BAR Brazilian Administration Review

ANPAD

Invited Article

Strategic Issues: A Systematic Review of the Literature

José Eduardo Valladares Teixeira[1], Fernando Antonio Ribeiro Serra[1], Kent D. Miller[2]

[1] Universidade Nove de Julho, São Paulo, SP, Brazil
[2] Eli Broad College of Business, East Lasing, MI, USA

How to cite: Teixeira, J. E. V., Serra, F. A. R., & Miller, K. D. (2023). Strategic issues: A systematic review of the literature. *BAR-Brazilian Administration Review, 20*(3), e230075.

DOI: https://doi.org/10.1590/1807-7692bar2023230075

Keywords:
strategic issue; decision-making; strategic management

JEL Code:
M1, M10

Publication date:
July 17, 2023.

Conflict of Interests:
The authors have stated that there is no conflict of interest.

Corresponding author:
José Eduardo Valladares Teixeira
Universidade Nove de Julho
Rua Deputado Salvador Julianelli s/n, Barra Funda,
CEP 01156-000, São Paulo, SP, Brazil
j.e.teixeira@hotmail.com

ABSTRACT

Although the strategic issue (SI) construct has been used since the 1970s as a theoretical framework to investigate and explain several phenomena in organizational and strategic management, few reviews on SIs have been carried out so far. This study aims to fill this gap. A systematic review of the literature was conducted, comprising 77 empirical and theoretical papers published in peer-reviewed academic journals since 1975. The analysis of this sample of papers led to the identification of five themes or perspective on SIs, which are discussed. This review contributes to the organizational and strategic management literature by identifying lines of inquiry, convergences, and gaps in the studies on SIs, and proposing an agenda for future research.

INTRODUCTION

Strategic issues (SIs) — defined as "emerging developments, trends or concerns perceived as affecting the achievement of the organization's objectives" (Dutton, 1986a, p. 3) — have been an enduring theme in management research since its initial conceptualization in the 1970s. Although strategic issues (SI) are critical to the management literature, yet a thorough assessment of the research on SIs is long overdue, despite numerous studies being published over the past four decades. As a result, it is imperative to pose critical questions to guide future studies, including the identification of the most relevant empirical results and theoretical conceptualizations, the identification of shortcomings or inconsistencies in theoretical underpinnings and empirical methods, and the identification of gaps in the literature that require further exploration.

Arising from an initial preoccupation with the incorporation of environmental turbulence and unforeseen events into traditional strategic planning approaches (Ansoff, 1975, 1980), the construct was initially used in papers in which scholars prescribed structured, regimented methods managers should use to analyze these emerging phenomena and incorporate them into the strategic planning practices of their firms (Ansoff, 1975, 1980; King, 1982). In the early 1980s, however, the study of SIs took a different turn, after the publication of several papers by Jane Dutton and colleagues, which would have a lasting influence on future research on SIs. This change was spearheaded by a theoretical paper by Dutton et al. (1983), in which the authors presented the concept of strategic issue diagnosis (SID) and characterized SID in terms of its scope, importance, and dominant characteristics. Authors who subscribe to the perspective first exposed in this paper have since argued that due to the ill-defined (Dutton & Jackson, 1987), ambiguous (Dutton, 1986a), complex (Miller & Lin, 2020), not easily quantifiable (Diffenbach, 1982), and interdependent (Dutton et al., 1989) nature of SIs, there is little objective basis for the choice of solutions to the problems they pose (Dutton & Ashford, 1993). Therefore, SID involves a strong component of interpretation and judgment on the part of the decision-makers, in which the data and stimuli available on the issues under analysis must be infused with meaning (Dutton et al., 1983). Harking back to the principles and concepts of the behavioral theory of the firm (Cyert & March, 1963; Simon, 1947), this perspective highlights the bounded rationality of individuals and the role of cognitive schemas and data structures in memory, used by managers to represent knowledge and relationships about SIs, and to respond to these issues (Barr et al., 1992; Dutton & Jackson, 1987). It also calls attention to the fact that SID does not follow a linear, structured set of stages, as in rational problem-solving process, but takes a fluid, recursive, and interactive character (Dutton et al., 1983).

The research on SIs has expanded considerably since the early 1980s. Scholars investigated the antecedents, moderators, and consequences of the interpretative basis upon which individuals and firms deal with SIs. Some studies addressed the effects of the attributes of the issue itself, such as its salience for the firm, in terms of its impact and urgency, and the perceived feasibility of resolving it (Barreto & Patient, 2013; Dutton & Duncan, 1987a; Dutton et al., 1990; Julian & Ofori-Dankwa, 2008). Others investigated the effects of beliefs and cognitive frames on the selective attention individuals and firms pay to certain issues, the meaning they attach to these issues, and the responses to address them (Bundy et al., 2013; Chattopadhyay, et al. 1999). The processes used to deal with SIs, which influence the selection of issues that are incorporated into (and later discarded from) the strategic agenda of the firm (Dutton, 1986a, 1988, 1997; Joseph & Ocasio, 2012; Spickermann et al., 2014), were also investigated. Other scholars researched the effects of contextual factors on SI processing, at several levels of analysis: contextual factors affecting issue interpretation and response were identified at the individual level, such as locus of control (Plambeck & Weber, 2009; Thomas et al., 1994). At the group level, studies investigated demographic (Knight et al. 1999) and cognitive Bergman, et al. 2016) diversity at the groups most involved with SIs, usually top management teams. At the organizational level, factors such as the strategic orientation and posture (Ginsberg & Venkatraman, 1992; Plambeck & Weber, 2009; Thomas & McDaniel, 1990), identity (Dutton & Dukerich, 1991), resource base (Dutton & Duncan, 1987a), and structure (Dutton et al., 1990) of the firm were addressed in several studies. Finally, at the environmental level, factors such as national culture (Sallivan & Nonaka, 1988; Schneider & Meyer, 1991), munificence (Barr et al., 1992), and competitive intensity (Barr, 1998) were found to be significant.

Besides the investigation of issue interpretation, its antecedents, moderators, and consequences, the research on SIs has branched into specialized sub-fields, which gained prominence and became themselves the focus of several studies. Among these sub-fields is the investigation of issue categorization. Among the many categorization frameworks and typologies for SIs proposed in the academic literature, the most extensively used has been the threat and opportunity scheme originally proposed by Dutton and Jackson (1987) and later used in many papers (including, for instance, Amason & Mooney, 2008; Grégoire et al. 2010; Laamanen et al., 2018; Wulf et al., 2020). Another sub-field is the study of issue selling, first conceptualized by Dutton & Ashford, 1993, and further explored in subsequent studies (Alt & Craig, 2016; Ashford, et al. 1998; Dutton et al., 2001).

The time seems to be ripe for an assessment of the evolution and the state of the research on SIs. Such assessment appears to be long overdue, as, although many studies on SIs have been published in a period spanning more than four decades, very few reviews of SIs have been carried out to date. Abedin, et al. (2015) authored the only known review of SI studies, but their paper included only a subset of the known corpus of the literature on SIs published in leading peer-reviewed academic journals and, therefore, their conclusions may not take into consideration empirical findings and theoretical propositions found in some seminal studies. This gap led to the formulation of the following questions, which guide the present study: What are the most relevant empirical results and theoretical conceptualizations in the literature on SIs? Are there any salient shortcomings or inconsistencies in the theoretical underpinnings and empirical methods used? And, finally, what are the gaps in this literature that should be addressed in future studies?

To answer these questions, we conducted a systematic review of the literature, analyzing a sample of 77 articles published in peer-reviewed academic journals since 1975, the year of publication of Ansoff's first paper on SIs. The procedures proposed by Tranfield et al. (2003) for systematic reviews in management science oriented the initial search for articles indexed at the Web of Science database and the subsequent selection, review, and synthesis of data from them. We grouped articles that focused on similar themes and analyzed their commonalities and differences, in terms of conceptual underpinnings, methodological approaches, and empirical results. Taking this analysis as a starting point, we used our judgment to develop suggestions for future research.

The contributions of this study are twofold: for researchers, it provides a systematic review of the recent scholarly contributions on SIs, identifying the research streams, summarizing the results of the studies, and pointing to areas of study that warrant further investigation. For practitioners, it presents the empirical evidence obtained thus far on the diverse factors impinging upon the processes of noticing, interpreting, devising answers to, and appraising the results of organization moves oriented toward issues that are relevant for its objectives.

METHOD

Following Tranfield et al. (2003), we started with a preliminary collection of articles on SIs, conducted at the web pages of Wiley, publisher of the Strategic Management Journal (SMJ) and of the Academy of Management, publisher of the Academy of Management Journal (AMJ), Academy of Management Review (AMR), and Academy of Management Annals (AMA). These journals were selected for this preliminary search based on their relevance in the field of strategy and general management: as of 2020, the five-year impact factors of these journals according to the InCites Journal Citation Reports (JCR) were 8.641 (SMJ), 15.873 (AMJ), 12.638 (AMR), and 16.438 (AMA). This preliminary search was conducted to get a sense of the studies published in highly regarded journals and to provide direction to the subsequent systematic gathering of literature in this field. The search looked for the expression 'strategic issue' at titles of articles published in these papers. The 16 articles found in this scoping search were read and the data on these articles downloaded and stored for further analysis.

The full search was conducted using the ISI Web of Science (WoS), the most frequently used bibliographic database (Zupic & Čater, 2015). WoS was chosen in preference to Scopus due to the latter's restricted coverage of older publications, especially those published before 1996 (Falagas et al., 2008). A search in Scopus would probably not retrieve at least some of the seminal studies on SIs that, as the scoping search had already revealed, were published in the 1970s and 1980s. I searched for articles in the 'Management' and 'Business' categories in WoS that contained the topic 'strategic issue,' either in the title, keywords, or abstract. Departing from Tranfield et al. (2003) recommendation to investigate unpublished studies, conference proceedings, industry trials, and the internet, we restricted our search to articles published in peer-reviewed journals. Following Ramos-Rodríguez and Ruíz-Navarro (2004), we considered that these articles represent certified knowledge: research that has been submitted to the critical review of researchers of the same field of knowledge and that has obtained their approval for publication. This search returned 99 articles. The data indexed at WoS for these 99 articles were downloaded; data for three articles from the scoping search that were not among the 99 articles found in the full search were also retrieved.

We downloaded and read the text of these 102 articles. While doing so, we identified in their citations 36 additional articles that explicitly referred to SI that had not been retrieved in the previous searches. We then downloaded and read these additional 36 articles. The final sample of documents for this review was selected after the textual analysis of these 138 articles. As a selection criterion, we decided to exclude from this review all articles that did not explicitly use the construct of SI in their theoretical foundation. The selected 77 articles were read a second time; for each of them a summary was developed and an entry in a data-extraction table built using Excel was generated, following the recommendations by Tranfield et al. (2003). The analysis of these 77 articles was synthesized through a narrative review (Tranfield et al., 2003), presented in the next section.

LITERATURE REVIEW

Selected contributions to the literature on strategic issues

The first articles published in the 1970s and early 1980s introduced the concept of SIs and prescribed methods and systems managers should use to deal with them, proposing the inclusion of the analysis of SIs into the strategic planning/formulation processes of their firms (Ansoff, 1975, 1980; King, 1982). In 1983, Dutton, Fahey, and Narayanan introduced the concept of strategic issue diagnosis (SID), which, differently from previous studies, focused on the interpretation and judgment of issues, rather than on their complete management. Jane Dutton followed her seminal paper from 1983 with several others, published alone or with colleagues, which had a significant impact on subsequent studies.

Table 1 presents a list of selected papers by Dutton and colleagues. These works present theoretical essays and empirical research on various aspects of SIs, including SID, strategic agenda or issue portfolio, crisis SIs processing, interpretation of SIs by decision-makers, categorization of issues using the framework of assessments of urgency (U) and assessments of feasibility (F) (FU), and the relationship between the strategic planning process and the firm's strategic agenda. Dutton and colleagues' papers have influenced the evolution of SI research, serving as a foundation for the exploration of various factors and aspects of the concept. The continued development and expansion of the field can be attributed to the groundwork laid by these early, influential studies.

Table 1. Representative contributions from Dutton and colleagues.

