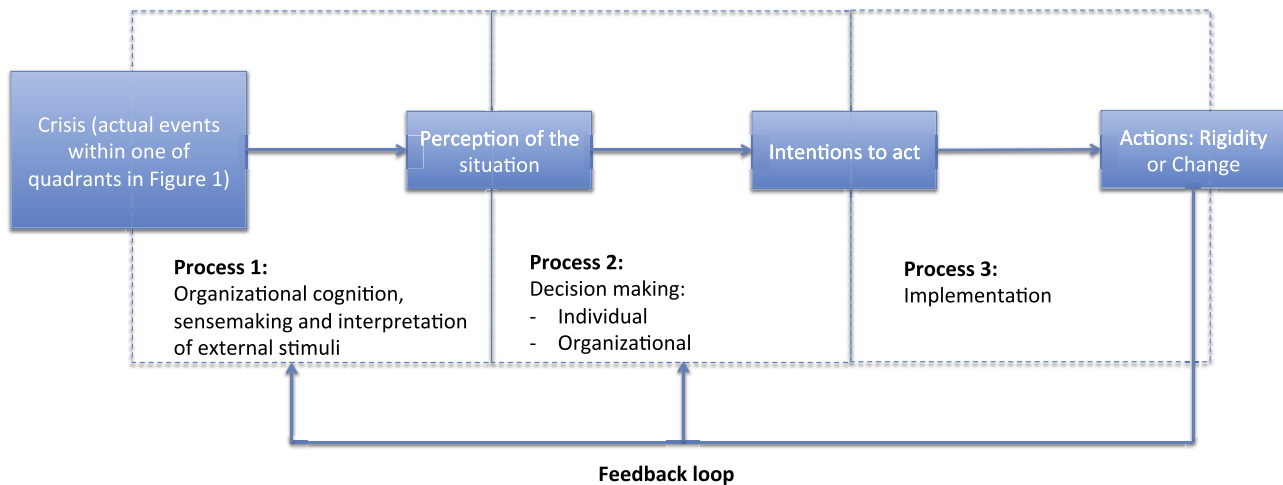


Fig. 2. Organizational response to crisis: a general scheme.

Table 1

Summary of the literature: Contingency factors resolving the threat-rigidity paradox.

Source	Paper's subject	Theoretical view	Contingency factors/moderators
Process 1: Organizational sensemaking and cognition			
Ford and Baucus (1987)	Organizational adaptation to performance downturns	Interpretive view: organizational decision-making	<ul style="list-style-type: none">managers' collectively shared interpretations of the situation, emerging through social interactionsocially constructed mental modelsorganizational institutional logicfamiliarity with innovation
Ocasio (1995)	Organizational enactment of economic adversity	Interpretive view: organizational decision-making	
Process 2: Decision making: organizational perspective			
Mone et al. (1998)	Innovation in response to organizational decline	Institutional theory, power and politics within organization, behavioral theory of the firm	<ul style="list-style-type: none">degree of institutionalization of organizational missiondiffusion of power within the organizationorganizational slacklevel of institutionalization of the environment
Meyer and Rowan (1977)	Impact of institutional environment on organization	Sociological institutional theory	<ul style="list-style-type: none">organizational slack
Cyert and March (1963)	Behavioral theory of the firm	Organizational decision-making and behavior	
Singh (1986)	Association between organizational performance and risk taking	Organizational decision-making	<ul style="list-style-type: none">decentralization of decision-makingorganizational slackorganizational slackmanagerial ownershipfirm size
Latham and Braun (2009)	Managerial risk taking model of innovation in declining organizations	Agency theory	
Audia and Greve (2006), Greve (2010)	Moderating effect of firm size on the association between underperformance and risk taking	Managerial risk taking	
Process 2: Decision-making: individual decision-making perspective			
March and Shapira (1987, 1992)	Managerial risk taking	Prospect theory, threat-rigidity	<ul style="list-style-type: none">proximity to the survival reference point
Ford (1985)	Causal attributions' impact on responses to performance downturn	Causal attribution theory	<ul style="list-style-type: none">locus of causalityproblem's stabilityproblem's controllabilityproblem's stabilityproblem's controllability
Mone et al. (1998)	Innovation in response to organizational decline	Causal attribution theory	

shared understandings and conceptual schemes among members... [giving] meaning to data" (Daft & Weick, 1984, p. 286).

Informed by perception of the origins and nature of the crisis (Fig. 1), organizational structure, strategy, culture, and individual managers' orientation toward existing organizational contexts, the collective interpretation of the crisis determines the type of organizational response: active (domain defense, offence, creation, or abandonment; internal operative or administrative structures) or passive (anger, denial, alteration of importance, resignation).

Interpretation answers the basic question, "What's going on here?" (Weick, Sutcliffe, & Obstfeld, 2005) with reality not something external to decision makers but "defined through social processes wherein interpretations are offered and affirmed,

modified, or abandoned according to their congruence with others' interpretations" (Ford & Baucus, 1987, p. 367). The argument for interpretive understanding of organizational response to adversity was further developed by Ocasio (1995), asserting that the threat-rigidity paradox can be resolved through analyzing organizational cognition and sensemaking and that organizational actions in adverse times are determined by socially constructed mental models by managers participating in group decision-making and by organizational institutional logic. The same author argues that change or rigidity of threatened organizations should be scrutinized not as a behavioral response to objective stimuli, but as the interpretive process of environment enacting, attention allocation and structuring, group and coalition formations, and social

identities construction. From this theorizing, particularly stressing the organizational memory and mimetic isomorphism phenomena, Ocasio (1995) derived his main contingency factor in determining the type of organizational response to adversity: *the familiarity of innovation*. This moderator will determine the chances of the innovation's adoption, so that the new programs or options that were previously experienced by the firm (organizational memory) or other firms in its industry (mimetic isomorphism) are much more likely to be embraced when compared to unfamiliar programs and options. The author explicitly states that prior successful experience in dealing with a particular form of change will have a substantive main effect on intentions to innovate and the interaction effect with perceived adversity.

