

# Making Sense of Sensemaking Process in the Face of Organizational Environment

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## Abstract

Modern organization theory suggests that external environment is central to the organizational phenomena. Similarly, sensemaking is widely used to describe organizational actors and processes. Despite this significance of both constructs and their suggested interwoven occurrence in organizational landscape, sensemaking processes in the face of different types of organizational environments have not been studied. This paper furnishes a framework to describe which forms of sensemaking are useful in various types of organizational environment. At first, based on review of literature, we synthesized that sensemaking is a multifaceted process; which is retrospective as well prospective and continuous as well as episodic. Moreover, it involves both individual and social cognition, and hence becomes individual as well as organizational process. Subsequently, we have presented propositions regarding sensemaking processes in the face of simple, complex, dynamic and stable environments.

**Key words:** Sensemaking, Sense giving, Organizational Environment, Social cognition, Episodic sensemaking

## 1. Introduction

The idea of sensemaking came into mainstream literature when Karl Weick (1969) published his classic text “The Social Psychology of Sensemaking”, in which he postulated that changes in the environment cause a disruption in the flow of information processing of individuals which in turn compels them to go through a cyclic process of enactment, selection and retention. An individual engages in the process of sensemaking to reduce the equivocality of the ambiguous situations by noticing and extracting relevant cues, interpreting them, and enacting accordingly (Ala-Laurinaho, Kurki, & Abildgaard, 2017; Heaphy, 2017). Sensemaking concept was

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well celebrated by the organizational theorists and during the early 1980s tremendous scholarly work was produced on “cognitive underpinnings” (Maitlis & Christianson, 2014) of sensemaking such as stimulus (Louis, 1980), extractions, interpretation and organizing of cues (Starbuck & Milliken, 1988), and taking actions to alter the ecological environment (Porac, Thomas, & Baden-Fuller, 1989). The concept was also applied to describe unfortunate events such as Union Carbide Plant Bhopal Disaster (Weick, 1988), Colombia Space Shuttle Disaster (Starbuck & Milliken, 1988), Tenerife air disaster (Weick, 1990), Mann Gulch fire incident (Weick, 1993) and many others; thereby suggesting that sensemaking is integral to the organizational phenomenon. This is because organizational members frequently encounter non-routine and novel activities which violate their existing mental models. By engaging in sensemaking, organizational members can develop a better understanding of ambiguous situations.

Weick further elaborated sensemaking through another seminal work “Sensemaking in Organization” (1995) wherein he furnished seven properties of sensemaking. These properties gave a detail description of the sensemaking process (Weick, 1995). Since then there has been expansion in various directions in this field. But still, the literature on sensemaking is fragmented (Odden & Russ, 2019). One group regards sensemaking as individual cognitive process; whereas the other focuses on the social construction of reality and sensemaking (Hultin & Mähring, 2017). Similarly, a group has applied the process of sensemaking to other organizational processes such as strategic planning, strategic change, crises and accidents, creativity, organizational identity, learning and knowledge etc. (Sandberg & Tsoukas, 2015) whereas the second strand of sensemaking research consists of those authors who have been trying to enrich our understanding of sensemaking process by furnishing constructive critique of Weick’s work and proposing addition and/or alternate descriptions about temporal dimensions and ontological assumptions of sensemaking (Maitlis & Christianson, 2014). There have been rigorous debates whether sensemaking is an individual process (Louis, 1980; Starbuck & Milliken, 1988) or social process (Weick, 1995; Weick, Sct-cliffe & Obstfeld, 2005; Maitlis, 2005); whether sensemaking should be retrospective (Weick, 1995; Weick et al., 2005) or prospective (Gioia & Thomas, 1996; Gephart et al., 2010); and whether sensemaking is episodic (Weick, 1995; Weick et al., 2005; Sandberg & Tsoukas, 2015), continuous (Gephart et al., 2010) or immanent (Sandberg & Tsoukas, 2015).

Sandberg and Tsoukas (2020) suggest that sensemaking cannot be considered as an umbrella construct due to different types of sensemaking prevalent; and doing so would “obscure its different meanings and usages within management and organization studies and reduce construct clarity” (p. 2). Drawing inspiration from this, the current paper attempts to reconcile the debates between these diverging strands

of researchers within sensemaking literature. Following the tradition of sensemaking research, it attempts to explain an organizational process i.e. how sensemaking happens in the face of different types of organizational environments? And in order to do so, it uses constructs of debates within sensemaking research, such as retrospection versus prospecting, individual versus social sensemaking and episodic versus continuous sensemaking, and juxtaposes them in different organizational environments. Therefore, the main contribution of this paper is to apply sensemaking framework in the context of external organizational environment. External environment is defined as combination of all external stakeholders which can directly affect an organization's success or failure. While modern organization theory is said to be possessed with the idea of contingent nature of organization's systems and processes on environmental factors, it is interesting to note that sensemaking concept has not been studied in the context of different organization environment. Maitlis and Christianson (2014) noted that in sensemaking research key external forces – such as social, economic, cultural, and political forces that shape how groups notice and interact – have remained overlooked. To contribute towards this overlooked dimension, the present article discusses which form of sensemaking is suitable for a given organizational environment. Drawing on the classical yet contemporary environmental uncertainty framework of Duncan (1972), sensemaking processes in the face of simple-complex and stable-dynamic dimensions of environment are discussed. Although seemed to be old, this framework is still applicable in modern organizations.

First section of the paper undertakes review of contemporary literature on sensemaking research. The next section describes how different facets of sensemaking are more suitable in the face of different environmental conditions. In the end, the paper furnishes propositions for further explanation and testing.

## **2. Sensemaking as a multifaceted process**

Sensemaking is a cognitive, dynamic, and reciprocal process through which individuals or groups attempt to interpret and gain better understanding of novel and uncertain situations (Heaphy, 2017; Will & Pies, 2018). Organizational actors develop their own schema and mental models through which they understand a given event, circumstance or outcome of action. These schemata are developed on the basis of previous knowledge and experiences of individuals, making it a path dependent process (Bogner & Barr, 2000; Odden & Russ, 2019). However, in the face of an event that is entirely novel and open to multiple explanations, individuals have to make sense of such discrepant situation (Stigliani & Ravasi, 2012). Sensemaking is, therefore, triggered by interpretations of events that are not recognized by individuals through their past schema (Magala, 1997), or there exist different types of contradic-

tory explanations about a situation and individual has to choose the most plausible one. The problem which sensemaking solves is thus confusion, not ignorance; so aim of sensemaking is to reduce equivocality by generating a plausible account of the confusing events (Weick, 1995) and then enacting according to the newly acquired knowledge. This process concludes when an individual perceives that his/her understanding of the situation is sufficient to take a purposeful action (de Graaff, Giebels, Meijer, & Verweij, 2019). Therefore, sensemaking involves both cognitive processing of cues and behavioural actions which are employed to understand a novel situation (Klein & Eckhaus, 2017).

Sensemaking, however, is much more than mere interpretation of the situation (Maitlis & Christianson 2014). It is a generative process in which new knowledge is created by the individual (Höllerer, Jancsary, & Grafström, 2018). Process of sensemaking is overlapping (Brown, Colville, & Pye, 2014) in which individuals are constantly constructing the situation they are attempting to understand in a retrospective manner (Weick et al., 2005). People make sense by extracting cues, bracketing them against previous experiences (Höllerer et al., 2018), describing and comprehending them explicitly (Taylor & Van Every 2000), and then enacting accordingly (Maitlis, 2005). Sensemaking is the process through which individuals turn circumstances into a situation that is explicitly comprehensible in words, and serves as a springboard for action (Weick et al., 2005).