Paper	Type of paper	Noteworthy concepts, propositions, and/or empirical results
Dutton et al. (1983)	Theoretical essay	Strategic issue diagnosis (SID): those activities and processes by which data and stimuli are translated into issues (attention organizing acts) and these issues are explored (acts of interpretation).
Dutton (1986a)	Theoretical essay	Strategic agenda or issue portfolio: the set of SIs receiving collective attention in the organization. Agenda building is the process through which SIs gain decision-makers' attention and are legitimated in the organization.
Dutton (1986b)	Empirical research	Describes how crisis SIs are processed differently from non-crisis issues in organizations.
Dutton and Duncan (1987a)	Theoretical essay	Presents a process model of how decision-makers interpret SIs, encompassing three stages: activation, assessments of urgency (U), and assessments of feasibility (F). (FU was later considered a framework for the categorization of issues.)
Dutton and Jackson (1987)	Theoretical essay	Proposes that the meanings attributed to SIs by decision-makers influence organizational responses to these issues. Meanings are imposed by (cognitive) categories; categories are engaged by using (linguistic) labels. The two labels most frequently applied to SIs are: threat (T) and opportunity (O).
Dutton and Duncan (1987b)	Theoretical essay	Describes how the strategic planning process affects the set of SIs that are incorporated in the firm's strategic agenda, and how the characteristics of the strategic agenda translate into the initiation and implementation of strategic change.
Dutton and Webster (1988)	Empirical research	Suggests that people are attracted to issues that appear to be feasible (solvable), and existing in a more certain, stable environment.
Dutton et al. (1989)	Empirical research	Identifies the dimensions decision-makers use to sort SIs — giving attention to some of them while dropping others.
Dutton et al. (1990)	Empirical research	Provides evidence that assessments of SIs are related to the allocation of individuals to positions in an organization structure and on organizational resources.
Dutton and Dukerich (1991)	Empirical research	"... what people see as their organizations' distinctive attributes (its identity) and what they believe others see as distinctive about the organization (its image) constrain, mold, and fuel interpretations — help link individual cognitions and behaviors to organizational actions" (p. 550, emphasis added).
Dutton (1993)	Theoretical essay	Proposes that issues are not always diagnosed intentionally (active SID), identifying conditions under which organizations put decision-makers in an unreflexive diagnosis mode (automatic SID) involving the activation of ready-made issue categories (TO).
Dutton and Ashford (1993)	Theoretical essay	Proposes that issue selling by middle managers is central to explain how issues are incorporated in the strategic agenda of an organization.
Denison et al. (1996)	Empirical research	Explores the relationship between organizational context and the interpretation of SIs.

Besides Dutton and colleagues, several other authors provided substantive contributions to the study of SIs, in the decades since the publication of the foundational studies by Ansoff. Table 2 presents a select list of such articles. These studies broadened the scope of Dutton and colleagues' initial papers and helped shape the direction of subsequent research, as demonstrated by the evolution of SI interpretation research. Research in SI interpretation began with a focus on the relationship between organizational context and SI interpretation, as demonstrated by the work of Thomas and McDaniel (1990). This focus can be traced back to the seminal works that explored strategic agenda and issue portfolio, as well as SID. As research progressed, the scope expanded to cover other aspects of SIs, such as strategic posture, national culture, and mental models (Barr et al., 1992; Ginsberg & Venkatraman, 1992; Schneider & Meyer, 1991), which were also rooted in the seminal works' exploration of factors influencing SI interpretation.

Table 2. Other substantive contributions to the study of SIs.

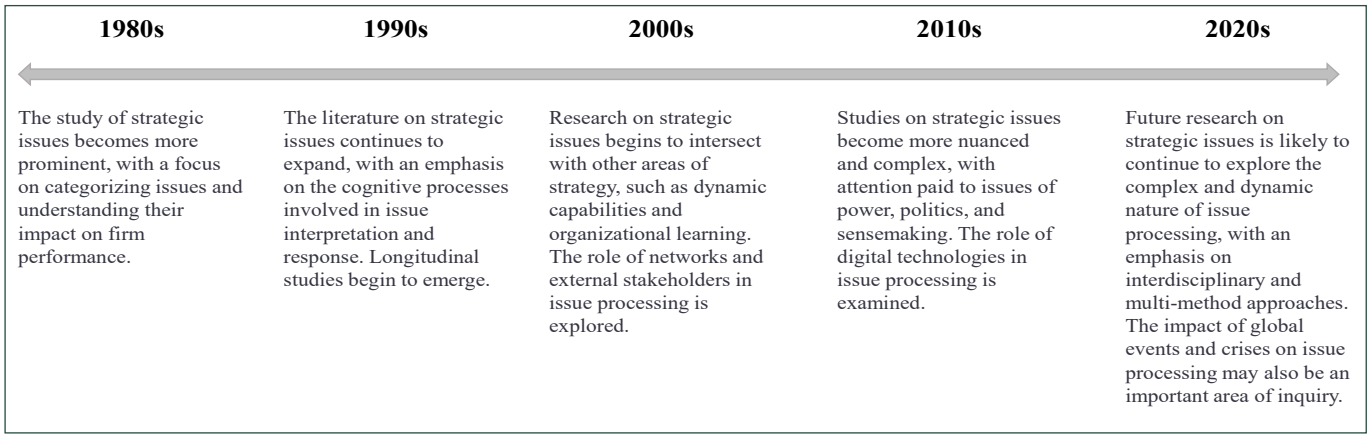
Paper	Type of paper	Noteworthy concepts, propositions, and/or empirical results
Thomas and McDaniel (1990)	Empirical research	Found a relationship between the organizational context (strategic orientation of the firm and the information-processing structure of the TMT) and the CEO's interpretation of SI (labels assigned to SIs — threat and opportunities — and range of variables used in interpretation).
Ginsberg and Venkatraman (1992)	Empirical research	Concluded that strategic posture (efficiency vs. service quality orientation) influenced the adoption of new technology, both directly and indirectly, through issue interpretation (effect response and valence).
Schneider and Meyer (1991)	Empirical research	Following Sallivan and Nonaka (1988), found that national culture influenced the interpretation of SI (as a crisis and as a threat) and the nature of the responses to these SI (magnitude and internal/external focus of the response).
Barr et al. (1992)	Empirical research	Found a link between changes in mental models (cause-effect understandings) and changes in organizational action when studying the evolution of the interpretation of a SI by leaders of two U.S. railroads over a 25-year period, a time span in which these firms experienced varying levels of environmental munificence.
Thomas et al. (1993)	Empirical research	Investigated the relationship between strategic sensemaking (scanning, interpretation, and action) and organizational performance, and found that high information use (scanning) influence issue interpretation (TO), and that interpretation influence product-service change (action). Product-service change, by its turn, influenced performance.
Palich and Bagby (1995)	Empirical research	Used experiments to conclude that entrepreneurs are predisposed to cognitively categorize business situations more positively (as opportunities) than non-entrepreneurs.
Judge and Speitzfaden (1995)	Empirical research	Incorporated the size of the SI array of a firm on a model that established a relationship between strategic time horizon diversity and financial performance.
Gioia and Thomas (1996)	Empirical research	In a study of higher education institutions, found that TMT members' perceptions of identity and image mediate the relationship between the organization's internal context (strategy and information-processing structures) and issue interpretation (strategic vs. political issues).
Mittal and Ross (1998)	Empirical research	Investigated the influence of transient affective states and issue framing on issue interpretation (and risk taking) and found that framing an issue (as a threat or an opportunity) had a stronger impact on issue interpretation among negative affect participants than among positive affect participants in experiments.
Barr (1998)	Empirical research	Investigated the evolution of the interpretation of a strategic issue in the pharmaceutical industry and found distinct patterns in this evolution, dependent on whether the issue was familiar or not. She also found that (change in) interpretation is strongly linked to the triggering of strategic response.
Knight et al. (1999)	Empirical research	Investigated how demographic diversity and group processes influence strategic consensus in the TMT. They found that group processes — interpersonal conflict and agreement-seeking behaviors (defined as the degree to which TMT members worked to reach agreement on SIs) — partially mediated the relationship between diversity and strategic consensus.
Kuvaas (2002)	Empirical research	Investigated the effect of informational context on SI interpretation. He found that higher availability of environmental information leads to the perception of issues as controllable, but that managers in TMTs with higher processing capacity perceive higher degrees of control and manageability, and search for less data in issue interpretation.
Anderson and Nichols (2007)	Empirical research	Found that time spent searching for information leads to changes toward seeing the issue as more of a threat, while the diversity of information found leads to changes toward seeing it as less of a threat (they found no effect of information search on opportunity perceptions).
Ocasio and Joseph (2005).	Theoretical essay	Proposed an attention-based theory of strategy formulation, predicated on several propositions, the first of which states that "decision-making is guided by selective attention to organizational issues and initiatives."
Julian and Ofori-Dankwa (2008)	Empirical research	Investigated the explicative power of two alternative issue categorization frameworks — TO vs. FU — and found that the FU approach is a better predictor of both intentions and actual responses to SIs than the TO approach.
Amason and Money (2008)	Empirical research	Examined how (past) performance influence SI framing and decision processes. They found that strong performance is associated with framing issues more as threats than opportunities, and that strong performance leads to less comprehensiveness in decision-making.
Plambeck and Weber (2009, 2010)	Empirical research	Found that when decision-makers evaluate an issue as both positive and negative, they are more likely to act on the issue, and that these actions were of greater scope, novelty, and riskiness. An ambidextrous strategic orientation and a sense of control of the environment both influence ambivalence in issue interpretation.
Rerup (2009)	Empirical research	Found that the inability to notice the weak signs of an emerging issue and to act on it in a coherent fashion resulted in an unexpected crisis at Novo Nordisk. He proposed 'attentional triangulation' to identify issues that have potentially critical consequences for an organization.
Barreto and Patient (2013)	Empirical research	Investigated how managers in a firm attended to the threat and opportunity aspects of an issue (an exogenous shock). They found that attention was influenced by desirability (shock distance) and feasibility (capability perception) considerations.
Bundy et al. (2013)	Theoretical essay	Developed a cognitive theory of issue salience. They proposed that firms will respond more substantially to those issues perceived as salient to both an instrumental logic (the rational pursuit of organizational objectives) and an expressive logic (how the firm defines its identity) and more symbolically to those issues perceived as salient to only one logic.
Liu and Maitlis (2014)	Empirical research	Analyzed how emotional dynamics influence the processing of SIs by TMTs. Through the analysis of the conversations in TMTs, they identified five kinds of emotional dynamics, each associated with a different type of strategizing process. The strategizing processes, by their turn, varied in how issues were proposed, discussed, and evaluated, and whether decisions were taken or postponed.
Miller and Lin (2015, 2020)	Mathematical/ Computational modeling	Investigated the accuracy of analogical reasoning when applied (over time) on the interpretation of SIs as threats and opportunities, in environments that differed in variation.
Bergman et al. (2016)	Empirical research	Using the concept of cognitive maps, examined the role of cognitive diversity on strategic issue interpretation among boards of directors. Provides evidence that even though boards of directors of firms in the same industry manifest cognitive diversity, they follow strong industry-wide, common patterns on SI interpretations.

Later studies continued to build on the foundational work of Dutton and others by investigating the link between strategic sensemaking, scanning, and organizational performance (Thomas et al., 1993). Researchers also began to differentiate entrepreneurs' cognitive categorizations from non-entrepreneurs (Palich & Bagby, 1995) and assess

the effect of transient affective states and issue framing on SI interpretation (Mittal & Ross, 1998). These developments can be seen as an extension of the seminal works that focused on the interpretation of SIs by decision-makers.

Subsequent research has continued to explore various aspects of SIs, delving into cognitive diversity, group processes, informational context, attention-based theories, alternative issue categorization frameworks, past performance, emotional dynamics, and the accuracy of analogical reasoning. These studies have furthered our understanding of SI interpretation by drawing on the foundational ideas and concepts introduced by Dutton and other seminal works in the field.

Figure 1 is a timeline that shows the evolution of research on strategic issues from the 1970s to the 2020s. It is divided into six decades, with each decade being represented by a year range and a brief description of the key developments in research on strategic issues during that period. The timeline starts in the 1970s, when researchers began to explore the concept of strategic issues and their importance for organizations, and ends in the 2020s, with a projection of future research directions. Figure 1 highlights the increasing complexity and nuance of research on strategic issues, as well as the interdisciplinary and multi-method approaches that are likely to shape future research.