It has been argued that cognitive frames and the subsequent emotions, both positive and negative, can have significant implications for top management as they respond to a crisis (Dutton & Jackson, 1987; James et al., 2011). Decision makers should move beyond “early emotional responses to threat (e.g., fear, anxiety, and denial) and advance beyond routine problem-solving strategies for resolution” (James et al., 2011, p. 459). While a more focused exploration of the emotional component in crisis response strategy is beyond the scope of this study, we still suggest that the immediacy dimensions inherent in both social and marketplace cataclysmic events (Fig. 1) would be of greater relevance in developing subsequent response strategies. When deviant crisis events spur emotions such as anger, anxiety, guilt, or depression (Smith & Ellsworth, 1985), these same emotions can inform how top management responds to the crisis. For instance, a sense of guilt that the organization may have been directly responsible for provoking the crisis, such as a major oil spill, may cause decision makers to become more preoccupied with defending themselves (James et al., 2011), or, on the other hand, spur top executives to assume responsibility and act upon a more immediate crisis resolution. It has also been argued that negative emotions aroused by crisis events can lead to different sensemaking triggers depending upon individual or collective identity. Organizations are more likely to engage in sensemaking when it is felt that individual or collective identity is threatened, as these do not provide a buffer during a crisis (Maitlis & Christianson, 2014).

3.3. Organizational and individual decision-making

Moving from the interpretive studies scrutinizing the issue of how organizations perceive and interpret external stimuli, particularly the objective events such as crises, we proceed to the next process within the proposed analytical scheme (Fig. 2), decision-making, informed by the input from the first process of organizational cognition. Strategic decision-making has been described as “committing substantial resources, setting precedents, and creating waves of lesser decisions” (Dean & Sharfman, 1996, p. 379). The classical paper by March and Shapira (1982) drew management scholars' attention to the salient difference between the two sub-fields of the decision-making field: behavioral (individual) and organizational decision-making. The authors argued that these two research fields cover different domains with different methods and central concerns, with neither being “a special case, nor an application of the other” (p. 95). We argue that both organizational and individual decision-making studies provide insights with regard to behavior of organizations facing severe threats.

3.4. Determinants within organizational decision-making perspective

3.4.1. Insights from existing studies

The existing literature tackling the threat-rigidity paradox

concentrates primarily on the factors from organization-level decision-making, arguably because of the relative ease of measurement on the basis of secondary data (e.g., research databases).

The first moderator, included in the conceptual model of Mone, McKinley, and Barker (1998) explaining changes in organizational behavior in response to organizational decline (or crisis), is the *degree of institutionalization of organizational mission*. Drawing upon institutional theory (DiMaggio & Powell, 1983; Meyer & Rowan, 1977), the authors assert the “lack of flexibility that comes with increasing institutionalization of an organization's mission will inhibit the organization's ability in response to organizational decline” (Mone et al., 1998, p. 121). Illustrating the point, the authors predict that in adversarial times a public university (with high institutionalization of the mission) will be much less innovative when compared against its private counterpart (being more flexible in terms of legitimate innovation choices). The argument derived from institutional theory considerations can be developed further: in line with the original ideas of Meyer and Rowan (1977), *the level of institutionalization of the environment* would influence the response to adversity, determining the type of adaptation. Highly institutionalized environments, to a large extent, protect the organizations that adhere to the rules from the external turbulence; moreover, the same environments impose major costs of legitimacy to the innovating companies. Then, in the decision-making process, organizational history and memory can play a critical role: for instance, a long record of organizational successes informing decision makers' interpretations of structural efficacy (Hedberg, Bystrom, & Starbuck, 1976). In light of past successes, decision makers would tend to recourse to the organization's proven efficacy in institutionalized practices and the likelihood of using them during downturns increases, with the lemma being “If it worked before, it will work now” (Ford & Baucus, 1987).

A second moderator is the *diffusion of power within the organization* (Mone et al., 1998). Reviewing the literature on power and politics in organizations, these authors find a set of factors (reinforcing each other) that lead to the interaction of diffusion of power with organizational crisis in their effect on organizational change. The lower the diffusion of power, the authors assert, the more pronounced would be the positive impact of organizational crisis on change. In other words, organizational change in adverse times can occur only if the power is concentrated in the hands of a small coalition that can make and implement fast and hard decisions, bearing the full responsibility for their consequences. Lack of such ruling coalition will lead to endless debates among subunits, consensus-seeking, and political behavior—all ultimately leading to rigidity or minor incremental changes. Most scholarship points to a decentralized organizational structure as promoting organizational effectiveness (Burns & Stalker, 1961; Dewar & Werbel, 1979; Floyd & Wooldridge, 1992; Rapert & Wren, 1998). Greater decentralization promotes a freer flow of communication, increasing employee satisfaction and motivation (Dewar & Werbel, 1979), thereby facilitating innovation. However, in the face of a crisis, some authors have argued that managers who believe that the causes of the situation can be controlled, and who inhabit organizations where power is concentrated at the top, would be encouraged to respond to organizational crisis by initiating the change (Caruana, Morris, & Vella, 1998; McKinley, Latham, & Braun, 2014; Mone et al., 1998). Interestingly, Singh (1986) proposed the opposite argument, asserting that decentralization of decision-making should facilitate change, in that involvement of a high number of employees from all organizational levels in the decision-making process must bring diverse perspectives, goals and values to it—a factor that has to lead to diversity and unpredictability of the decision-making outcomes. A concentration of power

combined with an absence of organizational controls, when accompanied by a lack of wisdom in interpretive frameworks, can unleash disaster (Giustiniano, e Cunha, & Clegg, 2016).