There is no particular theory of sensemaking (Maitlis & Christianson, 2014). It has been connoted as a paradigm (Weick, 1995), lens (Vough, 2012), framework (Mikkelsen, 2013), and perspective (Sandberg & Tsoukas, 2015). In addition to this, there is no agreed definition of sensemaking (Brown et al., 2014) as there are differences on ontological and temporality dimensions of sensemaking (Maitlis & Christianson, 2014). Nevertheless, there is concurrence among researchers that it is a sequential, recursive and social process (Maitlis & Christianson, 2014) that enables individuals to understand an ambiguous or uncertain situation (Schildt, Mantere, & Cornelissen, 2020), and guides individuals as well as collective actions (Maitlis, 2005).

Usually the process of sensemaking begins when either reality is perceived to be different from expectation (Klein & Eckhaus, 2017) or the new situation departs from routine (de Graaff et al., 2019). Literature suggests that under uncertain situations sensemaking is triggered by violated expectations (Maitlis & Christianson, 2014), surprises (Louis, 1980), discrepant events (Weick, 1995), ambiguous events (Sandberg & Tsoukas, 2015), organizational crises (Weick, 1993), environment jolts, threat to identity and planned change initiatives (Maitlis & Christianson, 2014), or interruption in routine activities (Sandberg & Tsoukas, 2020). In addition, threat to self-enhancement, self-efficacy, and self-consistency also prompt individuals to redefine

their sense (Weick, 1995). Sandberg and Tsoukas (2015) have suggested five categories of events that trigger sensemaking (i) major planned event such as any strategic change, (ii) major unplanned event for example a crisis situation, (iii) minor planned events such as meeting among group of experts (iv) minor unplanned event for instance misunderstanding between group member and (v) hybrid of triggering events.

As process of sensemaking initiates, individuals extract relevant cues from environment (Weick et al. 2005). Cues are “simple, familiar structures from which people develop a larger sense of what may be occurring” (Weick, 1995, p. 50, cited in Maitlis et al., 2013). These cues are then organized by bracketing for further cognitive refinement (Weick et al., 2005). This tacit information of cues is converted into explicit words, and cognitive categories are assigned through the process of functional deployment (Weick et al., 2005). “Functional deployment means imposing labels on interdependent events in ways that suggest plausible acts of managing, coordinating, and distributing” (Weick et al. 2005, p. 411). This articulation or labeling is used to provide a common base for understanding. According to Taylor and Van Every (2000), labels are communicated among organizational members through language, narratives, stories, and different other means to create shared mental maps which not only provide base for actions but also serve as cues for further sensemaking.

Weick’s view of sensemaking is embedded around the concept of organizing (Maitlis & Christianson, 2014; Sandberg & Tsoukas, 2015) where primary trigger of sensemaking is cues from ambiguous events which forces individuals to take actions in an enacted environment and review them retrospectively (Sandberg & Tsoukas, 2015). Central to this view is the idea that people do not understand a situation unless they act and see how their actions have created a particular situation (Weick, 1988). Therefore, sensemaking is manifested through action and practice of the individual. Through their actions, individuals not only bring a sense of order to a novel and chaotic situation, but also obtain new cues for interpretation (Schildt et al., 2020; Weick et al., 2005). This is because sensemaking generates new objects of knowledge (Weber & Glynn, 2006). Also in sensegiving, when a sense-giver externalizes his sense of a novel situation, it reshapes the external environment from which others can draw cues (Höllner et al., 2018). Therefore, the process of enactment implies that organizations cannot be viewed in isolation from their environment (Maitlis & Sonenshein, 2010). In the cyclic loop of sensemaking, individual make sense of environment by getting cues from it, and at the same time continues to create the environment with their actions (Weick, 1995). Hence, sensemaking is more than mere interpretation; it is active construction of reality which is in turn examined retrospectively (Brown et al., 2014).

The corresponding relationship between environment and sense-makers greatly

depends on individuals as well as their collective social cognition functions (Starbuck & Milliken, 1988). Moreover, individuals undergo sensemaking process both retrospectively and prospectively (Maitlis & Christianson, 2014), and sensemaking occurs in continuous as well as episodic fashion (Brown et al., 2014). Consequently, Introna (2019) points out that literature on sensemaking is fragmented in treating sensemaking as continuous or episodic process, and retrospective or prospective in nature. In the following, we will explain the aforementioned facets of sensemaking, and subsequently discuss their relationship with organizational environment.

### **2.1. Sensemaking involves Individual as well Social Cognition**

When Weick presented the idea of sensemaking it had more cognitive connotation (Weick, 1969) which was aligned with the research of Festinger (1957) on reducing cognitive dissonance and mental conflict between expectation and experienced reality. Sensemaking, in this sense, was construed as a mean to reduce cognitive disorder (Balogun & Johnson, 2004). Cognitive frameworks of an individual influence how cues are extracted, how explanations are made, and subsequent actions are undertaken to reduce equivocality (Sandberg & Tsoukas, 2015). In other words, these frameworks simplify the information processing of individuals (Bingham & Kahl, 2013) and help them in comprehending, explaining and predicting situations (Starbuck & Milliken, 1988).

In his later work, Weick took a transition from individual cognition to social constructivist position (Sandberg & Tsoukas, 2015). He regarded social construction of meaning as one of the seven fundamental properties of sensemaking in his classic work *Sensemaking in Organizations* (1995). Maitlis (2005) also described sensemaking to be a “fundamentally social process: organization members interpret their environment in and through interactions with each other, constructing accounts that allow them to comprehend the world and act collectively” (p. 21). Proponents of socially constructed sensemaking suggest that individual sensemaking is a social process because it is influenced by social environment (Weick et al., 2005). Sensemaking is social when individuals have common grounds for action and they work together to make justification for their acts (Weick, 1995). Sociology perspective of sensemaking focuses on inter-subjective meanings and finds sensemaking in documents, social interaction, and conversations (Gephart et al., 2010). Moreover, many authors have suggested use of ethnomethodology in studying collective sensemaking and socially constructed reality (Garfinkel, 1967; Gephart, 1993; Leiter, 1980).

An extension of social form of sensemaking is discursive practice, in which talks, discussions, conversations and discourse are used for meaning construction (Weick, 1995). Following the linguistic turn in the social sciences (Sandberg & Tsoukas, 2015),

metaphorical language, stories, etc are also studied to see how individual creates sense through discursive accounts. Advocates of this view regard individuals as “typified discursive construction” (Knorr-Cetina, 1981, p.10). Based on this, Gephart (1993) defined sensemaking as the discursive process of constructing and interpreting the social world.

Recently, researchers have beginning to acknowledge the importance of material artifacts and props in supporting the sensemaking process. This stream of research complements the social aspect of sensemaking and regards material artifacts as sensemaking resources. For example, research of Stigliani and Ravasi (2012) establishes the importance of material artifacts in supporting the co-construction of meaning and enabling organizational members to interpret the situation together. In similar view, Oborn, Barrett and Dawson (2013) showed how information technologies are powerful tools in the creation of meaning. Hultin and Mähring (2017) have adopted a relational ontology to explain the role of material-discursive practices and performativity of practices in sensemaking. Taken together, these studies provide interesting insight regarding the interaction between social and material aspect of organization during the process of sensemaking.