Source: Developed by the authors.

Figure 1. SI evolution timeline

Perspectives and themes in strategic issues

Through the analysis of the selected papers, we identified five main perspectives or themes: (1) the definition of SIs; (2) issue categorization; (3) issue interpretation; (4) the level of analysis; and (5) underlying mechanisms and processes. Following the approach adopted by Meinhardt et al. (2018), we use these five perspectives to present the key findings of the studies in this sample, comparing and contrasting results and pointing to gaps in our present knowledge and potential opportunities for future research in SIs.

The definition of SIs

Scholars from three research streams — public policy, business and society, and strategic management — have proposed definitions for SI (Wartick & Mahon, 1994). The definitions from these three research streams give emphasis to different aspects of SIs. In the public policy research stream, SIs are frequently associated with controversy (Cobb & Elder, 1972; Eyestone, 1978). According to Wartick and Mahon (1994), controversy arises because (a) an issue involves conflict between stakeholder groups and (b) the conflict is centered on the allocation of resources to address a particular concern. Different stakeholders may have legitimate but differing demands regarding facts, values, and policies. Stakeholders that do not find their concerns adequately supported by the firm may contest the current status quo; this contestation gives rise to corporate issues.

In studies in business and society, the theme of inconsistencies in expectations dominates considerations of SI. According to this research stream, issues arise when there are inconsistencies between the views of different stakeholders regarding what the business behavior or performance is and what it should be (Post, 1978). While for public policy scholars, issues arise from a controversy regarding the allocation of resources, in the business and society tradition issues stem from gaps between expectations and reality. This perception of inconsistency may not be controversial; the existence of a gap between performance and expectations may be an understanding shared by most if not all the major stakeholders of a firm.

Table 3. Some definitions of SIs found in the literature

A SI is...	...which occurs/ manifests itself...	...considered by...	...to cause...	...impact...	Reference
A forthcoming development,	either inside or outside of the organization,		which is likely to have an important impact	on the ability of the enterprise to meet its objectives.	Ansoff (1980)
A 'condition or pressure' on the organization			that involves: (a) possible outcomes that are important to, or of possible high impact... (b) strategic consequences (c) controversy	...on the organization's overall performance.	King (1982)
An emerging development		that in the judgment of some strategic decision-makers	is likely to have a significant impact	on the organization's present or future strategies.	Dutton et al. (1983)
Emerging developments, trends, or concerns		perceived	as affecting	the achievement of the organization's objectives.	Dutton (1986a)
Developments or trends			with the potential to impact	the organization's strategy and its effectiveness.	Dutton (1986b)
Developments or events	that have not yet achieved the status of a decision event		and that have the potential to influence	the organization's current or future strategy.	Dutton and Duncan (1987a)
Developments or trends	that emerge from an organization's internal or external environments	perceived	to have the potential	to affect an organization's performance.	Dutton and Ottensmeyer (1987)
Events and trends		perceived	as having the potential to have an effect	on achieving organizational objectives.	Dutton and Jackson (1987)
Developments, events, and trends			having the potential to impact	an organization's strategy.	Dutton and Duncan (1987a)
Developments, events, and trends	internal or external	viewed by decision-makers	as consequential	to the organization	Dutton and Duncan (1987b)
Potentially important developments		that in the minds of organizational decision-makers	are likely to affect	the organization's ability to achieve its objectives.	Dutton (1988)
'Messy' or 'unstructured' issues			having a wide range of effects	on an organization.	Thomas et al. (1989)
Trends, developments, and events			suggesting a change	in the environment (internal or external) of an organization.	Thomas et al. (1989)
Events, developments, or trends		perceived by decision-makers	as having the potential	to affect their organization's performance.	Dutton et al. (1989)
Trends, developments, and dilemmas			that affect	an organization as a whole and its position in its environment.	Thomas and McDaniel (1990)
Events, developments, and trends		that an organization's members collectively recognize	as having some consequence	to the organization.	Dutton and Dukerich (1991)
An emerging development			that has the potential to affect significantly	the organization or its position in the environment.	Ginsberg and Venkatraman (1992)
Developments, trends, and events		judged	to be significant	to the current and/or future performance of the organization.	Jackson (1992)
Events, developments, or trends		viewed	as having implications	for organizational performance	Dutton and Ashford (1993)
Issue becomes strategic		when top management believes	it has relevance	for organizational performance.	Dutton and Ashford (1993)

Note. Developed by the authors.

In the strategic management literature, the definitions proposed in early papers soon converged to a few common themes, and these definitions were used by most of the studies published in the following decades. Table 3 presents some of the definitions found in these early papers.

A working definition of SIs can be generated from the ones found in the literature: SIs are emerging developments, trends, or events, inside or outside of the organization, which, in the judgment of some strategic decision-makers, are likely to have an important impact on the organization's ability to meet its objectives. A few conclusions can be extracted from this definition and the definitions contained in the cited literature: in general, a SI (a) is firm-specific, (b) is important (impactful) for the future as well as the present of the firm, (c) can have both internal and external change as possible sources, and (d) exists only if it is felt or perceived

somewhere, by someone within the organization. The existing conceptualizations of a SI pay little attention to either the type of issue being addressed (e.g., strategic, political, social, etc.) or its categorization or valence (e.g., threat/opportunity, gain/loss, etc.).

The papers reviewed also provide some insights on the characteristics of SIs. First, SIs are ambiguous (Dutton, 1986a). The nature of a SI is not always clear (Ansoff, 1975), having potentially contradictory implications (Julian & Ofori-Dankwa, 2008). Especially at early stages, it could be difficult to discern if the SI is a welcomed — an opportunity — or an unwelcomed one — a threat (Ansoff, 1980). Second, they are complex. SIs usually are novel, open-ended, with interdependent elements (Miller & Lin, 2020), and associated with broad, diffuse domains (Dutton et al., 1983). Third, SIs are rarely found in isolation — they are usually associated and intertwined with other issues and problems (Dutton et al., 1989). The set of issues that are considered strategic comprise, at any given time, the issue array or strategic agenda of the firm (Bergman, et al. 2016; Dutton, 1997). Fourth, data on them are usually insufficient for the application of a formal, rational decision-making process. Therefore, there is not a single, best way to formulate and solve SIs (Dutton & Ashford, 1993; Fox-Wolfgramm et al., 1998).

One aspect of the prevalent conceptualization of SIs that may raise some questions is the idea that a SI only exists if it is perceived as such by decision-makers. Many authors seem to agree with this assertion. According to Dutton and Dukerich (1991, p. 518), SIs are "events, developments, and trends that an organization's members collectively recognize as having some consequence to the organization". Dutton and Ashford (1993, p. 397) stated that "No issue is inherently strategic. Rather, an issue becomes strategic when top management believes that it has relevance for organizational performance". And, according to Bundy et al. (2013, p. 352), and issue is salient only when it "resonates with and is prioritized by management".

Following Bansal, et al. (2018), however, one can say that the literature on SIs suffers from an epistemological bias, giving scant attention and importance to substantive (ontological) aspects of issues. Authors that subscribe to the dominant view of SIs seem to disregard that issues (developments, trends, and events) may exist in 'the real world,' even if their existence lays outside the experience, knowledge, and cognitive frames of the decision-makers in a firm. However, the academic literature and business press provide innumerable accounts of firms and even whole industries that fail to notice SIs in a timely manner, denoting a 'failure in attention' (see, for instance, Rerup, 2009). An understanding of SIs anchored on the perspective that they emerge from "'real' processes with specific temporal and spatial properties" (Bansal et al., 2018, p. 218) implies that decision-makers will fail to notice them, unless their attentional focus and structures match the characteristics of the environment.

Issue categorization

The authors of many of the studies in this sample consider categorization is a central feature in issue interpretation and diagnosis. Miller and Lin (2020, p. 3, emphasis added), for instance, remarked that "diagnosing strategic issues involves categorizing and labeling complex situations in ways that inform strategic responses and equip managers to mobilize organizational action". Categories, or "class[es] of objects that seem to belong together" (Smith, 1990, p. 34), (a) are linguistic labels attached to mental concepts corresponding to facts about a real or imagined world; (b) are related to the concept of schema: while schema refers to the knowledge associated with a concept, a category focuses on the things to which the concept refers to; (c) are used by experts (and presumably by managers) to facilitate the interpretation of situations and to link action programs to the issues under consideration; and (d) allow for the economizing of cognitive resources, by assigning things to a limited number of classes — therefore reducing their variety — and connecting experiences stored in memory to current issues and situations (Smith, 1995).

Several categorization schemes that "categorize phenomena into mutually exclusive and exhaustive sets with a series of discrete decision rules" (Doty & Glick, 1994, p. 232), or typologies, "conceptually derived interrelated sets of ideal types" (Doty & Glick, 1994, p. 232), have been proposed, most of them establishing a dichotomous classification for SIs; Table 4 presents a sample of them.

The threat versus opportunity categorization framework originally proposed in the seminal papers by Dutton and Jackson (1987) and Jackson and Dutton (1988) had a significant impact on subsequent studies in SIs. Out of the 66 papers reviewed that were published after Dutton and Jackson (1987), 38 (58%) used the threat versus opportunity categorization in their study of SIs, which is a much higher usage rate than any other categorization scheme or typology found in the literature.

Some empirical studies found effects of categorizing SIs as threats and opportunities by decision-makers. Jackson and Dutton (1988) found that managers use different rules when categorizing an SI as either a threat or an opportunity; the use of different rules im-

Table 4. A sample of categorization schemes and typologies for SIs found in the literature

Categorization Frameworks/Typologies	Proposed/Used by
Table 3. Some definitions of SIs found in the literature	Ansoff (1975)
Crisis or non-crisis	Dutton (1986b)
Feasibility and urgency	Dutton and Duncan (1987a)
Problems or opportunities	Dutton and Duncan (1987b)
Threat and/or opportunity	Dutton and Jackson (1987); Jackson and Dutton (1988); several others
Feasible or unfeasible	Dutton and Webster (1988)
526 discrete attributes, aggregated in 42 dimensions and 3 classes	Dutton et al. (1989)
Urgency, feasibility, and interdependence	Dutton et al. (1990)
Certainty or uncertainty	Milliken (1990)
Emotional ('hot') or non-emotional ('cold')	Dutton and Dukerich (1991); Liu and Maitlis (2014)
Strategic or political	Thomas et al. (1994); Gioia and Thomas (1996)
Level of interest and power to influence, capability to address and impact (high/low)	Perrott (1996)
Favorability, urgency, and influence (FUI)	Julian and Ofori-Dankwa (2008)
Desirability and feasibility (plus threat or opportunity)	Barreto and Patient (2013)

Note. Developed by the authors.

plies that they should be considered as two distinct dimensions, not as opposites extremes in the same dimension. In the same study, Jackson and Dutton (1988) also found evidence that managers perceive more vividly information on SIs identified as threats than to information associated with SIs categorized as opportunities, displaying what the authors named as a 'threat bias.' Opportunity interpretations were also associated with significant and proactive strategic moves, such as changes in product and service portfolios, whose outcomes are generally foreseen as positive (Sharma, 2000; Thomas et al., 1993), while threats are associated with expectations of loss (Chattopadhyay, et al. 1999).

However, some authors manifested concerns about the adequacy of the use of the threat versus opportunity categorization framework in the study of SIs. Investigating how TMTs in higher education institutions interpret issues that may lead to strategic change in academia, Gioia and Thomas (1996) found that issues were not labeled as threats and opportunities. In their context, issues were labeled in more general 'strategic' and 'political' categories. Julian and Ofori-Dankwa (2008) found that the feasibility-urgency approach is a better predictor of strategic responses (both intended and actual) to issues than the threat-opportunity approach. And Smith (1995), concerned with the validity of categories proposed in previous studies, asked managers to verbally define problems in narratives of situations faced by organizations. He found that out of a total of 1,376 definitions, opportunity appeared seven times, and threat was never used. Smith concluded that, apparently, "the concepts of threat and opportunity were used no more frequently than in everyday discourse, a finding which seems inconsistent with the claim that they are important issue categories" (Smith, 1995, p. 687). To Smith, "a characterization should evoke knowledge that helps one respond effectively to the situation. Attributes like strategic and situation terms like opportunity are too general to satisfy this requirement" (Smith, 1995, p. 695, emphasis added).