The third moderator of adversity-change association is *organizational slack*; however, this factor's effect on threatened organizations' innovativeness remains contentious in the existing literature. Particularly, Mone et al. (1998) provide a theoretical argument for uncommitted resources serving as the positive moderator for an "organizational crisis – change" association because the high level of available slack allows an organization to take additional risks and experiment. This argument is supported by the behavioral theory of the firm (Cyert & March, 1963), arguing that "slack provides a source of funds for innovations that would not be approved in the face of scarcity but that have strong subunit support" (p. 189). Moreover, slack buffers an organization from the downside risk of change and increases the legitimacy of the changes in the eyes of powerful stakeholders (Singh, 1986).

Despite the dominance of the conceptual argument for the positive association between organizational slack and change (particularly, investments into innovative projects) in crisis times, some scholars have challenged this theory. Agreeing with the prior reasoning concerning slack's positive effect on innovativeness, Latham and Braun (2009) nevertheless stressed the existence of the mechanism having the opposite effect, namely, the managerial behavior in line with the agency theory, predicting that in adversarial times, organizational slack is used by risk-averse managers to secure their positions by "opting to stockpile slack resources instead of investing in innovative activities" (p. 265). Juxtaposing the two opposing mechanisms with each other in a single study of behavior of unprofitable publicly traded software firms in the midst of the technology downturn (2000–2001), Latham and Braun (2009) found that the availability of organizational slack was negatively associated with the rate of innovation investments, corroborating the agency-based negative view of slack in crisis times.

The study of Latham and Braun (2009) elucidated one more moderator of the association between organizational crisis and change—*managerial ownership*—which turns out to have a negative impact on investments in innovations in crisis times, arguably because of the reluctance of managers to risk their firm-linked wealth and job security to innovative endeavors with uncertain long-term outcomes.

The last organizational decision-making contingency factor, in many ways similar to the above-discussed slack, is *firm size*. In their studies, Audia and Greve (2006) and Greve (2010) demonstrated the positive interaction of underperformance and firm size: the performance shortfall led to rigidity of the small firms but did not affect or increase risk taking in large firms. Firm size, the authors theorized, is linked with resource availability, which affects the managers' risk tolerance: managers of large firms are buffered from the threat of failure, and are hence inclined toward experimenting in response to underperformance; the managers of the smaller firms, on the other hand, view performance shortfall as a step toward failure, and therefore decrease risk taking.

3.4.2. Temporal/origin contingency conjectures

At the decision-making stage, the urgency of the crisis will attenuate the problemistic search behavior (change according to the behavioral theory of the firm) and reinforce threat-rigidity tendencies. In other words, the crises in Quadrants 1 and 3 of Fig. 1 (Marketplace/Social Cataclysms) are more likely to respond to a crisis through rigidity (Staw et al., 1981), weakening the decision makers' ability to adapt and conceive of any actions that are different from traditional ones. Stress and anxiety, in this context, impede an individuals' ability for rational reasoning and proper

processing of information; therefore, decision makers limit their scope of analyzed alternatives to only familiar solutions or become "rigid" by choosing not to act at all. Crises in Quadrants 2 and 4 (Marketplace/Social Endangerment), on the other hand, are more likely to trigger the problemistic search within the organization, aimed at resolving the pressing issue.

Moreover, at the decision-making stage, the conceived crisis-response strategies are likely to be situated around the crisis domain. For example, economic/technological crises will result in emergence of decisions to change market position or update technology through a change in products, services, technological processes, or business models. On the other hand, human/social crises are likely to result in an adjustment of organizational policies or corporate social responsibility practices, not necessarily related to the firm's ability to generate profit.

3.5. Moderators within individual decision-making perspective

Even though the present study's focal phenomenon of organizational change (reflected, e.g., in risk taking and innovation) in times of adversity is obviously an organization-level phenomenon, more than three decades ago, March and Shapira (1982) contended that this phenomenon cannot be properly explained using only simplistic organization decision-making theories available at the time. The authors argued that the work in behavioral (individual) decision-making research would allow specifying the models of innovation and risk taking "in new ways that might make some of the relations a bit clearer" (p. 108). The underlying assumption allowing employment of the theories of individual decision-making to explain the organizational-level threat-rigidity paradox is that organization managers' decision-making, on an individual level, determines, to a large extent, organizational actions—either change or rigidity.

That said, the dominant perspective used today to explain the behavior of underperforming organizations stems from March and Shapira's (1987, 1992) two-reference-points model of managerial risk taking. This first reference point of the traditional loss/gains of prospect theory (Kahneman & Tversky, 1979) is supplemented by the second, the *survival reference point*. The latter point divides the continuum of perception of a situation's threat into two parts: threatening the existence of the organization and not threatening the existence of the organization. According to the March-Shapira model, when the threat (usually from performance below the aspirations point) is moderately low, the organizational decision makers (and organization itself) become risk-seeking, in line with the predictions of prospect theory. However, as soon as the threat comes closer to the survival point, the focus of attention shifts away from improving firm performance to surviving the adversity, and threat-rigidity mechanisms (Staw et al., 1981) are activated. Hence, organizational actions in response to underperformance, in terms of risk taking or risk avoiding, are contingent upon the proximity to the survival point. The two-reference-points model gained primary attention in recent studies of the phenomenon (e.g., Hu et al., 2011; Iyer & Miller, 2008; Shimizu, 2007).