## **2.2. Sensemaking is organizational**

Organizational sensemaking is different than social sensemaking in that it is purposefully influenced by the sense-giving of top management. Organizational sensemaking draws on the assumptions of discursive view (Weick, 1995). Discursive strand of sensemaking research suggests that sense-makers are influenced by sense-givers with dominant version of the reality that suits their organization. In other words, power, politics and self-interest of the leaders in the organization influence the process of sensemaking (Vlaar et al., 2006), and redistribute power in the organization through sensemaking (Zilber, 2007).

Researchers have highlighted the struggle between organizational actors in construction of meaning and achieving dominant account of event or retention/change of status quo (Maitlis & Christianson, 2014). Extant literature describes how leaders of the organizations use symbols and images to strategically influence the process of sensemaking (Gioia & Chittipeddi, 1991; Maitlis & Lawrence, 2007; Rouleau, 2005). Top management in this sense serves a role of sense-givers. Sense-giving is the process of influencing sensemaking and meaning construction of others in favor of redefinition of organizational reality (Gioia & Chittipeddi, 1991; Schildt et al., 2020). It is an intentional attempt to enforce a dominant way of understanding (Höllerer et al., 2018; Konlechner, Latzke, Güttel, & Höfferer, 2019). Sensegiving is particularly relevant in scenarios when the leader intends to create a different conception of reality in the

minds of employees (Prior, Keränen, & Koskela, 2018). Sensemaking and sensegiving are often regarded two sides of the same coin (Rouleau, 2005) because sense-giver is also a sense-maker and vice versa (Sandberg & Tsoukas, 2015). Both sensemaking and sensegiving operate in a cyclic manner. This means that the manager first makes sense of the situation and then externalizes their meaning through sense-giving in order to guide the sensemaking process of others (Heaphy, 2017). While sensemaking involves both managers and workers; sensegiving is only limited to leaders (Klein & Eckhaus, 2017). Thus, sensemaking of individual is not embedded rather it is shaped by social and organizational forces (Brown et al., 2014). Accordingly, in this study we will consider organizational sensemaking as a process through which top management of organizations serves as sense-makers and sense-givers, and affect the sensemaking process throughout the organization.

### 2.3. Sensemaking is retrospective as well as prospective

Historically sensemaking is considered to be a retrospective process. This means that people attempt to make sense of the actions that have already happened. Inspired by the work of American pragmatists Mead and European philosopher Schutz, Weick regards retrospection as a core property of sensemaking (Weick, 1995). He quotes Schutz argument about the fact that humans are conscious of their motoring process through sensory process. This is evident from famous quote: “How can I know what I think till I see what I say?” (Wallas, 1926). This shows that people look back at their actions and reflect on them. But, the inability of existing models to explain discrepancy compels individuals in a conscious retrospection process of making a plausible explanation of interruption (Stigliani & Ravasi, 2012) i.e. “(t)he now of mistakes collides with the then of acting with uncertain knowledge” (Paget 1988, p. 48, cited by Weick et al., 2005). The entire approach of retrospective sensemaking is summarized by Sandberg and Tsoukas (2015) as following.

*“By undertaking action, which is necessarily grounded on hitherto taken-for granted beliefs, individuals enact their reality, which they, then, retrospectively seek to make sense of and, on the basis of the provisional sense made, individuals act on again, retrospectively making sense of their new action, and so on. It is this unending dialogue between partly opaque action outcomes and deliberate probing that is at the heart of sensemaking.”(p. 9)*

Retrospective sensemaking is beneficial in pointing out mistakes in past actions and decision. “Many perceptual errors, perhaps the great majority, become erroneous only in retrospect.” (Starbuck & Milliken, 1998, p. 44). A fitting example of this is the attack of group of anti-Castro exiles on Bay of Pigs, which could potentially led to nuclear war. “In retrospect, the plan looked completely misguided.” (Morgan, 1997,

p. 211). Thus, sensemaking basically is a process in which individuals create and categorize conceivable stories retrospectively (Weick et al., 2005) with the help of their existing mental models, knowledge and experiences (Will & Pies, 2018).

The idea of retrospective sensemaking is subject to constant criticism. Some of this critique is mentioned by Weick (1995) in "Sensemaking in Organization" in which he also attempted to provide justification against such critique. The foremost issue in the retrospective sensemaking is about hindsight i.e. if the bad outcomes of a particular action are observed; individual tends to reconstruct the situation by taking into account incorrect actions only (Starbuck & Milliken, 1988). Weick acknowledges that tight implications drawn from hindsight are problematic but he believes that retrospective sensemaking only partially modifies the past actions, and the past is not completely eliminated at once. Another critique on retrospective sensemaking points out problem during the reconstruction of accounts through memory by implicating that an event doesn't happen exactly as our memory has led us to believe. Weick responds to this by highlighting a very little time lapse between occurrence of an event and its subsequent interpretation. The process of sensemaking starts when "memory traces are typically fresh" (Weick, 1995, p. 29) which reduces distortions in construction process caused due to memory.

But the most compelling criticism, coming especially from strategic planning and organizational change domains, is that retrospective sensemaking ignores the future occurrences. Weick, however, has not totally ignored the future dimension of sensemaking. He argues that future actions are also embedded in past action (Sandberg & Tsoukas, 2015) and put-forth that the future actions of individuals can be explained just like a future-perfect tense (Weick, 1969). "It is easier to make sense of events when they are placed in the past, even if the events have not occurred." (Weick, 1995, p. 29). Therefore, Weick considers that future planning is not fruitful if it ignores reflective action and history (Weick, 1995). This is evident from his explanation of Mann Gulch disaster in which the commander of the fire fighters lit fire in front of him because his past experience guided him to envision future and take appropriate measure. Therefore, he regards "forecasting, contingency planning, strategic planning and other magical probes into the future wasteful and misleading if they are decoupled from reflective action and history" (Weick, 1995, p. 30).

Gioia and Mehra (1996) have critiqued the narrow scope of retrospection in sensemaking and proposed its prospective dimension. According to them, retrospective process of sensemaking cannot be used to anticipate or predict future events as Weick holds that people envision a future state and then interpret it as if it has already occurred in the past and then take action retrospectively (Gioia et al., 2002). They also criticized the 'future-perfect' notion of retrospective sensemaking which ignores

the importance of present where the actual events are taking place (Wiebe, 2010). Moreover, Gioia and Mehra (1996) suggested sensemaking is prospective, which is aimed at creating meaningful opportunities for the future.

Above discussion demonstrates that main difference between retrospective and prospective sensemaking rests in their temporal orientation (Maitlis & Christianson, 2014). In retrospective sensemaking, individual brings their past experience in present; whereas in the prospective sensemaking future is brought into the present (Introna, 2019). Retrospective sensemaking ignores the importance of present actions where sensemaking actually happens (Wiebe, 2010). Unlike retrospective sensemaking, prospective sensemaking is used to 'envision' future events but it is only a tentative construction of account (Gioia & Mehra, 1996). Prospective sensemaking is the one "where the attention and concern of people is primarily directed at events that may occur in the future" (Rosness et al., 2016, p. 55). A number of studies have been conducted to explore this future orientated sensemaking. Gioia and Chittipeddi (1991) gave the concept of sensegiving which according to few can be used as a mean to "rectify shortage" in retrospective sensemaking as sensegiving is considered a future-oriented facet (Maitlis, 2005; Gephart et al., 2010; Sandberg & Tsoukas, 2015). Clarke (1999) has demonstrated how top management, as sensegiver, uses rhetoric to create an account of future for employees. Wright (2005) has used scenarios as a means of prospective sensemaking. Gephart et al., (2010) emphasized on using past and present chronological states to predict future events.