How to reconcile the divergent results of these studies on the adequacy of the threat-opportunity categorization framework? Perhaps an explanation can be found in the way threats and opportunities were investigated. In many empirical studies, such as surveys and experiments, researchers explicitly asked informants/participants to categorize issues presented to them and went on to test hypotheses that consider this categorization as an antecedent and, to a lesser extent, as a consequence or mediating factor (Chattopadhyay, et al. 1999; Jackson & Dutton, 1988; Thomas et al., 1993). This practice presents "pre-packaged" issues to managers, even though, as Dutton (1997, p. 90) warned, issues "are not inherently bound and limited. Strategic issues in particular are ambiguous and contested". The effects observed may be more a consequence of research choices and practices, and less of a confirmation of the actual behavior of managers. Rather than asking how managers classify issues, researchers should ask how managers describe issues. It can be the case that SIs have complex, multifaceted meanings, and that these meanings may not be easily reduced to a simple verbal categorization.

Issue interpretation

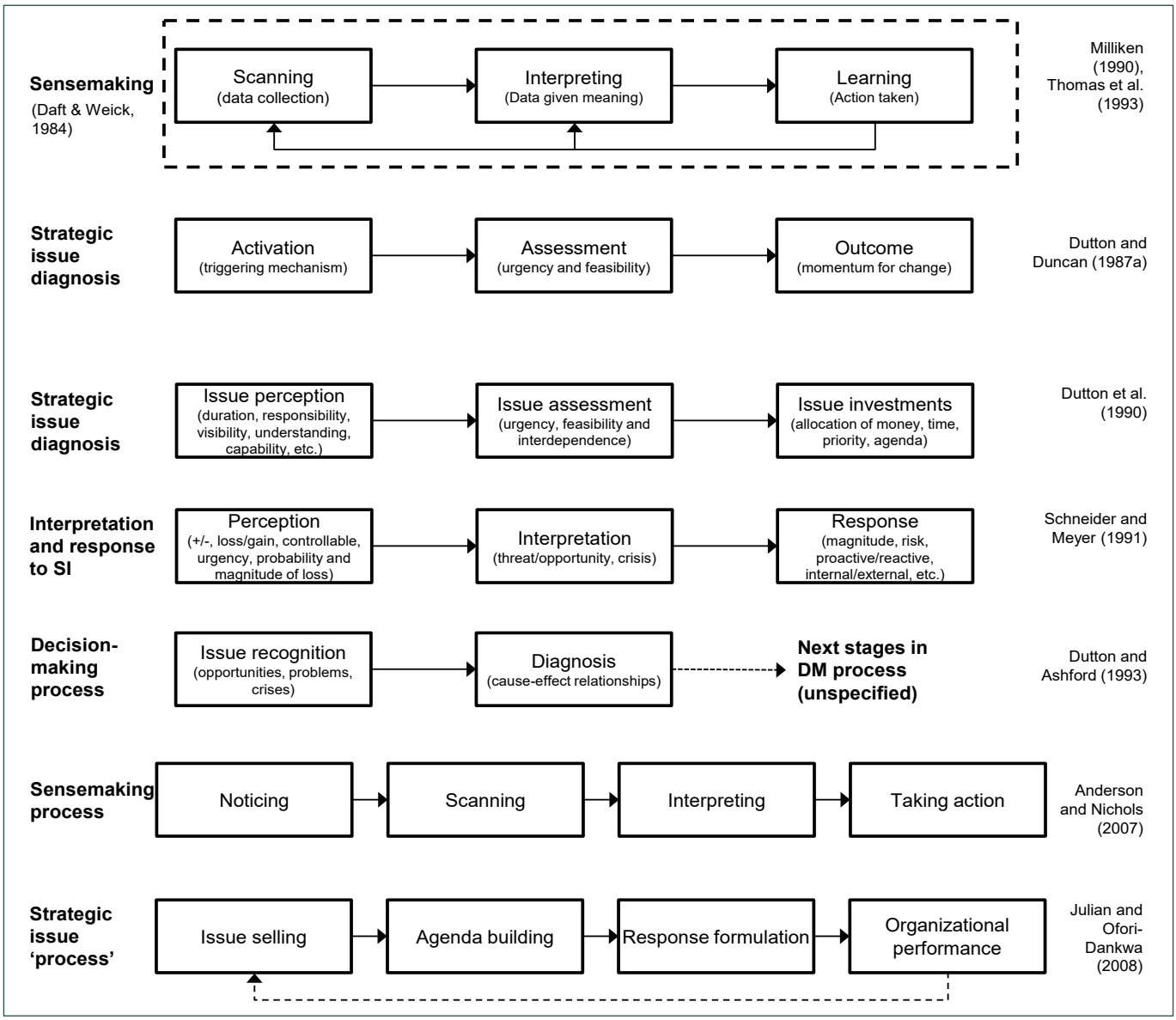
Most of the papers in this review investigated the interpretation of SIs, or, at least, considered interpretation as a central concept. In their seminal paper, Dutton et al. (1983, pp. 307-308) provided a definition of strategic issue diagnosis (SID) that was subsequently widely used: "SID refers to those activities and processes by which data and stimuli are translated into focused issues (i.e., attention organizing acts) and the issues explored (i.e., acts of interpretation)".

By investigating issue interpretation, scholars aim to explicate how, when exposed to similar situations, organizations develop different interpretations to the same issue (Thomas et al., 1994), reasoning that a major factor leading firms to "respond differently to changes in the environment involves how strategic issues are triggered and interpreted by decision-makers" (Dutton & Duncan, 1987a, p. 279).

Although published after Dutton et al. (1983), the model of organizations as interpretation systems proposed by Daft and Weick (1984) ultimately became the main reference for studies in SI interpretation. Daft and Weick's model comprises three stages, interconnected through feedback loops: (1) scanning: the process of monitoring, collecting, and providing environmental data to managers; (2) interpretation: the process through which meaning is attributed to data and shared understandings and conceptual schemes were developed among members of top management; and (3) learning: the process that puts into action and allows the refinement and validation of cognitive theories and knowledge about the relationships between the organization and the environment. Four basic assumptions underlie Daft and Weick's (1984) model. First, organizations are open social systems, constantly seeking and processing information from the environment to detect developments, trends, and events relevant to their survival and growth. Second, the interpretation process is more than the sum of the interpretations of individuals. To Daft and Weick, organizations have cognitive systems, procedural and communication channels, and collective memories that help preserve knowledge, shared cause-effect understandings, norms, and values over time, even if individuals change. These systems, channels, and memories determine how issues are interpreted. Third, SI interpretation in an organization is the purview of its top management team. Even when other stakeholders inside and outside the organization try to convey their particular interpretation of SIs and influence their interpretation by the firm, it is the top management team that interprets information for the organization as a whole and has the power and authority to determine what actions will be undertaken in response to this interpretation. And fourth, organizations differ in the mode or process by which they interpret the environment (see Dutton & Ottensmeyer, 1987, for a theoretical typology of SIs management systems). Later, Daft and Weick's model was incorporated into the general construct of sensemaking, which "involves the reciprocal interaction of information seeking, meaning ascription, and action" (Thomas et al., 1993, p. 240).

Some authors have proposed extensions and recombination of the original interpretation model by Daft and Weick (1984), as illustrated in Figure 2. These attempts notwithstanding, some limitations in the depiction of the processes through which firms notice, interpret, decide, and act upon SIs persist. There seems to be a 'conceptual jump' from individual interpretation to the implementation of organizational moves, causing several stages in the managerial process to be overlooked. Particularly noteworthy is the limited investigation of consensus and dissent among decision-makers regarding SIs. Strategic consensus is defined here as the common understanding a group of managers reach regarding the strategic priorities of a firm, at a certain moment in time (Kellermanns et al., 2005). According to Kellermanns et al. (2005), higher strategic consensus as an outcome of a social process of interpretation is associated in the literature with positive organizational outcomes, such as increased performance, and cooperation in the implementation of strategic moves. Moreover, strategic consensus contributes to heightened levels of commitment to the chosen strategy. Understanding the strategy is not sufficient to achieve cooperation among managers: they must believe in the strategy to engage time, effort, and resources to see it through (Amason, 1996; Wooldridge & Floyd, 1989). Even though the building of strategic consensus is generally accepted as an important step in the strategy formation process, research on SIs has given scant attention to consensus and dissent thus far. The paper by Knight et al. (1999)is one of the few exceptions: the authors investigated how demographic diversity and group processes influenced consensus on SIs within the top management team. Knight et al. (1999) concluded that both top management team diversity and group processes had significant impact on consensus on SIs.

Markóczy (2001) is another exception to the dearth of studies on consensus and dissent on SIs. She investigated consensus formation in three Hungarian state-owned enterprises, recently acquired by Western ('Anglo-Saxon') firms, experiencing major challenges associated with their transition to new ownership structures and market orientation. She found that contrary to expectations, the locus of consensus was mainly found in functional groups of managers with high levels of interest in the change (especially those who were the primary beneficiaries of the ongoing changes) not in the TMTs of the organizations in her sample. She also found that consensus (similar understandings regarding SIs) increased during the strategic change, in most of the groups investigated and among



Source: Developed by the authors, based on Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. Academy of Management Review, 9(2), 284-295. https://doi.org/10.2307/258441

Figure 2. Extensions and recombinations of Daft and Weick's (1984) original interpretation model

the members of these groups. Finally, she concluded that consensus building occurred less by increasing the degree of consensus among members of groups than by increasing the scope of consensus (shared among groups).

Consensus seems to be particularly important when dealing with SIs. SIs are often ambiguous, differences of understanding could not be solved by more information, and goals associated with them are difficult to prioritize. Top management decision-makers may have multiple — even divergent — perspectives and understandings of SIs, arising from the individual schemas they developed due their past experiences and cognitive orientations. Variation in understandings about SIs must be reconciled, before firms proceed in their decision processes (Joseph & Gaba, 2020). It is through social interactions built "on speech, gestures, texts, discourses, and other means" (Cornelissen et al., 2015, p. 11), within the procedural and communication channels of the firm (Ocasio & Joseph, 2005), that decision-makers develop shared cognitions, and it is through these interactions that decision-makers achieve consensus on the meaning of SIs and define appropriate responses to them.