With regard to the threat-rigidity paradox, the existing literature provides a surprisingly small number of other resolutions drawing on individual decision-making studies besides the explanation of March-Shapiro model. Probably, the oldest explanation was proposed by Ford (1985), who contended that organizational responses to performance downturn are contingent upon *managerial causal attributions*, namely *locus of causality*, *stability*, and *controllability*. The locus of causality or a decision maker's perception of the cause of a threatening performance downturn (crisis)—external or internal to the organization—determines the direction of corrective actions. The decision maker's assessment of the

degree of the problem's stability influences the motivation to act—temporary problems reduce the incentives by making appropriate the option of passive waiting for the disaster to go away. Perceivably stable problems, on the other hand, eliminate the passive alternative and motivate action (Ford, 1985; Mone et al., 1998). Finally, the controllability of a problem reflects the decision makers' assessment of their ability to influence the cause of the performance downturn, with higher perceived control providing more incentives to act (Ford, 1985; Mone et al., 1998).

3.6. Potential moderators within the decision implementation process

There is a large body of literature on strategic planning and its impact on performance, yet the strategic decision-making process and its effectiveness have not been convincingly demonstrated (Dean & Sharfman, 1996). Furthermore, key antecedents influencing the decision implementation process during crisis, mainly sensemaking and organization and individual decision processes, have largely been missing. This is not surprising, given the often-fragmented literature of the strategy and organizational studies field and the interconnections and the feedback effects among these phases.

Not all decisions that are made get implemented, regardless of their originating process (individual or organizational) or interpretive mechanisms that fed the decision-making process. Obviously, the parameters of the third process of the proposed scheme of organizational response to crisis (Fig. 2) have a substantive effect on ultimate organizational actions, including the choice about where on the continuum between rigidity and change to rest. Surprisingly, the decision implementation aspect of the threat-rigidity paradox did not make its way to the existing managerial literature scrutinizing the phenomenon; neither the recent reviews (e.g., Hu et al., 2011; Mone et al., 1998) nor empirical papers (e.g., Audia & Greve, 2006; Chattopadhyay et al., 2001; Greve, 2010; Latham & Braun, 2009; Shimizu, 2007) discuss this issue. Therefore, applying the theoretical framework of decisions implementation to provide a set of contingency factors determining organizational actions in adversarial times remains a very promising agenda for further research.

The decision implementation process's perforce implies allocation of resources, including redirecting resources to areas where the decision makers believe they would best help tide the organization from the crisis. Hence, a crisis leading to organizational decline could lead to either enhanced change or contraction of spending. This process generally involves multiple constituents “who are likely to disagree about the value of an idea, especially one that is novel and inherently ambiguous, this process is open to social-political maneuvers, and sponsorship and advocacy are natural mechanisms for influencing decisions” (Baer, 2012, p. 1105). Again, a concentrated power structure could play an important role in the decision implementation process, negotiating between the affected divisions within the organization and moving resources therein.

In the context of an unfolding crisis, given that cognition informs action, actions also provide the “raw ingredients for sensemaking by generating stimuli or cues” (Maitlis & Christianson, 2014, p. 84); thus action precedes and focuses cognition (Weick, 1988). Accordingly, there can exist a “feedback loop” from action to cognition, with decision-making and consequent execution giving cues on the nature of the crisis. Crisis situations imply hazardous and rapidly unfolding situations that are difficult to comprehend, pressing management to gather more information to determine the most appropriate action (Maitlis & Christianson, 2014). Hence, actions are important because they also provide

more raw ingredients for sensemaking in a looping effect, and the overall interactive impact on the emerging crisis depends on the interdependency and differentiation (LaPorte & Consolini, 1991) in the system and on how tightly or loosely coupled the system is (Maitlis & Christianson, 2014; Orton & Weick, 1990; Weick, 1976).

With regard to this study's suggested typology of crises, the threat-rigidity facet of “resource conservation” (the concentration on extracting the maximum from the available resources with minimal investments [Staw et al., 1981]) is likely to deprive any change efforts of the necessary investment, hence impeding any effort of the companies in crises Quadrants 1 and 3 (Fig. 1). However, in response to the crises having low urgency (processual issues: Quadrants 2 and 4 of Fig. 1), companies are likely to invest more effort and resources toward change. Moreover, at the implementation stage, the projects likely to receive the necessary resources are likely to be closely related to the pressing issue at hand: either technological/economic or human/social.

4. Critical analysis of proposed contingency factors

4.1. Conceptual and empirical gaps in the existing literature

Summarizing the prior section, the hitherto proposed contingencies explaining the threat-rigidity paradox are as follows: (1) for the cognition/interpretation process: managers' interpretations of the situation, mental models, institutional logic and familiarity of the situation; (2) for the organizational decision-making process: a degree of institutionalization of organizational environment and mission, diffusion of power and decision-making authority, organizational slack, firm size and managerial ownership; (3) for the individual decision-making process: proximity to the survival reference point, locus of causality, problems' stability and controllability. Organizational response, in the face of crisis brought upon by critical threats, would depend on which of the above contingencies is activated. When a crisis unfolds, sensemaking can be triggered at several points, which then informs the decision-making and action process. This occurs “as actors first consider the significance of disparate cues—often in the context of sticky frames that drive them to discount them—and subsequently encounter further cues, frequently generated through their own actions (and inaction), that prompt them to ask again what is going on” (Maitlis & Christianson, 2014, p. 72).

Conceptually, the effect of the threat-rigidity paradox was appropriately scrutinized on organizational cognition and organizational decision-making levels; the existing inquiries on the topic adopt most of the major theories and frameworks that have the potential to influence the adversity-innovation link. The individual decision-making and decision-implementation levels, however, are poorly analyzed so far. Two major theories—namely, prospect theory (Kahneman & Tversky, 1979) and theory of planned behavior (Ajzen, 1991)—did not find enough attention in the studies adopting the individual decision-making perspective; moreover, the whole level of implementation, as it was argued before, has been previously ignored in the studies of the threat-rigidity paradox.