#### **2.4. Sensemaking is episodic as well as continuous process**

"Sensemaking involves the ongoing retrospective development of plausible images that rationalize what people are doing" (Weick et al., 2005). Weick regards sensemaking as an ongoing process of conversation (Weick, 1995) which is cyclic in nature (Weick et al., 2005). He proposes a 'reciprocal exchange' between the enactment and ecological changes i.e. the action of organizational actors have influence on their environment and the resulting changes taking place in the environment affect actions of actors. Therefore, sensemaking is regarded as a constant dialogue between action and provisional sense. This has led to a debate whether sensemaking is episodic (Sandberg & Tsoukas, 2015) or a continuous or ongoing process (Gephart et al., 2010; Maitlis & Christianson, 2014).

One view, influenced by ethnomethodology, regards that sensemaking has no beginning or end (Maitlis & Christianson, 2014). "These sensemaking practices and the production of social reality are ongoing and continually enacted . . . there is no time out for sensemaking." (Gephart et al., 2010, p. 281). This means that sensemaking is a continuous process (Konlechner et al., 2019). Contrary to this the opponents of

continuous view of sensemaking holds that sensemaking is episodic in nature having a distinct starting and ending point. Aim of sensemaking is to achieve a feeling of order, clarity, rationality, and when this is achieved sensemaking stops. This implies that sensemaking is a transient process (Ala-Laurinaho et al., 2017). Christianson et al. (2009) suggest that rare events serve as specific episodes for sensemaking and learning. Furthermore, episode of sensemaking is prompted by particular disruptive events and it ends when reasonable order is restored (Sandberg & Tsoukas, 2015). For example, the process of sensemaking during strategic change or restructuring in the organization is characterized by specific episodes. Similarly, the studies of different organizational crises have been limited to distinct episodes. However it is pertinent to note that within each episode, sensemaking is a continuous process but there is a gap between two successive episodes of sensemaking, and during this gap, there is a refinement of the sensemaking process and stories (Weick et al., 2005).

### **3. A Framework of sensemaking in the face of organizational environment**

In today's era, organizations are dealing with constant interruptions. They have to face global challenges, new markets, new competitors, changing technology and other transformational realities. All external factors that may influence organization's success and failure are collectively referred as "external environment". Many new situations frequently come in front of organizations due to rapid changes in environmental factors. Due to this, organizations regularly face unusual experiences (Garud et al., 2011). Organizations tend to solve the underlying problem created by unusual situations by applying the scientific and experiential methods of generating knowledge. The drawback of the scientific and experiential methods is that they create and enhance knowledge on the basis of previous knowledge categorized in particular domains. Accordingly, insufficiency of the existing knowledge creates a learning dilemma which is crucial for survival of the organization. Hence, today's organizations are converting themselves into learning organizations. Such organizations use the power of doubt to "generate possibilities, try them out, modify, transform or abandon them" (Locke et al., 2008, p. 908). To learn from such unusual situations, organizations try to make sense of these so they can understand and learn the current phenomenon happening around them. Learning of an organization from unusual experiences can be through generative process in which organization can mobilize past experiences of dealing with unusual situations.

The process of sensemaking is essential in organizations though it differs from common day sensemaking (Weick, 1995) because everything including rationality is challenged in the organization (Czarniawska-Joerges, 1992). Furthermore the enact-

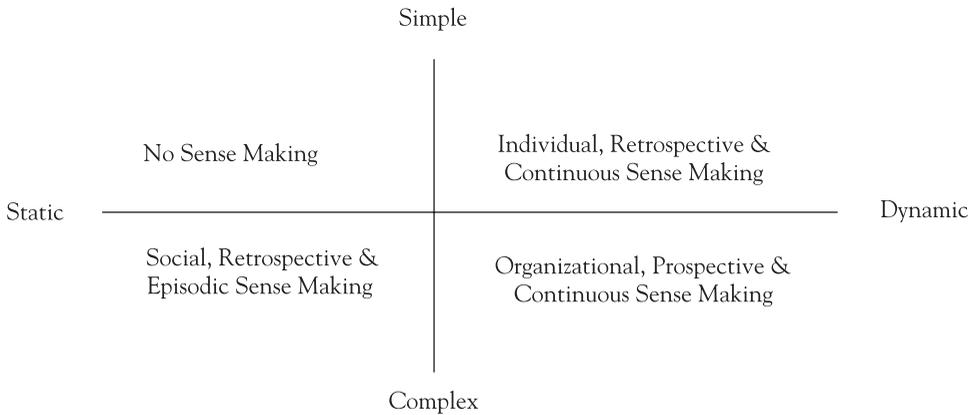
ment phase of sensemaking makes organization part of their environment (Maitlis & Sonenshein, 2010). The idea of enactment to create a comprehensible environment appears to be inlined with Pfeiffer's Resource Dependence View of organizations which suggests that organizations are open to choose from a variety of strategic options and they manipulate and co-create their external environment. Organizations continuously experience as well as enact their surroundings and make sense of the surroundings and this often looks like an intellectual and rational process. Weick also considered organizations as open system that actively construct and subsequently interpret their environment through sensemaking because this approach is more consistent with sensemaking perspective as it shifts attention from structure to process (Weick, 1995, p. 70).

*"It is the very openness associated with this (open system) perspective that makes the distinction between out there and in here inventions rather than discoveries, that results in people creating their own constraints and that triggers the strange sequence in which outputs becomes the occasion to define retrospectively what could have been plausible inputs and throughputs."* (Weick, 1995, p. 70).

An overwhelming amount of literature shows that organizations are open to variety of information coming from the external environment (Weick, 1995). Organization scan, interpret and respond to the cues from the external environment (Daft & Weick, 1984) which in turn govern the process of sensemaking taking place in the organization. Bogner and Barr (2000) have argued that market conditions affect the sensemaking of managers. Maitlis and Christianson (2014) note that early researches in the field of sensemaking explained how organizations cope with external environmental jolts and changes.

Classical work on organizational environment was undertaken by Duncan (1972). Segregating organizational environment as internal and external, he suggested that all important constituents outside of the organization (including customer, competitors, suppliers, socio-political factors, and technology) that exert direct influence on organizations can collectively be referred as external environment. Although, it is established that through enactment sensemaking shapes the environment from which individual draws cue, we are treating environment as exogenous and focusing only on the influence of environment on different facet of sensemaking. In this paper, we have used the term 'environment' to describe what Duncan said 'external environment'. In explaining environment, Duncan proposed that an organization could face a situation in which either small number of external factors (simple environment) or large numbers of external factors (complex environment) are directly influencing it. The axis of simple/complex is relevant for sensemaking because with the increase in the number of variables or pertinent factors, the process of sensemaking becomes

increasingly complex. In this case, individual, or even social sensemaking, may not be sufficient if the environment is too complex. Moreover, either there could be low frequency of change (stable environment) or high frequency of change (dynamic environment) of the factors that are affecting organization. These four characteristics make four distinct types of environments which are (i) simple and static, (ii) simple



**Figure 1:** Sensemaking in the face of different environment

and dynamic, (iii) complex and static, and (iv) complex and dynamic. Following section explains how different facets of sensemaking function in the wake of each of these four types of environments.