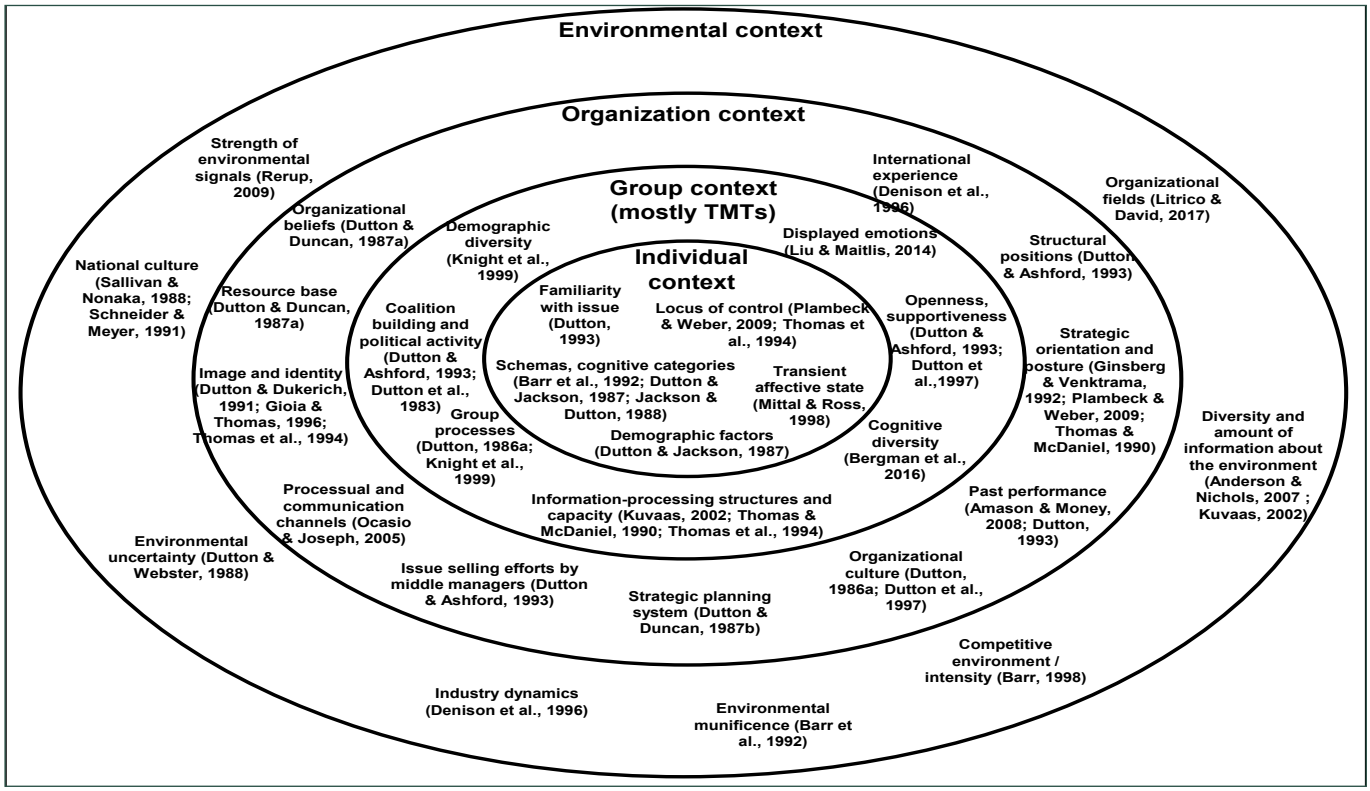
Perhaps an exaggerated attention to interpretation has led scholars to neglect other important processes that should also be investigated, to allow for a better understanding of how organizations deal with SIs. Further theoretical and empirical work dedicated to the processes that follow individual interpretation of SIs could help us address the following questions, which received limited attention in the literature thus far: How does the collective agreement on the meaning and consequences of a SI evolve in organizational

settings? What are the differences in these sensemaking processes, for issues that are urgent and for issues that are not? How do institutional pressures impinge on the ability of decision-makers to reach consensus on SIs that are novel, not conforming to the past experience of the senior decision-makers in the organization? How do group process aids, be they structured methods or agreement-seeking behaviors, contribute to consensus on SIs? How can they help defuse emotional and personal conflict? And when does consensus help or when does it hinder the achievement of good decisions and the identification of responses that positively contribute to firm performance and competitive advantage?

Level of analysis

SIs were investigated at the individual, group, organizational, and environmental levels, as shown in Figure 3. At the individual level, studies have shown that decision-makers use cognitive categories, usually engaged through labels such as 'threats' and 'opportunities,' to interpret and attach meaning to SIs (Barr et al., 1992; Dutton & Jackson, 1987). The attribution of different labels to issues has consequences: empirical results suggest that individuals are more sensitive to threat-consistent information than to opportunity-consistent information about issues (Jackson & Dutton, 1988). Demographic factors reflecting past experiences with similar issues, functional training, and industry tenure (Dutton, 1993; Dutton & Jackson, 1987), and cognitive traits, such locus of control (Thomas et al., 1994), may influence the interpretation of SIs. Past research has shown that contextual factors, such as transient affective states, can also play a part in the individual interpretation of SIs. For instance, in an experiment, Mittal and Ross (1998) found a significant relationship between judgments about an issue (issue interpretation) and manipulations of the participant's affective state and the framing of such SI as either a threat or opportunity: the framing of an issue (as either an opportunity or a threat) had a higher effect on participants induced to a negative affective state.

Some studies at the group level investigated processes through which information processing capacity and resources assigned to SIs by the top management team affect issue interpretation (Thomas & McDaniel, 1990) and the dynamics of strategic agenda building (Dutton, 1986a). These studies reflect a widely held understanding that SID is considered an activity that takes place at the top level of organizations (Dutton & Duncan, 1987a; Miller & Lin, 2020). For example, Thomas and McDaniel (1990) found that the information-processing structures and capacity at the top management team influence the way CEOs label SIs and the range of variables they use in the interpretation of SIs. Kuvaas (2002), by his turn, found evidence that in TMTs with higher information processing capacity, managers display a higher level of confidence in their



Source: Developed by the authors.

Figure 3. Level of analysis in studies on SIs

higher ability to control and manage these SIs, and a lower propensity to search for data, when they engage in the interpretation of these SIs. Diversity in the top management team was also investigated: research shows that the relationship between demographic diversity and strategic consensus is mediated by group processes — interpersonal conflict and agreement behaviors (the latter defined as the degree to which top management team members strive to agree on SIs) (Knight et al. 1999). Examining the role of cognitive diversity on environmental issues interpretation among board of directors, Bergman et al. (2016) found that the cognitive diversity of the boards of directors has an impact on the SI interpretation, although industry effects seem to be more pronounced, indicating a possible effect of isomorphic pressures. Group behaviors were also found to affect SI management: Dutton et al. (1997) confirmed that middle managers pay attention to and are influence by the top management team's willingness to listen, when assessing the context's favorability for issue selling in an organization.

At the organizational level, several studies investigated the effects of organizations' image and identity on SI processing. Dutton and Dukerich (1991), for instance, investigating a novel and emotional SI, found that the identity and the image of an organization influence the interpretation and motivations for action of individuals, regarding a SI. They also found a reverse relationship: organizational actions and behaviors are influenced, through time, by individual issue interpretation and motivation. An organization's strategic posture or orientation was also found to influence interpretation of and responses to SIs. Ginsberg and Venkatraman (1992) concluded that strategic posture (in their study, efficiency versus service quality orientations) influenced the adoption of new technology, both directly and indirectly through issue interpretation. Plambeck and Weber (2009, 2010) found that an ambidextrous strategic orientation influenced ambivalence in issue interpretation. Thomas and McDaniel (1990), by their turn, found a relationship between the strategic orientation of the firm and the CEO's interpretation of SIs. Some studies found a relationship between the trajectory of the organization and issue interpretation and decision processes. Amason and Money (2008), for instance, found that strong past performance is associated with framing issues more as threats than opportunities, and that strong performance leads to less comprehensiveness in decision-making. Denison et al. (1996) found that the interpretation of foreign investment in the U.S. (as either a threat of opportunity) was significantly related to some firm characteristics: size, perceived ability to deal with the SI, and international experience. Dutton and Duncan (1987b), in a theoretical paper, proposed relationships between the strategic planning process and the SI array of an organization, and between the SI array and the strategic change. According to them, SI processing is operationalized in organizations through administrative routines that include meetings, minutes, memos, and conferences. These routines provide channels for the promotion of individual concerns about issues and for the translation of these concerns into organizational moves. Extending these ideas, Ocasio and Joseph (2005) formulated an attention-based theory of strategy formulation, predicated on several propositions, the first of which states that "decision-making is guided by selective attention to organizational issues and initiatives" and the second that "selective attention to organizational issues and initiatives is situated in a dynamic network of operational and governance channels" (Ocasio & Joseph, 2005, p. 41).

Several characteristics of the environment were found to affect SI processing in organizations. Schneider and Meyer (1991), following Sallivan and Nonaka (1988), found that national culture influenced the interpretation of SIs (as a crisis and as a threat) and the nature of the responses to these SIs (magnitude and internal/external focus of the response). In a case study of two U.S. railroads over a 25-year period, a time span in which these firms experienced a significant decrease in environmental munificence, Barr et al. (1992) found that successful adaptation to a challenging context demands not only noticing emerging issues, but also changes in mental models (cause-effect understandings), as an antecedent to meaningful strategic moves. Studies also found a relationship between the availability of environmental information and SI interpretation. Kuvaas (2002) found that higher availability and diversity of environmental information leads to the perception of issues as controllable, while Anderson and Nichols (2007) found that the diversity of information found about an issue leads to seeing it as less of a threat. Finally, Litrico and David (2017), in a study of the evolution of the interpretation of noise and emissions issues by stakeholders in the field of civil aviation, examined how actors in civil aviation interpreted the environmental issues of noise and emissions during the period 1996-2010. They found that the frames these actors employed to interpret these issues were influenced by the degree to which they were directly linked to issues in societal discourse and had direct contact with concerned audiences.

Even though this literature review revealed individual, group, organizational, and environmental effects in the processing of SIs in organizations, most studies in this sample were limited to only one level of analysis. In addition, the individual level received the most attention in these papers. Many empirical and almost all experimental studies resorted to manipulations at the individual level (see, for instance, Anderson & Nichols, 2007; Highhouse et al., 1996; Mittal & Ross, 1998; Sallivan & Nonaka, 1988). As Joseph and Gabba (2020, p. 284) pointed out, "the focus is on the individual actor — the strategist, the manager, and the 'cognizer'— whose own perspective (based on mental representations, beliefs, and experience with the local world) offers some general guidance for making decisions." However, there are some indications that group and organizational effects may be more significant than individual ones. For instance, Thomas et al. (1994) concluded that individual-level characteristics did not appear to play a significant role in the strategic interpretation of key organizational issues, after organizational and group contexts were accounted for. They found that only group-level variables have influence on both the strategic and political interpretation of SIs, the specific interpretation varying according to group characteristics, context, and identity.

Studying SI at only one or a few levels of analysis may not provide the necessary elements to explicate the differences in SI interpretation and response observed in firms subjected to similar situations. Particularly, the concentration of individual-level studies may bias our understanding of the antecedents, consequences, and contextual factors in SIs. And as the literature confirm that there is a wide variety of sources of influence on the interpretation of SIs, at the individual, group, organizational, and environmental levels, perhaps a multi-level approach could provide greater insight to the underlying processes and mechanisms that guide SIs processing in organizations.

Underlying mechanisms and processes

The literature points to cognitive schemas (under various names) as the most important mechanisms underlying SI processing in organizations. Cognitive theories assume that individuals use schemas (Bartlett, 1932;Piaget, 1952), mental models, or data structures in memory to represent knowledge about concepts and relationships and to organize their worlds (Barr et al., 1992; Dutton & Jackson, 1987). Past experiences and prior knowledge are inputs to the creation of these schemas, that individuals use to reduce ambiguity and create meaning (Thomas & McDaniel, 1990). At the individual level, schemas are used by managers to make sense, evaluate the potential impact of Sis, and devise responses to them (Barr et al., 1992; Dutton & Jackson, 1987; Jackson & Dutton, 1988). The execution of these tasks involves a probabilistic process of matching data and stimuli associated with the new development, event, or trend with cognitive representations stored in memory (Jackson & Dutton, 1988; Miller & Lin, 2020). At the group level, research in SIs has focused on 'the construction of shared meaning (Smircich, 1983), negotiated belief structures (Walsh & Fahey, 1986), and the consensual validation of reality (Weick, 1979)'. At the organizational level, studies on SIs point that issue interpretation stems, at least in part, from 'modes of interpretation,' usually embodied in organizational routines, practices, and strategies (Thomas & McDaniel, 1990).

Two features of schemas or mental models appear to be particularly relevant to SI processing: normative beliefs and cause-effect understandings. Normative beliefs are associated to the attribution of importance to a particular goal for an organization (e.g., market share, profitability, growth, reputation) (Chattopadhyay, et al. 1999). Normative beliefs contribute to (a) the assessment of the probable impact of a development, trend, or event to the ability of the firm to meet its objectives, and (b) the decision regarding whether it should be considered a SI and, therefore, added to the strategic agenda of the firm. Cause-effect understandings are relational statements that allow individuals to make inferences about an issue and its antecedents and provide a logic for the resolution of the issue (Dutton et al., 1983).

Existing schemas help firms make sense of SIs when they match their past experience. The store of routinized knowledge creates 'modes of interpretation' that help organizations deal with issues that are expected and aligned with past experiences (Weick, 1979, 1988). Some issues, however, are novel and unexpected — for these issues, existing schemas may not provide useful guidance. New interpretations must be developed, and if performance feedback prove that they are accurate, new schemas may arise out of them. In her longitudinal study of how the interpretations and responses of six U.S. pharmaceutical firms evolved in reaction to the 1962 amendments to the Food, Drug and Cosmetic Act of 1938, Barr, 1998 provided insights into the evolution of interpretative schemas in firms. She concluded that (a) interpretation of concepts unfamiliar to the firm evolved from vague and broad-based to detailed and impact-specific, accompanying how the issue itself unfolded in the 'outside world,' adding new concepts to the store of causal maps and normative beliefs; (b) interpretation of concepts familiar to the firm changed

the meaning and purpose of existing causal maps and normative beliefs; and (c) there is a complex temporal relationship between interpretation and the strategic adaptation to unfamiliar events: changes in interpretation occur both before and after changes in strategy.