Despite the abundance of conceptual papers, the field is surprisingly underdeveloped empirically (Audia & Greve, 2006), with only three contingencies being investigated employing real-world data: size (Audia & Greve, 2006; Greve, 2010), slack (Chattopadhyay et al., 2001; Singh, 1986), and survival reference point (e.g., Iyer & Miller, 2008; Shimizu, 2007). Unfortunately, none of these moderators is free from major shortcomings to consider it the appropriate explanation of the focal threat-rigidity paradox.

4.1.1. *The problems of slack and size*

First, the argument for slack or size as the moderator of the link between underperformance and behavior cannot be automatically generalized for situations when the critical threat is caused by other adversities, particularly those situated in Quadrants 1 and 3 of Fig. 1 (deviant events, such as anticipation of loss of license to operate, an environmental jolt, or an ecological catastrophe). In the latter cases, the availability of resources will not shift the attention from fighting ruinous threat (leading to rigidity) to fighting underperformance (leading to change), in that the organization's performance at the moment can be satisfactory.

4.1.2. *Shortcomings of the March-Shapira model*

Being a major step augmenting our understanding of the phenomenon, the March-Shapira model's second reference point, nonetheless, cannot provide a plausible explanation of the threat-rigidity paradox either. First, it remains unclear when the switch in attention between the two reference points takes place. Without this point being addressed, the theory has low predictive power. Second, the model is not consistent with numerous studies that did not find threat-rigid behavior of firms facing severe adversity, i.e., acting in close proximity to the survival point (e.g., Boeker, 1997; Bowman, 1982; Bromiley, 1991; Fiegenbaum & Thomas, 1988; Gooding et al., 1996; Lehner, 2000; Miller & Chen, 2004; Wiseman & Bromiley, 1996). Then, some studies aimed at exploring the second (survival) reference point failed to find evidence of its existence (Gooding et al., 1996).

Finally, the “two reference points” model can be theoretically challenged by offering an alternative, equally plausible explanation: instead of considering underperformance (inducing risk-seeking behavior) and critical-to-survival threat (inducing rigidity) as one variable with two reference points, these two stimuli should be decoupled. First, these two stimuli have different kinds of influence on decision-making. Perceived underperformance moves individuals out of their comfort zone, forcing them to consider alternatives; perceived severe adversity causes stress and anxiety, encouraging individuals to stay in the comfort zone. In addition, there is no reason to assume that these responses are mutually exclusive; they can occur simultaneously, mitigating each other. Finally, the anticipation of business cessation can be caused by other factors beyond underperformance (such as regulatory changes, environmental disaster, or loss of license), and in such cases, considering threat-rigidity to be determined solely by extreme underperformance is obviously unfitting.

5. Implications and conclusions

5.1. *A way ahead: the implications for the future research*

This paper concentrates on answering the question about when and how existential crises stimulate organizational change or its opposite—rigid preservation of established business practices. In recognition of the fact that crisis events are not homogenous, we first develop a holistic typology of organizational crises (Fig. 1) along the dimensions of “the origin of crisis” and “the temporal perspective.” The primary perceived origin of the crisis is described along technological/economic versus human/social dichotomy, while the temporal dimension captures events provoked by extreme or deviant causes (“cataclysm”) versus processual crises, whose latent causes have existed for a while later culminating into crisis proportions. The complex phenomenon of organizational response to a crisis is then analyzed through the lens of three pathways representing interrelated processes of organizational cognition, decision-making and implementation (Fig. 2). Our analyses opens the way for future research to build upon this

framework. We further reveal the gaps in the field's knowledge and propose a research agenda to address these voids.

Explicitly choosing the appropriate process and level for analysis—organizational cognition, organizational decision-making, individual decision-making, or decision implementation—is of paramount importance for further studies. Researchers must pay attention to the theoretical level they analyze and not mix different levels in one model (e.g., slack resources with individual interpretation processes), except in cases of multilevel modeling.

The organizational cognition and organizational decision-making research was properly scrutinized in numerous studies; however, some important gaps are still remaining. Particularly, further studies could empirically investigate the impact of the degree of institutionalization of the organizational environment and mission, and diffusion of power and decision-making authority on behavior in crisis times. Another promising topic for further exploration, largely neglected in prior literature, is related to role of the firm's industry or sector in the managerial crisis interpretation process. First, on the subjective level, it is well known that managers of firms within the same industrial sector form a cognitive community with shared mental models determining common perceptions and dictating similar actions (Porac, Thomas, & Baden-Fuller, 1989). As such, we encourage future studies to scrutinize the impact of the shared within-sector mental models on the organizational actions in crises. Second, on the objective level, it is plausible that the company's market environment would largely determine the outcomes of the sensemaking process (e.g., perceived opportunities and threats); however, this intuitive statement did not get sufficient attention in the predominantly internally looking literature on interpretive organizational decision-making. As such, we strongly encourage further exploration of the contingency factors determining the organizational response to crisis within the company's market environment. For example, the magnitude of opportunity or threat framing of the different types of crises (Fig. 1) can largely be contingent on the nature of the industry: for example, firms in mature industries might be more sensitive to crises of human/social origins, while firms in growing industries might be more alert to technological crises. Similarly, the level of competitiveness of the industry is potentially positively related to the firms' propensity to notice and interpret the crises as major threats because of the competitive pressure. Finally, future studies can examine the crisis-response drivers within the firm's own competitive standing: for example, companies with substantive market power (reflected, e.g., in market share) can turn out much less sensitive to crises as compared to their smaller peers.