### 3.1. Sensemaking in Simple and Stable Environment

According to Weick (1995), the process of sensemaking starts with ambiguity or disorder which is restored by making rationalized account of the variance. If the discrepancy between the reality and expectation can be explained by the existing models or schema, there is no need for sensemaking. As pointed out earlier, a discrepant event should be strong enough to start the process of sensemaking (Ashforth & Kreiner, 2002). Relevance and difference in the situation are two main reasons for engaging in sensemaking (Wiebe, 2010). An event becomes strong enough trigger for sensemaking only if actor perceives that there is a major and important discrepancy between the expected and experience state (Maitlis & Christianson, 2014).

In a simple and static environment, there are very few external factors which are pertinent for the organization and these too are subject to very little changes. Thus, any changes occurring in such an environment will be quickly explained by the existing models and frameworks. There are a number of examples in the literature where organizational actors “accommodate, explain away, or normalize discrepant events” through routines and culture of the organization (Maitlis & Christianson, 2014).

Maitlis, et al. (2013) regards sensemaking to be effortful and cognitively demanding process and therefore individuals will not start sensemaking unless they feel that there is dire need for it.

However, it is worth noting that there is a cost of not paying due attentions to the events that are discrepant. Columbia Shuttle Disaster is a common example of such carelessness in which various operation and flight anomalies were quickly but wrongly rationalized till the situation grew out of control. Thus, the overconfidence caused by the previous safe encounters “shuns (people from) curiosity because they think they know what they need to know” (Weick, 1996, p. 148). This in turn forces individuals to be complacent and ignore important cues resulting in an unfortunate disaster. Such complacent behaviors can be reduced through doubts which emphasize the provisional nature of given accounts and emphasizes on constant creation of meaning (Yanow & Tsoukas, 2009). Practices such as “preoccupation with failure”, “reluctance to simplify”; and “sensitivity to operations” (Weick & Sutcliffe, 2007) help organizations to note even the weak cues and enacting to avoid catastrophe. If despite all consciousness, the inference is drawn that environment is fairly simple and static; sensemaking would neither start, nor be desirable.

Proposition 1: No sensemaking will take place in the face of simple and stable environment of organization.

### **3.2. Sensemaking in Simple and Dynamic Environment**

In a simple but dynamic environment – an environment characterized by fewer external factors which are rapidly changing – there must be some form of sensemaking. We propose that individual sensemaking will suffice in such an environment. As there are few number of external factors important for an organization, employees can themselves make sense of the unusual situation. Individual schema which is described as “knowledge structures that contain categories of information and relationships among them” are helpful in dealing with cognitive challenges by giving meaning of external changes (Bingham & Kahl, 2013, page 14). These cognitive frameworks are developed through experience and learning (Fiske & Taylor, 1991) and affect the sensemaking process (Daft & Weick, 1984).

In describing the “process of schema emergence”, Bingham and Kahl (2013) have put forth that environmental changes such as innovations are rationalized by comparing them with existing mental frameworks which are then deconstructed to differentiate from the existing ones and later lead to the emergence of new schema. Hence, they have proposed three step process of assimilation-deconstruction-unitization for emergence of new individual schema. Therefore, individual may use their

cognitive frameworks and models to make sense of the changes occurring in the simple but dynamic environment. Such frameworks help in coping with routine daily life glitches, misunderstanding between workers and other minor unplanned changes (Sandberg & Tsoukas, 2015). But the ability to cope with these changes is dependent on the degree of alertness of individual which enables them to detect any deviation and difference among details (Weick, 2010).

Any interruption happening in the environment is a signal for the organization that there is some change in the external environment which requires attention (Weick, 1995; Sandberg & Tsoukas, 2020). Cognitive Dissonance Theory tells us that after decision making process; humans exaggerate positive features of chosen alternative and negative features of non-chosen alternative (Weick, 1995). Therefore, retrospection identifies as “post-decisions outcomes are used to reconstruct post pre-decisional histories” (Weick, 1995, p. 12).

In simple-dynamic environment there are fewer factors which are changing at a rapid pace. Due to small number of relevant factors, it is easier for any individual to make sense of the discrepant event in retrospection. Although these factors are changing quickly, the dominant temporal dimension is past which is used to “rationalize what people are doing” (Weick et al., 2005). Less number of factors makes it easier to comprehend and create a plausible explanation of the current events by paying attention to the experience of the past. In simple yet dynamic environment whenever organizational member faces new experience, it is juxtaposed and compared with their existing schema or mental models to identify the gaps that are consequently removed. Accordingly we suggest that retrospective sensemaking is more appropriate as compared to prospective sensemaking in simple-dynamic environment.

Since factors in dynamic environments change rapidly and there is no way to bounding the flow or predict a starting/ending point, continuous sensemaking is required. Moreover, triggers in the dynamic environment are so dramatic that the existing models are ineffective to cope with turbulent environment (Bogner & Barr, 2000) and as managers face continuous change in their environment they need to update their meaning of environment on constant basis (Wiebe, 2010). Sticking to the favored ways of thinking and construction of reality in such an environment creates a ‘psychic prison’ (Morgan, 2006). This may also create confusion because existing models and accounts are unable to explain the increasingly turbulent external environment (Wright, 2005). Organization should dig below the surface to devote themselves to continuous learning and developing new ways to incorporate learning in their organizations so they can be able to deal with unusual experience at any time. Meantime, employees would have to update their understanding according to new information extracted from the environment (Maitlis & Sonenshein, 2010). This

learning makes organizations adaptive social entities (Weick, 1995) and managers have to use adoptive sensemaking for a considerable period of time (Bogner & Barr, 2000). Thus, in case of simple-dynamic environment continuous sensemaking is more suitable.

Proposition 2: Individual, retrospective and continuous sensemaking will take place in a simple and dynamic environment of organization.

### 3.3. Sensemaking in Static and Complex Environment

In the face of static and complex environment, number of factors important to the organization and relationships between such factors are large, but these factors are changing at a slower rate. In such environment, a group level sensemaking is more beneficial as people from diverse backgrounds, histories and organizational positions (Maitlis, 2005) work together to create a vast and unpredictable range of different potential schema structures (Bingham & Kahl, 2013). For instance, Microsoft hires experts with diverse background to enhance their collective understanding (Bogner & Barr, 2000) in which different individuals tend to share their professional experiences and knowledge with others to solve problems. This is important in an impending crisis situation leaves individuals clueless as they are unable to understand what is going on? (Maitlis & Sonenshein, 2010) and in such situation “collective minds” and “heedful interrelating” (Weick & Roberts, 1993) can be used to avert the looming crises.

Groups make inter-subjective and co-constructed understanding of the situation (Maitlis & Christianson, 2014) as they work together to construct a combined account of their environment which helps them to comprehend their environment (Maitlis, 2005). These accounts are independent of the individuals and provide a base for collective actions (Bogner & Barr, 2000), because as Weick suggested “as anomalies become shared, sensibleness should become stronger” (Weick, 1995, p. 3). In addition, organizational actors engage in sensemaking during the planned events such as strategic planning or change initiatives (Sandberg & Tsoukas, 2015). A high level of collective sensemaking enables the group to notice a wide variety of cues and respond accordingly (Bogner & Barr, 2000). Further, operating in complex environment demands continuous updating and creation of new meanings (Christianson et al., 2009). But not sharing these new meanings amongst the group may lead to confusion (Maitlis & Sonenshein, 2010). Therefore, in complex but static environment, social and collective sensemaking through inter-subjective construction of meaning is more suitable.