If a SI is novel, however, the use of existing schemas may increase the inaccuracy of its interpretation. If managers pay attention to features of the environment that conform to their current mental models, they may fail to notice and/or to give due attention to important new developments, trends, and events that lay outside their experience. Even if they attend to these stimuli, they may interpret them in relation to current mental models; evidence disconfirming these current models tend to be ignored. And as schemas direct action, the use of current ones in the interpretation of novel issues will limit the consideration of alternative solutions. Finally, even when feedback loops indicate that the application of current schemas could not solve or address these novel SIs, the firm may not react in a timely manner — by the time an old mental model is discarded and replace by a new one, it can be too late to respond to the issue. Adequate response to novel, unfamiliar SIs may hinge on the ability of firms to 'unlearn' current mental models and develop new ones (Barr et al., 1992; Fiol & Lyles, 1985).

FUTURE RESEARCH AGENDA

In this literature review, we analyzed the state of knowledge and the major conclusions, findings, and contributions from scholars who studied SIs. From this review, several research questions and future research directions emerge that can enhance our understanding and management of SIs. Table 5 presents the research questions and future research agenda on SI. We organize the future research agenda according to the five main perspectives or themes identified through the selected papers in this review: the definition of SIs; issue categorization; issue interpretation; the level of analysis; and underlying mechanisms and processes.

The definition of SIs

Firms differ in how they attach meaning to new developments and events, whether they originate externally or internally, and in their conceptualization of these developments and events as strategic issues. More studies are needed to understand how processes in organizations lead to this conceptualization across industries and geographies. Scholars can explore the influence of different types of stakeholders on the perception of developments and events as SIs, potentially leading to more sustainable and stakeholder-centric business practices (Post, 1978; Wartick & Mahon, 1994). Investigating whether a comprehensive understanding of stakeholder perspectives can help bridge gaps between expectations and reality in SI management may also be valuable.

Future studies can analyze the contribution of organizational context, culture, and structures to the 'failure in attention' to SIs (Rerup, 2009). By examining potential interventions to mitigate these shortcomings, organizations might develop adaptive attentional structures that match the changing characteristics of the environment (Bansal, et al. 2018).

Emotions, cognitive biases, and affective states that influence the definition of SIs and, subsequently, the interpretation and decision-making on these SIs also warrant further exploration. Identifying specific emotional or cognitive factors that facilitate or hinder effective SI management can contribute to the development of more informed strategies and better decision-making (Liu & Maitlis, 2014; Mittal & Ross, 1998).

Given the complex, ambiguous, and interdependent nature of SIs, researchers can investigate how organizations can develop more effective approaches to identifying SIs in a timely manner (Dutton et al., 1983; Miller & Lin, 2020). Advancements in data analytics, artificial intelligence, or other technologies may support better decision-making in SI management, offering practical benefits to organizations.

Lastly, addressing the epistemological bias in the SI literature can lead to a better understanding of the ontological aspects of SIs (Bansal, et al. 2018). Integrating the study of 'real-world' processes and events into SI research can provide a more holistic understanding of SIs and their management, ultimately benefiting organizations and their stakeholders in practical terms.

Issue categorization

The divergent results regarding the adequacy of the threat-opportunity categorization framework for strategic issues (SIs) raise several research questions, opening avenues for future research. One area to explore is how managers describe SIs beyond the threat-opportunity framework, as it may reveal complex, multifaceted meanings that are not easily reducible to a simple verbal categorization (Smith, 1995).

Another research direction could be to compare the predictive validity of various categorization schemes, investigating how alternative schemes or typologies relate to the threat-opportunity framework in predicting strategic responses and outcomes (Doty & Glick,

Table 5. Future research on SI

Topic	Research questions	Future research	Possible contributions
Definition of SIs	How do organizations define and identify SIs? What criteria do organizations use to classify issues as strategic?	Investigate differences in SI identification and definitions across industries and organizational types. Explore the impact of digital technologies and globalization on the definition and identification of SIs. Explore the influence of stakeholder expectations and pressures on SI identification.	Provide clarity on the conceptualization of SIs. Offer insights on the factors that influence the identification of SIs. Help organizations develop appropriate criteria for identifying and defining SIs.
Issue categorization	How do organizations categorize SIs? What are the key dimensions of SI categorization? How do SI categorizations influence organizational responses?	Examine the impact of cognitive biases and heuristics on SI categorization. Investigate the role of organizational culture in shaping issue categorization.	Enhance understanding of how organizations prioritize and structure SIs. Provide insights into the relationship between issue categorization and organizational responses. Inform organizational decision-making processes related to SIs.
Issue interpretation	How do organizations interpret SIs? What are the cognitive mechanisms underlying issue interpretation? How do cognitive schemas and mental models shape the interpretation of SIs?	Investigate how cognitive diversity within organizations influences issue interpretation. Examine the impact of information-sharing and communication practices on issue interpretation. Explore the role of leadership in shaping issue interpretation.	Improve understanding of the cognitive processes involved in interpreting SIs. Provide insights into the role of cognitive schemas and mental models in issue interpretation. Offer guidance on developing more accurate and nuanced interpretations of SIs.
Level of analysis	How do the individual, group, and organizational levels of analysis interact and influence SI processing? What are the key factors at each level that contribute to the identification, interpretation, and response to SIs?	Investigate the role of power and politics in shaping SI processing at different levels of analysis. Examine how organizational structures and hierarchies influence SI processing at each level. Explore the impact of cross-functional collaboration on SI processing across levels.	Provide a more comprehensive understanding of the multi-level nature of SI processing. Offer insights into the interactions between different levels of analysis in SI processing. Inform the development of more effective strategies for addressing SIs.
Underlying Mechanisms and Processes	What are the underlying mechanisms and processes that govern SI processing in organizations? How can organizations improve their ability to recognize and adapt to novel SIs? How can organizations facilitate unlearning and the development of new cognitive models for SI processing?	Investigate the role of feedback loops and learning mechanisms in SI processing. Examine the influence of organizational culture on SI processing mechanisms. Explore the impact of leadership styles and practices on SI processing.	Enhance understanding of the dynamics governing SI processing in organizations. Offer insights on how to improve organizational adaptability and learning. Inform the development of strategies for fostering organizational innovation and resilience.

Note. Developed by the authors

1994; Julian & Ofori-Dankwa, 2008). This comparison could help identify the most effective approach for understanding and managing SIs.

Examining the influence of contextual factors, such as industry, organizational culture, or competitive environment, on the use and effectiveness of different categorization schemes is another promising research avenue. Understanding how the adequacy of the threat-opportunity framework varies across different contexts can provide valuable insights into its generalizability and applicability (Gioia & Thomas, 1996).

Additionally, future research could explore the role of technology in the identification and categorization of SIs. By investigating how advancements in natural language processing, machine learning, or other technologies can support the analysis of complex and ambiguous SIs, researchers may contribute to more effective decision-making in SI management (Dutton, 1997).

Lastly, it would be valuable to investigate the impact of cognitive biases, heuristics, or other psychological factors on the categorization and interpretation of SIs by managers. Delving into the role of psychological factors can shed light on potential pitfalls and best practices in SI management and decision-making (Chattopadhyay, et al. 1999; Jackson & Dutton, 1988).

Issue interpretation

The literature review on strategic issue (SI) interpretation highlights several research questions and possible future research directions that, if addressed, can contribute to a more comprehensive understanding of how organizations deal with SIs and benefit their decision-making processes and overall performance.

One critical area for future research is understanding how organizations bridge the 'conceptual jump' from individual interpretation to the implementation of organizational moves. Scholars such as Markóczy (2001)

and Knight et al. (1999) have begun to investigate the overlooked stages in the managerial process and the role of collective agreement in the interpretation of SIs, but more research is needed to fully understand these dynamics.

Additionally, exploring how strategic consensus on SIs evolves in organizational settings could provide valuable insights into the social interactions, communication channels, and processes that contribute to the development of shared cognitions and consensus on SIs (Cornelissen et al., 2015; Joseph & Gaba, 2020). Investigating the differences in sensemaking processes for urgent versus non-urgent issues could also offer valuable insights into the decision-making process for various types of SIs.

Moreover, examining the impact of institutional pressures on decision-makers' ability to reach consensus on novel SIs that do not conform to their past experiences can help researchers understand the constraints and facilitators in dealing with innovative and unfamiliar SIs. Delving into how group process aids, such as structured methods or agreement-seeking behaviors, contribute to consensus on SIs and help defuse emotional and personal conflict could provide practical insights for organizations in managing SIs and potential conflicts.

Finally, understanding the relationship between consensus and decision-making outcomes can help clarify the optimal balance between agreement and diversity of perspectives in managing SIs. By examining when consensus helps or hinders the achievement of good decisions and the identification of responses that positively contribute to firm performance and competitive advantage, researchers can provide valuable guidance to organizations on effectively dealing with SIs.

Level of analysis

The literature review on strategic issue (SI) interpretation suggests a need for future research to explore the multi-level interactions among individual, group, organizational, and environmental factors. By doing so, researchers can gain a deeper understanding of the underlying processes and mechanisms that guide SI processing in organizations (Thomas et al., 1994).

One possible research direction is to investigate the role of cognitive and demographic diversity in top management teams and boards of directors in shaping SI interpretation and responses, and how these factors interact with other levels of analysis (Bergman, et al. 2016; Knight et al. 1999). This may help provide insights into how diversity affects decision-making in organizations.

Another area of interest is to examine the influence of organizational identity, image, and strategic orientation on the interpretation of and responses to SIs. This includes analyzing how these factors interact with group and environmental factors (Dutton & Dukerich, 1991; Ginsberg & Venkatraman, 1992; Thomas & McDaniel, 1990). Understanding these relationships can help organizations better align their strategies with the evolving landscape.

Furthermore, future research can explore how national culture and environmental information availability influence SI interpretation, and how these factors interact with individual, group, and organizational factors (Anderson & Nichols, 2007; Kuvaas, 2002; Schneider & Meyer, 1991). Such investigations can offer valuable insights into how external factors shape organizational responses to strategic challenges.

Lastly, it is essential to study the dynamic networks of operational and governance channels and their effect on selective attention and decision-making processes related to SIs within organizations (Ocasio & Joseph, 2005). This research can provide valuable information on how organizations can improve their decision-making processes and overall performance.

By addressing these research questions and adopting a multi-level approach, future research can contribute to a more comprehensive understanding of how organizations interpret and respond to SIs. This, in turn, can provide valuable insights and guidance for practitioners in managing SIs more effectively.

Underlying mechanisms and processes

The literature on cognitive schemas and strategic issue (SI) processing in organizations has demonstrated the critical role these mental models play in how organizations adapt to novel and unexpected challenges. While existing research provides valuable insights, there are still significant avenues for future exploration.

One important area for future research is understanding how organizations can enhance their adaptability and flexibility in the face of novel SIs by fostering a culture of continuous learning and unlearning (Barr et al., 1992; Fiol & Lyles, 1985). This line of inquiry can be complemented by examining the role that leadership styles and managerial practices play in facilitating or hindering the development of new cognitive schemas and mental models in response to novel SIs (Hmieleski & Ensley, 2007). Additionally, understanding the dynamics of power and politics within organizations, and how they affect the process of unlearning outdated mental models and adopting new ones to address novel SIs, can provide valuable insights into the complexities of organizational change (Pfeffer, 1981).

Moreover, it is crucial to explore how organizations can foster a shared understanding among individuals and groups while maintaining cognitive diversity, enabling them to better respond to novel and unexpected SIs (West & Schwenk, 1996). Investigating the role of communication and information-sharing practices in shaping the development, adaptation, and dissemination of cognitive schemas and mental models within organizations is also essential for understanding the flow of knowledge and its impact on organizational responses to novel SIs (Nonaka, 1994).