The individual decision-making realm, from our point of view, today has the highest potential for research explaining the threat-rigidity paradox. It requires a major theoretical contribution because the proposed solutions have so far ignored major theories of individual decision-making beyond prospect theory, particularly theory of planned behavior (Ajzen, 1991) and temporal motivation theory (Steel & Konig, 2006). Such a framework should seek to understand the balance that combines standardization and empowerment, hierarchical clarity and distributed cognition, and formalization and discretion (Giustiniano et al., 2016). Furthermore, there is now a greater awareness of power and emotions as important influences in sensemaking that require further study (Maitlis & Christianson, 2014; Weick et al., 2005). We encourage a more fine-grained analyses of how power, emotions, and institutions can influence the three interrelated sequential processes of organizational cognition and decision-making. Of related interest, too, would be a more focused analysis of emotions, both positive and negative, which could inform each of the suggested typologies of organizational crises in Fig. 1.

Finally, the decision implementation realm also has potential for substantive further research. The link between intentions to act (e.g., innovation in response to adversity) and organizational behavior itself can be scrutinized through multiple theories: institutional theory, resource-dependence theory, and the theory of planned behavior/reasoned action (e.g., Shirokova, Osiyevskyy, & Bogatyreva, 2016).

To stimulate further studies of the threat-rigidity paradox, we encourage researchers to consider the largely neglected critical features of crisis within two perspectives: the origin of crisis and temporal contingency (Fig. 1). Arguably, organizational responses to crises in each of the four quadrants resemble each other but are qualitatively different across quadrants. This conjecture hinges on the assumption that both focal dimensions have a profound impact on the actions taking place in the three processes of the organizational response (Fig. 2): organizational cognition and sensemaking, decision-making, and implementation.

5.2. Managerial implications

A crisis in an organization can provoke significant disruptions, manifested in a dramatic fall in market value or even bankruptcy, interfering with the normal operations, endangering its public image, and damaging its bottom line. Extant crisis literature tended to concentrate overwhelmingly on extreme or “deviant” events, such as environmental disasters and other abrupt shocks, overlooking events with underlying roots going further back in time, yet whose outcomes can be even more important and dramatic than those of sudden extreme events. This study rests on the observation that crisis situations can be represented not only by extreme events but also by processual issues, where the exceptionality of the triggering event is made possible by pre-existing vulnerabilities that make the crisis event possible.

While our main objective was to provide a theoretical refinement and integration of a very fragmented field of the crisis literature, our study also provides some managerial implications. In our introductory note, we had referred to the importance and the need for leaders to be savvy in crisis handling. Among the strategic functions of top management, there is now a recognition of the crucial additional function of having the action plans in place dealing with crises because of the substantial cost, including emotional impact, to organizations when such events are not anticipated and resolved. However, as earlier scholars have recognized, existing typologies of crisis events were created as distinct from the typologies of crisis response strategies, thereby rendering them inoperative as integrative frameworks or as response strategies when managers are faced with a particular type of crisis. While the crisis management literature has recommended managers to think and prepare for eventual crises by having a crisis management team and plan in place, and preparing for worst case scenarios, these recommendations have been tended to be blanket considerations, and in contexts of deviant and abnormal events. In the earlier literature, little distinction has been made between internally provoked and exogenous threats. Our analysis points out to the need for a more nuanced preparation, according to the type of the crisis being confronted with. Our analysis highlights the need for crisis managers to consider repertoires, where alternative strategies are in place depending upon the type of crisis. We strongly suggest linking the managerial responses to crises to particular quadrants in Fig. 1, which—while resembling each other—are qualitatively different. Thus, a crisis in “Marketplace” provoked by technological/economic origins is likely to require changes in the company’s market or technological approaches, while “Social” crises, on the other hand, will demand changes in policies and practices related to human interactions. Similarly with

regard to the origin of the crisis, deviant events (“marketplace cataclysm”) the overwhelming focus of most crises studies, the cognitive response is different from the one demanded by the much slower signals emanating from “Marketplace Endangerment” that we had described in Fig. 1. Hence, the crisis clusters in Fig. 1 imply differentiated managerial crisis preparedness. Crisis managers can then inspect their response repertoire, once the crisis type they face is identified in the appropriate crisis archetype. Thus, the managers can make more informed response decisions, narrowing their response strategies and enhancing the speed of the response by making more informed choice on which strategy to employ.