Retrospective sensemaking is more appropriate as compared to prospective sensemaking in complex-static environment. The slow nature of change makes past and present virtually equivalent (Wiebe, 2010). Further, as suggested by Weick (1995)

sensemaking is triggered by rare cues such as crisis situations which are marked by low probability and high impact. In static environments frequency of such novel incidence is low so adjustment or modification in schema via assimilation of subtle cues over time could be made retrospectively (Gioia & Mehra, 1996). Therefore, in such situations individuals can make retrospective sense of the situation as they have sufficient time to think about the disorder, make sense of it and then take appropriate action before any further interruption occurs.

In complex – static environment, situations are neither novel nor surprising (Gioia & Mehra, 1996) so the moment process of sensemaking reaches to construction of a plausible account, all provisional versions are systematically negated and process of sensemaking comes to an end. In such sensemaking, boundaries can be put around the flow of human experience thereby implying that individuals can identify between two consecutive stages. The episodic view of sensemaking holds that there is a distinct starting point – when disruption starts, and ending point – in which the interruption is restored (Sandberg & Tsoukas, 2015). Therefore, it is postulated that the process of sensemaking starts whenever there is a change in the complex – static environment as this creates a disruption in the flow of events (Weick, 1995). This sensemaking finishes once the environment has gained stability, making it an episodic endeavor.

Proposition 3: Sensemaking in a complex and static environment of organization will be social, retrospective and episodic in nature.

### **3.4. Sensemaking in Dynamic and Complex Environment**

We discussed in above section that complex environment requires social or group sensemaking. This however works if environment is complex but static. In the wake of situation where environment is not only complex but dynamic as well, social sensemaking has its shortfalls. First of all, as the famous saying reads “too many cooks spoil the broth”, presence of number of different and sometimes conflicting interpretations thwarts collective action (Maitlis, 2005). Social and group level sensemaking also lead to the problems associated with group thinking and subsequent complacency. Such as in incident of Union Carbide Plant in Bhopal workers collectively assumed that something bad cannot happen in the plant which is closed for months and this made them prone to ignore important cues such as pungent smell or high pressure gauge readings. Overreliance on others makes individuals believe that their colleagues have made right sense of the situation (Maitlis & Sonenshein, 2010), and this fatal assumption can become starting point of crises (Weick, 1990). In addition, there may be a given problem with a number of alternative solutions and each group wants to implement a particular solution that suits them. Lastly, it is possible that the phenomenon is complex and spatially distributed. In this case, an individual may have

limited understanding of the phenomenon (Höllerer et al., 2018).

During such uncertain times, top management of organization becomes active in sensemaking process by acting as sense-giver (Maitlis & Christianson, 2014). Organizational leaders and managers take control and guide their employees throughout the sensemaking process to produce collective and shared form of sense to this complex phenomenon. Top management has a better access to information, and in uncertain times it can provide the meaningful interpretation of ambiguous information (Thomas et al., 1993) to employees which may be critical for survival of organization (Bogner & Barr, 2000). Hence, in situations such as organizational change, crises or operating in high volatile industries managers not only make sense of external environment but also use sensegiving to influence employee's construction of meaning (Maitlis & Sonenshein, 2010). Maitlis (2005) proposed this process as 'guided organizational sensemaking'; in which the managers are highly involved as 'active sense-givers' and they control the process of sensemaking. Such practices lead to unitary and rich accounts which in turn "enable the emergence of series of actions with consistent foci" (Maitlis, 2005, p. 36).

Another commonly used method of understanding the process of sensemaking and sensegiving is through narratives (Klein & Eckhaus, 2017; Vaara, Sonenshein, & Boje, 2016). The process of narrative development makes it possible to learn from unusual situations and experiences. Narratives provide a precise point of view of the unusual situation and experience by portraying people, places and other related objects in a proper structured manner from starting to end. These narratives help individuals in the organization to make sense of the context of situation (Weick 1995). Thus, people develop accounts of situation they are trying to explain (Heaphy, 2017).

The institutional environment not only affects the sensemaking process, but also the sense made in turn alters the institutional environment (Höllerer et al., 2018). Therefore, researchers have also highlighted dark side of organizational sensemaking on account of its restricted nature (Weber & Glynn, 2006) as leader intends to impose a reality on the organization member (Sonenshein, 2010) by using narratives, metaphors, storytelling as well as altering organizational routines (Prior et al., 2018). High level of control on sensemaking may produce what Maitlis (2005) has termed as 'restricted organizational sensemaking' in which narrow accounts are constructed useable for a single time. Weick (1988) has shown that shift supervisor of Union Carbide Plant in Bhopal dismissed the notion of any fault in a closed plant which created a blind spot and workers ignored important cues. Moreover, role of politics and power in sensemaking tells us that discursive practices can be used to give dominance to one group over others (Maitlis & Christianson, 2014). Use of organizational sensemaking is therefore needed, but must be used with caution.

A persistent challenge for managers is to foresee future opportunities and threats for the businesses and accordingly devise strategies for organizational success. Under complex and uncertain environments, organizations are faced with high level of uncertainty (Duncan, 1972), making it a difficult but necessary task for managers to anticipate future trends and plan accordingly. To meet the challenge, managers tend to develop a tentative future state in a complex-dynamic environment. If this future state is based on retrospective thinking it can lead to myopia and tendency to stick with old ways of thinking. Therefore, in order to avoid this, Wiebe (2010) proposed temporal sensemaking which takes into consideration past, present and future to construct strategies. He suggested that managers should draw insights from the past actions and devise future plans. Past actions could give insights and present scenarios provide context for desired future state (Gephart et al., 2010). Only by taking into consideration all three temporal dimensions the organization can survive in high uncertainty (Wiebe, 2010; Gephart et al., 2010).

In complex-dynamic environment, managers should try to create a learning environment in organizations that could help in understanding and predicting unusual future situations. Future-oriented, or in other words prospective sensemaking is helpful in reducing panic associated with ever changing external environment (Wright, 2005) and catalyze organizational learning. Also, since envisioned desired future is a socially constructed account (Gephart et al., 2010) of various stakeholders, collective wisdom about future enables organizations in dealing with uncertainties through an effective social system (Brown & Starkey, 2000). Therefore, inability of retrospective sensemaking to predict future events limits its ability to be helpful in complex-dynamic environment. In such situation, prospective or future-oriented sensemaking is more relevant as it allows compensation for uncertainty. Prospective sensemaking imparts a sense of order and structure as well as avoid panic in organization (Rosness et al., 2016). However, there should be a cautious approach to prospective sensemaking, particularly the one which is not grounded into past action. Clarke (1999) elaborates that organizations are engaged in fantasy planning whenever there are no concrete historical records to create functional planning. Since these plans are developed by experts, organization members believe them to be true and accurate. But, they can be used as a tool for manipulation and enforcing politically motivated decisions.