Furthermore, future research should consider how external factors, such as industry dynamics and competitive pressures, influence the formation and adaptation of cognitive schemas and mental models within organizations as they respond to novel SIs (Porter, 1980). A related area of interest is the potential for organizations to leverage strategic alliances, networks, and collaborations to enhance their ability to identify, interpret, and respond to novel SIs by tapping into diverse perspectives and cognitive schemas (Gulati, 1998).

In conclusion, addressing these research questions and building upon existing literature will contribute to a more comprehensive understanding of the cognitive processes underlying SI processing in organizations. This will ultimately provide valuable insights for practitioners on how to effectively adapt to novel and unexpected challenges in an ever-changing business environment.

CONCLUSION AND CONTRIBUTIONS

The literature review on strategic issues (SIs) holds significant importance as it offers a comprehensive understanding of the key concepts, theories, and empirical findings in the field (Barr et al., 1992; Dutton & Jackson, 1987; Thomas & McDaniel, 1990). By consolidating this knowledge, it provides valuable insights that are crucial for both scholars and practitioners in navigating the complex landscape of SIs.

One of the primary contributions of this review is the clarification of SI concepts and definitions, which serves as a foundation for further inquiry and application (Ansoff, 1980; Dutton et al., 1983). Additionally, the review sheds light on various frameworks and approaches for categorizing and interpreting SIs (Smircich, 1983; Walsh & Fahey, 1986; Weick, 1979; 1988), empowering organizations to better understand and prioritize issues based on their potential impact and relevance.

The review also emphasizes the importance of examining SIs at different levels of analysis, such as individual, group, and organizational levels (Barr et al., 1992; Dutton & Jackson, 1987; Jackson & Dutton, 1988). This multi-faceted approach offers a more holistic view of the factors influencing SI processing and decision-making in organizations, ultimately contributing to more effective strategic management.

Delving into the underlying mechanisms and processes governing SI processing in organizations, the review highlights cognitive schemas and mental models as key drivers of interpretation and response (Barr et al., 1992; Bartlett, 1932; Piaget, 1952). This understanding can help organizations improve their ability to recognize and adapt to novel SIs, fostering resilience and adaptability in an ever-changing business environment (Barr, 1998; Fiol & Lyles, 1985).

Finally, by examining the existing literature, the review identifies areas where further research is needed, providing a roadmap for future studies to expand our knowledge and understanding of SIs (Chattopadhyay, et al. 1999; Miller & Lin, 2020). This identification of research gaps and future research directions is essential for the continued growth and development of the field, ensuring that new insights and best practices emerge to support organizational success.

In conclusion, the literature review on SI serves as an invaluable resource for understanding the complex dynamics involved in processing strategic issues. Its contributions not only advance the field of study but also provide practical insights that organizations can leverage to navigate and thrive in an increasingly competitive and uncertain business landscape (Barr et al., 1992; Dutton & Jackson, 1987; Thomas & McDaniel, 1990).

The method used in this study to review the extant research on SIs represents a limitation. Although the choice of method and procedures employed here have support in the literature, the use of an alternative method could supplement the narrative review performed with additional insights.

REFERENCES

Abedin, B., Kordnaeij, A., Fard, H. D., & Hoseini, S. H. K. (2015). Formation and identification of strategic issues in organizations: A review and classification of current studies. International Technology Management Review, 5(1), 28-39. https://doi.org/10.2991/itmr.2015.5.1.4

Alt, E., & Craig, J. B. (2016). Selling issues with solutions: Igniting social intrapreneurship in for-profit organizations. Journal of Management Studies, 53(5), 794-820. https://doi.org/10.1111/joms.12200

Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. Academy of Management Journal, 39(1), 123-148. https://doi.org/10.2307/256633

Amason, A. C., & Mooney, A. C. (2008). The Icarus paradox revisited: How strong performance sows the seeds of dysfunction in future strategic decision-making. Strategic Organization, 6(4), 407-434. https://doi.org/10.1177/1476127008096364

Anderson, M. H., & Nichols, M. L. (2007). Information gathering and changes in threat and opportunity perceptions. Journal of Management Studies, 44(3), 367-387. https://doi.org/10.1111/j.1467-6486.2006.00678.x

Ansoff, H. I. (1975). Managing strategic surprise by response to weak signals. California Management Review, 18(2), 21-33. https://doi.org/10.2307/41164635

Ansoff, H. I. (1980). Strategic issue management. Strategic Management Journal, 1(2), 131-148. https://doi.org/10.1002/smj.4250010204

Ashford, S. J., Rothbard, N. P., Piderit, S. K., & Dutton, J. E. (1998). Out on a limb: The role of context and impression management in selling gender-equity issues. Administrative Science Quarterly, 43(1), 23-57. https://doi.org/10.2307/2393590

Bansal, P., Kim, A., & Wood, M. O. (2018). Hidden in plain sight: The importance of scale in organizations' attention to issues. Academy of Management Review, 43(2), 217-241. https://doi.org/10.5465/amr.2014.0238

Barr, P. S. (1998). Adapting to unfamiliar environmental events: A look at the evolution of interpretation and its role in strategic change. Organization Science, 9(6), 644-669. https://www.jstor.org/stable/2640247

Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal [Special Issue]. Strategic Management Journal, 13, 15-36. https://www.jstor.org/stable/2486350

Barreto, I., & Patient, D. L. (2013). Toward a theory of intraorganizational attention based on desirability and feasibility factors. Strategic Management Journal, 34(6), 687-703. https://www.jstor.org/stable/23471038

Bartlett, F. C. (1932). Remembering: A study in experimental and social psychology. Cambridge University Press.

Bergman, J. P., Knutas, A., Luukka, P., Jantunen, A., Tarkiainen, A., Karlik, A., & Platonov, V. (2016). Strategic interpretation on sustainability issues – eliciting cognitive maps of boards of directors. Corporate Governance: The International Journal of Business in Society, 16(1), 162-186. https://doi.org/10.1108/CG-04-2015-0051

Bundy, J., Shropshire, C., & Buchholtz, A. K. (2013). Strategic cognition and issue salience: Toward an explanation of firm responsiveness to stakeholder concerns. Academy of Management Review, 38(3), 352-376. https://www.jstor.org/stable/43700495

Chattopadhyay, P., Glick, W. H., Miller, C. C., & Huber, G. P. (1999). Determinants of executive beliefs: Comparing functional conditioning and social influence. Strategic Management Journal, 20(8), 763-789. https://www.jstor.org/stable/3094248

Cobb, R. W., & Elder, C. D. (1972). Participation in American politics: The dynamics of agenda building. Johns Hopkins University Press.

Cornelissen, J. P., Durand, R., Fiss, P. C., Lammers, J.C., & Vaara, E. (2015). Putting communication front and center in institutional theory and analysis. Academy of Management Review, 40(1), 10-27. https://doi.org/10.5465/amr.2014.0381

Cyert, R. M., & March, J. G. (1963). A behavioral theory of the firm. Prentice Hall.

Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. Academy of Management Review, 9(2), 284-295. https://doi.org/10.2307/258441

Denison, D. R., Dutton, J. E., Kahn, J. A., & Hart, S. L. (1996). Organizational context and the interpretation of strategic issues: A note on CEOs' interpretation of foreign investment. Journal of Management Studies, 33(4), 453-474. https://doi.org/10.1111/j.1467-6486.1996.tb00164.x

Diffenbach, J. (1982). Influence diagrams for complex strategic issues. Strategic Management Journal, 3(2), 133-146. https://www.jstor.org/stable/2486154

Doty, D. H., & Glick, W. H. (1994). Typologies as a unique form of theory building: Toward improved understanding and modeling. Academy of Management Review, 19(2), 230-251. https://doi.org/10.2307/258704

Dutton, J. E. (1986a). Understanding strategic agenda building and its implications for managing change. Scandinavian Journal of Management Studies, 3(1), 3-24. https://doi.org/10.1016/0281-7527(86)90008-3

Dutton, J. E. (1986b). The processing of crisis and non-crisis strategic issues. Journal of Management Studies, 23(5), 501-517. https://doi.org/10.1111/j.1467-6486.1986.tb00434.x

Dutton, J. E. (1988). Perspectives on strategic issue processing: Insights from a case study. In P. Shrivastava & R. Lamb (Eds.), Advances in Strategic Management, (vol. 5, pp. 223-244). JAI Press.

Dutton, J. E. (1993). Interpretations on automatic: A different view of strategic issue diagnosis. Journal of Management Studies, 30(3), 339-357. https://doi.org/10.1111/j.1467-6486.1993.tb00308.x

Dutton, J. E. (1997). Strategic agenda building in organizations. In Z. Shapira (Ed.), Organizational decision making (pp. 81-108). Cambridge University Press.

Dutton, J. E., & Ashford, S. J. (1993). Selling issues to top management. Academy of Management Review, 18(3), 397-428. https://psycnet.apa.org/doi/10.2307/258903

Dutton, J. E., Ashford, S. J., O'Neill, R. M., Hayes, E., & Wierba, E. E. (1997). Reading the wind: How middle managers assess the context for selling issues to top managers. Strategic Management Journal, 18(5), 407-423. https://doi.org/10.1002/(SICI)1097-0266(199705)18:5%3C407::AID-SMJ881%3E3.0.CO;2-J

Dutton, J. E., Ashford, S. J., O'Neill, R. M., & Lawrence, K. A. (2001). Moves that matter: Issue selling and organizational change. Academy of Management Journal, 44(4), 716-736. https://doi.org/10.5465/3069412

Dutton, J. E., & Dukerich, J. M. (1991). Keeping an eye on the mirror: Image and identity in organizational adaptation. Academy of Management Journal, 34(3), 517-554. https://psycnet.apa.org/doi/10.2307/256405

Dutton, J. E., & Duncan, R. B. (1987a). The creation of momentum for change through the process of strategic issue diagnosis. Strategic Management Journal, 8(3), 279-295. https://www.jstor.org/stable/2485895

Dutton, J. E., & Duncan, R. B. (1987b). The influence of the strategic planning process on strategic change. Strategic Management Journal, 8(2), 103-116. https://doi.org/10.1002/smj.4250080202

Dutton, J. E., Fahey, L., & Narayanan, V. K. (1983). Toward understanding strategic issue diagnosis. Strategic Management Journal, 4(4), 307-323. https://www.jstor.org/stable/2485923

Dutton, J. E., & Jackson, S. E. (1987). Categorizing strategic issues: Links to organizational action. Academy of Management Review, 12(1), 76-90. https://psycnet.apa.org/doi/10.2307/257995

Dutton, J. E., & Ottensmeyer, E. (1987). Strategic issue management systems: Forms, functions, and contexts. Academy of Management Review, 12(2), 355-365. https://doi.org/10.5465/amr.1987.4307971

Dutton, J. E., Stumpf, S. A., & Wagner, D. (1990). Diagnosing strategic issues and managerial investment of resources. In P. Shrivastava & R. Lamb (Eds.), Advances in Strategic Management (vol. 6, pp. 143-167). JAI Press.

Dutton, J. E., Walton, E. J., & Abrahamson, E. (1989). Important dimensions of strategic issues: Separating the wheat from the chaff. Journal of Management Studies, 26(4), 379-396. https://doi.org/10.1111/j.1467-6486.1989.tb00735.x

Dutton, J. E., & Webster, J. (1988). Patterns of interest around issues: The role of uncertainty and feasibility. Academy of Management Journal, 31(3), 663-675. https://doi.org/10.2307/256464

Eyestone, R. (1978). From social issue to public policy. Wiley.