Moreover, in Fig. 2, the proposed three-stage model of organizational response to crisis provides the managers with a clear description of the process through which their companies will automatically go when triggered by external negative events. This understanding allows linking the crisis plans to particular stages of the process, possibly explicating the way the external events will be framed, and how the managerial decisions will be made and implemented on the basis of this framing.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Argote, L., & Greve, H. R. (2007). A behavioral theory of the firm—40 years and counting: Introduction and impact. *Organization Science*, 18(3), 337–349.
- Audia, P. G., & Greve, H. R. (2006). Less likely to fail: Low performance, firm size, and factory expansion in the shipbuilding industry. *Management Science*, 52(1), 83–94.
- Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, 55(5), 1102–1119.
- Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal*, 13(S1), 15–36.
- Bennett, R. J., & Robinson, S. L. (2000). Development of a measure of workplace deviance. *Journal of applied psychology*, 85(3), 349.
- Billings, R. S., Milburn, T. W., & Schaalman, M. L. (1980). A model of crisis perception: A theoretical and empirical analysis. *Administrative Science Quarterly*, 25(2), 300–316.
- Boeker, W. (1997). Strategic change: The influence of managerial characteristics and organizational growth. *Academy of Management Journal*, 40(1), 152–170.
- Bowman, E. H. (1982). Risk seeking by troubled firms. *Sloan Management Review*, Summer, 33–42.
- Bromiley, P. (1991). Testing a causal model of corporate risk and performance. *Academy of Management Journal*, 34(1), 37–59.
- Bromiley, P., & Wiseman, R. (1989). *Risk taking by declining organizations*. Unpublished Manuscript. University of Minnesota, Carlson School of Management.
- Burns, T. E., & Stalker, G. M. (1961). *The management of innovation*. University of Illinois at Urbana-Champaign’s Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship.
- Caruana, A., Morris, M. H., & Vella, A. J. (1998). The effect of centralization and formalization on entrepreneurship in export firms. *Journal of Small Business Management*, 36(1), 16.
- Chattopadhyay, P., Glick, W. H., & Huber, G. P. (2001). Organizational actions in response to threats and opportunities. *Academy of Management Journal*, 44(5), 937–955.
- Coombs, W. T., & Holladay, S. J. (2002). Helping crisis managers protect reputational assets: Initial tests of the Situational Crisis Communication Theory. *Management Communication Quarterly*, 16(2), 165–186.
- Cyert, R. M., & March, J. G. (1963). *A behavioral theory of the firm*, 1992 (2nd ed.). Oxford, U.K.: Blackwell Publishing Ltd.
- Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review*, 9(2), 284–295.
- Dean, J. W., & Sharfman, M. P. (1996). Does decision process matter? A study of strategic decision-making effectiveness. *Academy of management journal*, 39(2), 368–392.
- Dewar, R., & Werbel, J. (1979). Universalistic and contingency predictions of employee satisfaction and conflict. *Administrative science quarterly*, 426–448.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147–160.
- Dorsman, A., & Buckley, A. (2001). The Amsterdam options exchange in 1998: How the supervisory authorities turned a problem into a crisis. *ement Journal*, 19(3), 286–290.
- Dutton, J. E. (1986). The processing of crisis and non-crisis strategic issues. *Journal of Management Studies*, 23(5), 501–517.
- Dutton, J. E., & Jackson, S. E. (1987). Categorizing strategic issues: Links to organizational action. *Academy of management review*, 12(1), 76–90.
- Fiegenbaum, A., & Thomas, H. (1988). Attitudes toward risk and the risk-return