Dynamism in the environment inextricably requires continuous sensemaking. As it has already been discussed above (in case of simple – dynamic environment) rapidly changing factors in dynamic environments leave no room for bounding the flow or demark starting and ending points of the sensemaking. Similarly, frequent triggers in the dynamic environment continuously engage individuals in sensemaking (Bogner & Barr, 2000). The need for continuous sensemaking becomes even dire

when environment is dynamic as well as complex, meaning large number of factors involved with large number of interactions between them and all of them changing at high pace. For example, in order to maintain competitive position in a hyper competitive environment, organization is required to find out new sources of competitive advantage. In the face of such chaotic situation, discontinuity in sensemaking would only cause blind spots (Weick 1995). For complex-dynamic environment, therefore, continuous sensemaking is essential requirement.

Proposition 4: Organizational, prospective and continuous sensemaking will be required in the face of complex and dynamic environment of organization.

#### 4. Conclusion

Sensemaking is system of various interlinked processes which not only differ but in certain cases contradict each other. For example, sensemaking could be retrospective in one situation and prospective in the other. It could be episodic at one instance and continuous at the other. Underlying postulation of this line of sensemaking research is that some of these processes of sensemaking could be more desirable than others depending on the context in which sensemaking is happening. Drawing on this conception, the present paper has attempted to contribute towards explaining sensemaking processes in different organizational types.

Based on Duncan's (1972) uncertainty framework it has proposed that in the face of simple and static environment organization may not engage in extensive sensemaking, and mere refinement of schema or mental models may be sufficient. However, when the environmental factors are changing, there should some form of sensemaking. For organizations operating in simple and dynamic environment, individual sensemaking with a retrospective outlook marked by distinct episodes should do the trick. During complex and simple environment, organizations should move from individual to social or collective sensemaking and the sensemaking process should become continuous with groups looking at their past actions in retrospection. However, in turbulent and uncertain environments, retrospection may not be effective as the factors and changing rapidly. Further, due to large number of pertinent factors, groups may not be able to understand the complexity of situation and sensemaking can go awry. In such situation, organizational leaders should take the rein of sensemaking process and guide organizational member through turbulent time. In such situation, a future orientated and continuous process of sensemaking is need of the time.

This study has also attempted to synthesize the debates in sensemaking literature with a focus to highlight the convergence of ideas. Subsequently, it extends discussion of sensemaking by bringing the construct of 'organizational environment'. This

will open up new avenues for sensemaking for both scholars and practitioners and they will consider external environment while engaging in sensemaking. Moreover propositions have been furnished to extend this line of inquiry with empirical testing.

## References

- Ala-Laurinaho, A., Kurki, A.-L., & Abildgaard, J. S. (2017). Supporting sensemaking to promote a systemic view of organizational change—contributions from activity theory. *Journal of Change Management*, 17(4), 367-387.
- Ashforth, B. E., & Kreiner, G. E. (2002). Normalizing emotion in organizations: Making the extraordinary seem ordinary. *Human Resource Management Review*, 12(2), 215-235.
- Balogun, J., & Johnson, G. (2004). Organizational restructuring and middle manager sensemaking. *Academy of Management Journal*, 47(4), 523-549.
- Bingham, C. B., & Kahl, S. J. (2013). The process of schema emergence: Assimilation, deconstruction, unitization and the plurality of analogies. *Academy of Management Journal*, 56(1), 14-34.
- Bogner, W. C., & Barr, P. S. (2000). Making sense in hypercompetitive environments: A cognitive explanation for the persistence of high velocity competition. *Organization Science*, 11(2), 212-226.
- Brown, A. D., Colville, I., & Pye, A. (2014). Making sense of sensemaking in organization studies. *Organization Studies*, 36(2), 265-277.
- Brown, A. D., & Starkey, K. (2000). Organizational identity and learning: A psychodynamic perspective. *Academy of Management Review*, 25(1), 102-120.
- Christianson, M. K., Farkas, M. T., Sutcliffe, K. M., & Weick, K. E. (2009). Learning through rare events: Significant interruptions at the Baltimore & Ohio Railroad Museum. *Organization Science*, 20(5), 846-860.
- Clarke, L. (1999). *Mission improbable: Using fantasy documents to tame disaster*. Chicago University of Chicago Press. Chicago, IL.
- Czarniawska-Joerges, B. (1992). *Exploring complex organizations: A cultural perspective*. SAGE Publications.
- Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review*, 9(2), 284-295.
- de Graaff, M. C., Giebels, E., Meijer, D. J., & Verweij, D. E. (2019). Sensemaking in military critical incidents: The impact of moral intensity. *Business & Society*, 58(4), 749-778.
- Duncan, R. B. (1972). Characteristics of organizational environments and perceived environmental uncertainty. *Administrative Science Quarterly*, 17(3), 313-327.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row, Peterson.

- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*, 2nd. NY: McGraw-Hill.
- Garfinkel, H. (1967). *Studies in ethnomethodology*. Englewood Cliffs, NJ: Prentice-Hall.
- Garud, R., Dunbar, R. L., & Bartel, C. A. (2011). Dealing with unusual experiences: A narrative perspective on organizational learning. *Organization Science*, 22(3), 587-601.
- Gephart, R. P. (1993). The textual approach: Risk and blame in disaster sensemaking. *Academy of Management Journal*, 36(6), 1465-1514.
- Gephart, R. P., Topal, C., & Zhang, Z. (2010). Future-oriented sensemaking: Temporalities and institutional legitimation. In T. Hernes & S. Maitlis (Eds.), *Process, sensemaking, and organizing* (pp. 275-312). New York: Oxford University Press.
- Gioia, D. A., & Chittipeddi, K. (1991). Sensemaking and sensegiving in strategic change initiation. *Strategic Management Journal*, 12(6), 433-448.
- Gioia, D. A., Corley, K. G., & Fabbri, T. (2002). Revising the past (while thinking in the future perfect tense). *Journal of Organizational Change Management*, 15(6), 622-634.
- Gioia, D. A., & Mehra, A. (1996). Sensemaking in organizations. *Academy of Management Review*, 21(4), 1226.
- Gioia, D. A., & Thomas, J. B. (1996). Identity, image, and issue interpretation: Sensemaking during strategic change in academia. *Administrative Science Quarterly*, 14(3), 370-403.
- Heaphy, E. D. (2017). "Dancing on hot coals": How emotion work facilitates collective sensemaking. *Academy of Management Journal*, 60(2), 642-670.
- Höllerer, M. A., Jancsary, D., & Grafström, M. (2018). 'A picture is worth a thousand words': Multimodal sensemaking of the global financial crisis. *Organization Studies*, 39(5), 617-644.
- Hultin, L., & Mähring, M. (2017). How practice makes sense in healthcare operations: Studying sense-making as performative, material-discursive practice. *Human Relations*, 70(5), 566-593.
- Introna, L. D. (2019). On the making of sense in sensemaking: Decentred sensemaking in the meshwork of life. *Organization Studies*, 40(5), 745-764.
- Klein, G., & Eckhaus, E. (2017). Sensemaking and sensegiving as predicting organizational crisis. *Risk Management*, 19(3), 225-244.
- Knorr-Cetina, K. D. (1981). "The Micro-sociological Challenge of Macro-sociology: Toward a Reconstruction of Social Theory and Methodology." *Introduction to Advances in Social Theory and Methodology*, edited by Karin D. Knorr-Cetina and Aaron V. Cicourel. Boston: Routledge & Kegan Paul.
- Konlechner, S., Latzke, M., Güttel, W. H., & Höfferer, E. (2019). Prospective sensemaking, frames and planned change interventions: A comparison of change trajectories in two hospital units. *Human Relations*, 72(4), 706-732.