Falagas, M. E., Pitsouni, E. I., Malietzis, G. A., & Pappas, G. (2008). Comparison of PubMed, Scopus, Web of Science, and Google Scholar: Strengths and weaknesses. The FASEB Journal, 22(2), 338-342. https://doi.org/10.1096/fj.07-9492lsf

Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. Academy of Management Review, 10(4), 803-813. https://doi.org/10.5465/amr.1985.4279103

Fox-Wolfgramm, S. J., Boal, K. B., & Hunt, J. G. (1998). Organizational adaptation to institutional change: A comparative study of first-order change in prospector and defender banks. Administrative Science Quarterly, 43(1), 87-126. https://doi.org/10.2307/2393592

Ginsberg, A., & Venkatraman, N. (1992). Investing in new information technology: The role of competitive posture and issue diagnosis. Strategic Management Journal, 13(S1), 37-53. https://doi.org/10.1002/smj.4250131005

Gioia, D. A., & Thomas, J. B. (1996). Identity, image, and issue interpretation: Sensemaking during strategic change in academia. Administrative Science Quarterly, 41(3), 370-403. https://psycnet.apa.org/doi/10.2307/2393936

Grégoire, D. A., Barr, P. S., & Shepherd, D. A. (2010). Cognitive processes of opportunity recognition: The role of structural alignment. Organization Science, 21(2), 413-431. https://www.jstor.org/stable/27765975

Gulati, R. (1998). Alliances and networks. Strategic Management Journal, 19(4), 293-317. https://www.jstor.org/stable/3094067

Highhouse, S., Paese, P. W., & Leatherberry, T. (1996). Contrast effects on strategic-issue framing. Organizational Behavior and Human Decision Processes, 65(2), 95-105. https://doi.org/10.1006/obhd.1996.0009

Hmieleski, K. M., & Ensley, M. D. (2007). A contextual examination of new venture performance: Entrepreneur leadership behavior, top management team heterogeneity, and environmental dynamism. Journal of Organizational Behavior, 28(7), 865-889. https://doi.org/10.1002/job.479

Jackson, S. E. (1992). Consequences of group composition for the interpersonal dynamics of strategic issue processing. In: J. Dutton, A. Huff, & P. Shrivastava, Advances in Strategic Management (vol. 8, pp. 345-382). JAI Press.

Jackson, S. E., & Dutton, J. E. (1988). Discerning threats and opportunities. Administrative Science Quarterly, 33(3), 370-387. https://doi.org/10.2307/2392714

Joseph, J., & Gaba, V. (2020). Organizational structure, information processing, and decision-making: A retrospective and road map for research. Academy of Management Annals, 14(1), 267-302. https://doi.org/10.5465/annals.2017.0103

Joseph, J., & Ocasio, W. (2012). Architecture, attention, and adaptation in the multibusiness firm: General Electric from 1951 to 2001. Strategic Management Journal, 33(6), 633-660. https://doi.org/10.1002/smj.1971

Judge, W. Q., & Speitzfaden, M. (1995). The management of strategic time horizons within biotechnology firms: The impact of cognitive complexity on time horizon diversity. Journal of Management Inquiry, 4(2), 179-196. https://doi.org/10.1177/105649269542009

Julian, S. D., & Ofori-Dankwa, J. C. (2008). Toward an integrative cartography of two strategic issue diagnosis frameworks. Strategic Management Journal, 29(1), 93-114. https://doi.org/10.1002/smj.647

Kellermanns, F. W., Walter, J., Lechner, C., & Floyd, S. W. (2005). The lack of consensus about strategic consensus: Advancing theory and research. Journal of Management, 31(5), 719-737. https://doi.org/10.1177/0149206305279114

King, W. R. (1982). Using strategic issue analysis. Long Range Planning, 15(4), 45-49. https://doi.org/10.1016/0024-6301(82)90090-5

Knight, D., Pearce, C. L., Smith, K. G., Olian, J. D., Sims, H. P., Smith, K. A., & Flood, P. (1999). Top management team diversity, group process, and strategic consensus. Strategic Management Journal, 20(5), 445-465. https://doi.org/10.1002/(SICI)1097-0266(199905)20:5%3C445::AID-SMJ27%3E3.0.CO;2-V

Kuvaas, B. (2002). An exploration of two competing perspectives on informational contexts in top management strategic issue interpretation. Journal of Management Studies, 39(7), 977-1001. https://doi.org/10.1111/1467-6486.00320

Laamanen, T., Maula, M., Kajanto, M., & Kunnas, P. (2018). The role of cognitive load in effective strategic issue management. Long Range Planning, 51(4), 625-639. https://doi.org/10.1016/j.lrp.2017.03.001

Litrico, J. B., & David, R. J. (2017). The evolution of issue interpretation within organizational fields: Actor positions, framing trajectories, and field settlement. Academy of Management Journal, 60(3), 986-1015. https://doi.org/10.5465/amj.2013.0156

Liu, F., & Maitlis, S. (2014). Emotional dynamics and strategizing processes: A study of strategic conversations in top team meetings. Journal of Management Studies, 51(2), 202-234. https://doi.org/10.1111/j.1467-6486.2012.01087.x

Markóczy, L. (2001). Consensus formation during strategic change. Strategic Management Journal, 22(11), 1013-1031. https://doi.org/10.1002/smj.193

Meinhardt, R., Junge, S., & Weiss, M. (2018). The organizational environment with its measures, antecedents, and consequences: A review and research agenda. Management Review Quarterly, 68(2), 195-235. https://doi.org/10.1007/s11301-018-0137-7

Miller, K. D., & Lin, S. J. (2015). Analogical reasoning for diagnosing strategic issues in dynamic and complex environments. Strategic Management Journal, 36(13), 2000-2020. https://doi.org/10.1002/smj.2335

Miller, K. D., & Lin, S. J. (2020). Strategic issue diagnosis by top management teams: A multiple-agent model. Strategic Organization, 20(3), 600-626. https://doi.org/10.1177/1476127021993792

Milliken, F. J. (1990). Perceiving and interpreting environmental change: An examination of college administrators' interpretation of changing demographics. Academy of Management Journal, 33(1), 42-63. https://doi.org/10.2307/256351

Mittal, V., & Ross, W. T., Jr. (1998). The impact of positive and negative affect and issue framing on issue interpretation and risk taking. Organizational Behavior and Human Decision Processes, 76(3), 298-324. https://doi.org/10.1006/obhd.1998.2808

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. Organization Science, 5(1), 14-37. https://doi.org/10.1287/orsc.5.1.14

Ocasio, W., & Joseph, J. (2005). An attention-based theory of strategy formulation: Linking micro-and macroperspectives in strategy processes. In G. Szulanski, J. Porac, & Y. Doz (Eds.), Advances in Strategic Management (vol. 22, pp. 39-61). Emerald Group Publishing.

Palich, L. E., & Bagby, D. R. (1995). Using cognitive theory to explain entrepreneurial risk-taking: Challenging conventional wisdom. Journal of Business Venturing, 10(6), 425-438. https://doi.org/10.1016/0883-9026(95)00082-J

Perrott, B. E. (1996). Managing strategic issues in the public service. Long Range Planning, 29(3), 337-345. https://doi.org/10.1016/0024-6301(96)00030-1

Pfeffer, J. (1981). Power in organizations. Ballinger.

Piaget, J. (1952). The origins of intelligence in children. International Universities Press.

Plambeck, N., & Weber, K. (2009). CEO ambivalence and responses to strategic issues. Organization Science, 20(6), 993-1010. https://www.jstor.org/stable/25614712

Plambeck, N., & Weber, K. (2010). When the glass is half full and half empty: CEOs' ambivalent interpretations of strategic issues. Strategic Management Journal, 31(7), 689-710. https://doi.org/10.1002/smj.835

Porter, M. E. (1980). Competitive strategy: Techniques for analyzing industries and competitors. Free Press.

Post, J. E. (1978). Corporate behavior and social change. Prentice Hall.

Ramos-Rodríguez, A. R., & Ruíz-Navarro, J. (2004). Changes in the intellectual structure of strategic management research: A bibliometric study of the Strategic Management Journal, 1980-2000. Strategic Management Journal, 25(10), 981-1004. https://doi.org/10.1002/smj.397

Rerup, C. (2009). Attentional triangulation: Learning from unexpected rare crises. Organization Science, 20(5), 876-893. https://www.jstor.org/stable/25614701

Sallivan, J., & Nonaka, I. (1988). Culture and strategic issue categorization theory. Management International Review, 28(3), 6-10. https://www.jstor.org/stable/40227887

Schneider, S. C., & Meyer, A., de. (1991). Interpreting and responding to strategic issues: The impact of national culture. Strategic Management Journal, 12(4), 307-320. https://doi.org/10.1002/smj.4250120406

Sharma, S. (2000). Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. Academy of Management Journal, 43(4), 681-697. https://doi.org/10.2307/1556361

Simon, H. A. (1947). Administrative behavior: A study of decision-making processes in administrative organization. Macmillan.

Smircich, L. (1983). Concepts of culture and organizational analysis. Administrative Science Quarterly, 28(3), 339-358. https://doi.org/10.2307/2392246

Smith, E. E. (1990). Categorization. In D. N. Osherson, & E. E. Smith (Eds.). Thinking: An invitation to cognitive science (pp. 33-53). MIT Press.

Smith, G. F. (1995). Classifying managerial problems: An empirical study of definitional content. Journal of Management Studies, 32(5), 679-706. https://doi.org/10.1111/j.1467-6486.1995.tb00794.x

Spickermann, A., Grienitz, V., & Gracht, H. A. von der. (2014). Heading towards a multimodal city of the future? Multi-stakeholder scenarios for urban mobility. Technological Forecasting and Social Change, 89, 201-221. https://doi.org/10.1016/j.techfore.2013.08.036

Thomas, J. B., Clark, S. M., & Gioia, D. A. (1993). Strategic sensemaking and organizational performance: Linkages among scanning, interpretation, action, and outcomes. Academy of Management Journal, 36(2), 239-270. https://doi.org/10.5465/256522

Thomas, J. B., & McDaniel, R. R., Jr. (1990). Interpreting strategic issues: Effects of strategy and the information-processing structure of top management teams. Academy of Management Journal, 33(2), 286-306. https://doi.org/10.2307/256326

Thomas, J. B., McDaniel, R. R., Jr., & Dooris, M. J. (1989). Strategic issue analysis: NGT+ decision analysis for resolving strategic issues. Journal of Applied Behavioral Science, 25(2), 189-200. https://doi.org/10.1177/0021886389252009

Thomas, J. B., Shankster, L. J., & Mathieu, J. E. (1994). Antecedents to organizational issue interpretation: The roles of single-level, cross-level, and content cues. Academy of Management Journal, 37(5), 1252-1284. https://doi.org/10.2307/256672

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. British Journal of Management, 14(3), 207-222. https://doi.org/10.1111/1467-8551.00375

Walsh, J. P., & Fahey, L. (1986). The role of negotiated belief structures in strategy making. Journal of Management, 12(3), 325-338. https://doi.org/10.1177/014920638601200302

Wartick, S. L., & Mahon, J. F. (1994). Toward a substantive definition of the corporate issue construct: A review and synthesis of the literature. Business & Society, 33(3), 293-311. https://doi.org/10.1177/000765039403300304

Weick, K. E. (1979). The social psychology of organizing. Addison-Wesley.

Weick, K. E. (1988). Enacted sensemaking in crisis situations. Journal of Management Studies, 25(4), 305-317. https://doi.org/10.1111/j.1467-6486.1988.tb00039.x

West, C. T., Jr., & Schwenk, C. R. (1996). Top management team strategic consensus, demographic homogeneity and firm performance: A report of resounding nonfindings. Strategic Management Journal, 17(7), 571-576. https://doi.org/10.1002/(SICI)1097-0266(199607)17:7%3C571::AID-SMJ817%3E3.0.CO;2-C

Wooldridge, B., & Floyd, S. W. (1989). Strategic process effects on consensus. Strategic Management Journal, 10(3), 295-302. https://www.jstor.org/stable/2486448

Wulf, T., Florian, S., & Meissner, P. (2020). Differences in strategic issue interpretation across cultures – a socio-cognitive perspective. European Management Review, 17(1), 197-208. https://doi.org/10.1111/emre.12361

Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. Organizational Research Methods, 18(3), 429-472. https://doi.org/10.1177/1094428114562629

Author

José Eduardo Valladares Teixeira * 
Universidade Nove de Julho
Rua Deputado Salvador Julianelli s/n, CEP 01156-000, Barra Funda, São Paulo, SP, Brazil
j.e.teixeira@hotmail.com

Fernando Antonio Ribeiro Serra 
Universidade Nove de Julho
Rua Deputado Salvador Julianelli s/n, CEP 01156-000, Barra Funda, São Paulo, SP, Brazil
fernandoars@uni9.pro.br

Kent D. Miller 
Michigan State University
North Business Building, 632 Bogue St Rm N475B, 48824
East Lansing, MI , USA
millerk@broad.msu.edu