- paradox: Prospect theory explanations. *Academy of Management Journal*, 31, 85–106.
- Floyd, S. W., & Wooldridge, B. (1992). Middle management involvement in strategy and its association with strategic type: A research note. *Strategic management journal*, 13(S1), 153–167.
- Ford, J. D. (1985). The effects of causal attributions on decision makers' responses to performance downturns. *Academy of Management Review*, 10(4), 770–786.
- Ford, J. D., & Baucus, D. A. (1987). Organizational adaptation to performance downturns: An interpretation-based perspective. *Academy of Management Review*, 12(2), 366–380.
- Ganesan, V., & Subramanian, S. (1982). Creativity, anxiety, time pressure and innovativeness among agricultural scientists. *Managerial Psychology*, 3(1), 40–48.
- Giustiniano, L., e Cunha, M. P., & Clegg, S. (2016). Organizational zemblanity. *European Management Journal*, 34(1), 7–21.
- Gooding, R. Z., Goel, S., & Wiseman, R. M. (1996). Fixed versus variable reference points in the risk-return relationship. *Journal of Economic Behavior and Organization*, 29, 331–350.
- Greve, H. R. (2010). Positional rigidity: Low performance and resource acquisition in large and small firms. *Strategic Management Journal*, 32, 103–114.
- Gundel, S. (2005). Towards a new typology of crises. *Journal of contingencies and crisis management*, 13(3), 106–115.
- Haveman, H. A., Russo, M. V., & Meyer, A. D. (2001). Organizational environments in flux: The impact of regulatory punctuations on organizational domains, CEO succession, and performance. *Organization Science*, 12(3), 253–273.
- Hedberg, B. L., Bystrom, P. C., & Starbuck, W. H. (1976). Camping on seesaws: Prescriptions for a self-designing organization. *Administrative Science Quarterly*, 41–65.
- Hu, S., Blettner, D., & Bettis, R. A. (2011). Adaptive aspirations: Performance consequences of risk preferences at extremes and alternative reference groups. *Strategic Management Journal*, 32, 1426–1436.
- Iyer, D. N., & Miller, K. D. (2008). Performance feedback, slack, and the timing of acquisitions. *Academy of Management Journal*, 51(4), 808–822.
- Jackson, S. E., & Dutton, J. E. (1988). Discerning threats and opportunities. *Administrative Science Quarterly*, 370–387.
- James, E. H., & Wooten, L. P. (2010). *Leading under pressure: From surviving to thriving before, during, and after a crisis*. Routledge.
- James, E. H., Wooten, L. P., & Dushek, K. (2011). Crisis management: Informing a new leadership research agenda. *The Academy of Management Annals*, 5(1), 455–493.
- Janis, I. L., & Mann, L. (1977). Emergency decision making: A theoretical analysis of responses to disaster warnings. *Journal of human stress*, 3(2), 35–48.
- Jones, C. L., Minati, L., Harrison, N. A., Ward, J., & Critchley, H. D. (2011). Under pressure: Response urgency modulates striatal and insula activity during decision-making under risk. *PLoS One*, 6(6), e20942.
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291.
- Kellermann, K., & Park, H. S. (2001). Situational urgency and conversational retreat when politeness and efficiency matter. *Communication Research*, 28(1), 3–47.
- LaPorte, T. R., & Consolini, P. M. (1991). Working in practice but not in theory: Theoretical challenges of "high-reliability organizations". *Journal of Public Administration Research and Theory: J-PART*, 1(1), 19–48.
- Latham, S. F., & Braun, M. (2009). Managerial risk, innovation, and organizational decline. *Journal of Management*, 35(2), 258–281.
- Laughhunn, D. J., Payne, J. W., & Crum, R. (1980). Managerial risk preferences for below-target returns. *Management Science*, 26(12), 1238–1249.
- Lehner, J. M. (2000). Shifts of reference points for framing of strategic decisions and changing risk-return associations. *Management Science*, 46, 63–76.
- Maitlis, S. (2005). The social processes of organizational sensemaking. *Academy of Management Journal*, 48(1), 21–49.
- Maitlis, S., & Christianson, M. (2014). Sensemaking in organizations: Taking stock and moving forward. *The Academy of Management Annals*, 8(1), 57–125.
- Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights from Weick (1988). *Journal of management studies*, 47(3), 551–580.
- March, J. G., & Shapira, Z. (1982). Behavioral decision theory and organizational decision theory. In G. Ungson, & D. Braunstein (Eds.), *Decision Making: An interdisciplinary inquiry* (pp. 92–115). Boston, MA: Kent Publishing Company.
- March, J. G., & Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science*, 33(11), 1404–1418.
- March, J. G., & Shapira, Z. (1992). Variable risk preferences and the focus of attention. *Psychological Review*, 99(1), 172–183.
- Mayhew, L. B. (1979). *Surviving the eighties*. San Francisco: Jossey-Bass.
- McKinley, W., Latham, S., & Braun, M. (2014). Organizational decline and innovation: Turnarounds and downward spirals. *Academy of Management Review*, 39(1), 88–110.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83, 340–363.
- Miller, K. D., & Chen, W. R. (2004). Variable organizational risk preferences: Tests of the march-Shapira model. *Academy of Management Journal*, 47(1), 105–115.
- Mone, M. A., McKinley, W., & Barker, V. T. (1998). Organizational decline and innovation: A contingency framework. *Academy of Management Review*, 23(1), 115–132.
- Ocasio, W. (1995). The enactment of economic adversity: A reconciliation of theories of failure-induced change and threat-rigidity. In L. L. Cummings, & B. M. Staw (Eds.), *Research in organizational behavior* (Vol. 17, pp. 287–331). Greenwich, CT: JAI Press.
- Orton, J. D., & Weick, K. E. (1990). Loosely coupled systems: A reconceptualization. *Academy of management review*, 15(2), 203–223.
- Osiyevskyy, O., & Dewald, J. (2015). Explorative versus exploitative business model change: The cognitive antecedents of firm-level responses to disruptive innovation. *Strategic Entrepreneurship Journal*, 9(1), 58–78.
- Pauchant, T. C., & Mitroff, I. I. (1992). *Transforming the crisis-prone organization: Preventing individual, organizational, and environmental tragedies*. Jossey-Bass.
- Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of management review*, 23(1), 59–76.
- Pearson, C. M., & Mitroff, I. I. (1993). From crisis prone to crisis prepared: A framework for crisis management. *The academy of management executive*, 7(1), 48–59.
- Porac, J. F., Thomas, H., & Baden-Fuller, C. (1989). Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers. *Journal of Management Studies*, 26(4), 397–416.
- Rapert, M. I., & Wren, B. M. (1998). Reconsidering organizational structure: A dual perspective of frameworks and processes. *Journal of Managerial Issues*, 287–302.
- Rike, B. (2003). Prepared or not... That IS the vital question. *Information Management*, 37(3), 25.
- Roux-Dufort, C. (2009). The devil lies in details! How crises build up within organizations. *Journal of Contingencies and Crisis Management*, 17(1), 4–11.
- Schendel, D. E., Patton, G. R., & Riggs, J. (1976). Corporate turnaround strategies: A study of profit decline and recovery. *Journal of General Management*, 3, 3–11.
- Seeger, M. W., Sellnow, T. L., & Ulmer, R. R. (1998). Communication, organization, and crisis. *Annals of the International Communication Association*, 21(1), 231–276.
- Seeger, M. W., Sellnow, T. L., & Ulmer, R. R. (2003). *Communication and organizational crisis*. Greenwood Publishing Group.
- Shimizu, K. (2007). Prospect theory, behavioral theory, and the threat-rigidity thesis: Combinative effects on organizational decisions to divest formerly acquired units. *Academy of Management Journal*, 50(6), 1495–1514.
- Shirokova, G., Osiyevskyy, O., & Bogatyreva, K. (2016). Exploring the intention-behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal*, 34(4), 386–399.
- Shrivastava, P. (1993). Crisis theory/practice: Towards a sustainable future. *Organization & environment*, 7(1), 23–42.
- Singh, J. (1986). Performance, slack, and risk taking in organizational decision making. *Academy of Management Journal*, 29(3), 562–585.
- Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of personality and social psychology*, 48(4), 813.
- Spillan, J., & Hough, M. (2003). Crisis planning in small businesses: Importance, impetus and indifference. *European Management Journal*, 21(3), 398–407.
- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat-rigidity effects in organizational behavior: A multilevel analysis. *Administrative Science Quarterly*, 26, 501–524.
- Steel, P., & Konig, C. J. (2006). Integrating theories of motivation. *Academy of Management Review*, 31(4), 889–913.
- Thomas, J. B., & McDaniel, R. R. (1990). Interpreting strategic issues: Effects of strategy and the information-processing structure of top management teams. *Academy of Management journal*, 33(2), 286–306.
- Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative science quarterly*, 1–19.
- Weick, K. E. (1988). Enacted sensemaking in crisis situations. *Journal of management studies*, 25(4), 305–317.
- Weick, K. E. (1999). Theory construction as disciplined reflexivity: Tradeoffs in the 90s. *Academy of Management Review*, 24(4), 797–806.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization science*, 16(4), 409–421.
- Whyte, G. (1991). Decision failures: Why they occur and how to prevent them. *Academy of Management Executive*, 5(3), 23–31.
- Wiseman, R. M., & Bromiley, P. (1996). Toward a model of risk in declining organizations: An empirical examination of risk, performance and decline. *Organization Science*, 7(5), 524–543.