- Leiter, K. (1980). *A primer on ethnomethodology*. Oxford University Press.
- Locke, K., Golden-Biddle, K., & Feldman, M. S. (2008). Perspective—Making doubt generative: Rethinking the role of doubt in the research process. *Organization Science*, 19(6), 907-918.
- Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly*, 25(2), 226-251.
- Magala, S. J. (1997). The making and unmaking of sense. *Organization Studies*, 18(2), 317-338.
- Maitlis, S. (2005). The social processes of organizational sensemaking. *Academy of Management Journal*, 48(1), 21-49.
- Maitlis, S., & Christianson, M. (2014). Sensemaking in organizations: Taking stock and moving forward. *The Academy of Management Annals*, 8(1), 57-125.
- Maitlis, S., & Lawrence, T. B. (2007). Triggers and enablers of sense giving in organizations. *Academy of management Journal*, 50(1), 57-84.
- Maitlis, S., & Sonenshein, S. (2010). Sensemaking in crisis and change: Inspiration and insights from Weick (1988). *Journal of Management Studies*, 47(3), 551-580.
- Maitlis, S., Vogus, T. J., & Lawrence, T. B. (2013). Sensemaking and emotion in organizations. *Organizational Psychology Review*, 3(3), 222-247.
- Mikkelsen, E. N. (2013). A researcher's tale: How doing conflict research shapes research about conflict. *Qualitative Research in Organizations and Management: An International Journal*, 8(1), 33-49.
- Morgan, G. (2006). *Images of organization*: Sage Publications.
- Oborn, E., Barrett, M., & Dawson, S. (2013). Distributed leadership in policy formulation: A sociomaterial perspective. *Organization Studies*, 34(2), 253-276.
- Odden, T. O. B., & Russ, R. S. (2019). Defining sensemaking: Bringing clarity to a fragmented theoretical construct. *Science Education*, 103(1), 187-205.
- Paget, M. A., & Cassell, J. (1988). *The unity of mistakes: A phenomenological interpretation of medical work*: Temple University Press.
- Porac, J. F., Thomas, H., & Baden-Fuller, C. (1989). Competitive groups as cognitive communities: The case of Scottish knitwear manufacturers. *Journal of Management Studies*, 26(4), 397-416.
- Prior, D. D., Keränen, J., & Koskela, S. (2018). Sensemaking, sensegiving and absorptive capacity in complex procurements. *Journal of Business Research*, 88, 79-90.
- Rosness, R., Evjemo, T. E., Haavik, T., & Wærø, I. (2016). Prospective sensemaking in the operating theatre. *Cognition, Technology & Work*, 18(1), 53-69.
- Rouleau, L. (2005). Micropractices of strategic sensemaking and sense giving: how middle managers

- interpret and sell change every day. *Journal of Management Studies*, 42(7), 1413-1441.
- Sandberg, J., & Tsoukas, H. (2015). Making sense of the sensemaking perspective: its constituents, limitations, and opportunities for further development. *Journal of Organizational Behavior*, 36(1), 6-32.
- Sandberg, J., & Tsoukas, H. (2020). Sensemaking reconsidered: Towards a broader understanding through phenomenology. *Organization Theory*, 1(1), 1-34.
- Schildt, H., Mantere, S., & Cornelissen, J. (2020). Power in sensemaking processes. *Organization Studies*, 41(2), 241-265.
- Sonenshein, S. (2010). We're changing—Or are we? Untangling the role of progressive, regressive, and stability narratives during strategic change implementation. *Academy of Management Journal*, 53(3), 477-512.
- Starbuck, W. H., & Milliken, F. J. (1988). Executives' perceptual filters: What they notice and how they make sense. In D. C. Hambrick (Ed.), *The executive effect: Concepts and methods for studying top managers* (pp. 35-65). Greenwich, CT: JAI Press.
- Stigliani, I., & Ravasi, D. (2012). Organizing thoughts and connecting brains: Material practices and the transition from individual to group-level prospective sensemaking. *Academy of Management Journal*, 55(5), 1232-1259.
- Taylor, J. R., & Van Every, E. J. (2000). *The emergent organization: Communication as its site and surface*. Mahwah, NJ: Erlbaum.
- 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.
- Vaara, E., Sonenshein, S., & Boje, D. (2016). Narratives as sources of stability and change in organizations: approaches and directions for future research. *Academy of Management Annals*, 10(1), 495-560.
- Vlaar, P. W., Van den Bosch, F. A., & Volberda, H. W. (2006). Coping with problems of understanding in interorganizational relationships: Using formalization as a means to make sense. *Organization Studies*, 27(11), 1617-1638.
- Vough, H. (2012). Not all identifications are created equal: Exploring employee accounts for workgroup, organizational, and professional identification. *Organization Science*, 23(3), 778-800.
- Wallas, G. (1926). *The art of thought*. New York: Harcourt Brace.
- Weber, K., & Glynn, M. A. (2006). Making sense with institutions: Context, thought and action in Karl Weick's theory. *Organization Studies*, 27(11), 1639-1660.
- Weick, K. (1996). Prepare your organization to fight fires. *Harvard Business Review*, 74, 143-148.
- Weick, K., & Sutcliffe, K. (2007). *Managing the Unexpected: resilient performance in an age of uncertainty*:

San Francisco, CA: Jossey-Bass.

- Weick, K. E. (1969). *The social psychology of organizing*. Reading, MA: Addison-Wesley.
- Weick, K. E. (1988). Enacted sensemaking in crisis situations. *Journal of Management Studies*, 25(4), 305-317.
- Weick, K. E. (1990). The vulnerable system: An analysis of the Tenerife air disaster. *Journal of Management*, 16(3), 571-593.
- Weick, K. E. (1993). The collapse of sensemaking in organizations: The Mann Gulch disaster. *Administrative Science Quarterly*, 38(4), 628-652.
- Weick, K. E. (1995). *Sensemaking in organizations* (Vol. 3): Sage.
- Weick, K. E. (2010). Reflections on enacted sensemaking in the Bhopal disaster. *Journal of Management Studies*, 47(3), 537-550.
- Weick, K. E., & Roberts, K. H. (1993). Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly*, 38(3), 357-381.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2005). Organizing and the process of sensemaking. *Organization Science*, 16(4), 409-421.
- Wiebe, E. (2010). Temporal sensemaking: Managers' use of time to frame organizational change. In T. Hernes & S. Maitlis (Eds.), *Process, sensemaking and organizing* (pp. 213-241). New York: Oxford University Press.
- Will, M. G., & Pies, I. (2018). Sensemaking and sensegiving: A concept for successful change management that brings together moral foundations theory and the ordonomic approach. *Journal of Accounting & Organizational Change*, 14(3), 291-313.
- Wright, A. (2005). The role of scenarios as prospective sensemaking devices. *Management Decision*, 43(1), 86-101.
- Yanow, D., & Tsoukas, H. (2009). What is reflection-in-action? A phenomenological account. *Journal of Management Studies*, 46(8), 1339-1364.
- Zilber, T. B. (2007). Stories and the discursive dynamics of institutional entrepreneurship: The case of Israeli high-tech after the bubble. *Organization Studies*, 28(7), 1035-1054.

