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Methods of Paradox

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METHODS OF PARADOX

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Abstract

Despite growing scholarly interest in paradoxes, few studies have expressly engaged with the methodological mechanics of ‘doing’ paradox research. First, there are no clearly established guidelines regarding what should count as paradox in research endeavors. Second, there is uncertainty around who sees/thinks/experiences the paradox and what is relevant when it comes to the emergence, choice, interpretation and appropriation of paradoxes in empirical settings. Third, there is still confusion around where one can find evidence of paradoxes. This book chapter aims to shed some light on these methodological shortcomings. We suggest that paradox researchers can deal with these methodological challenges by 1) showing evidence of contradictory, interrelated, simultaneous and persistent paradoxical tensions in the empirical setting, 2) developing reliable and flexible protocols for paradox identification, 3) pushing for multi-level paradox studies, 4) practicing reflexivity, 5) staying close to the context, and 6) leveraging multi-modality.

Keywords: Paradox, Methods, Qualitative, Quantitative

METHODS OF PARADOX

Introduction

Interest in the study of paradox within organizational research is steadily growing (e.g. Lewis, 2000; Smith & Lewis, 2011). This interest is spurred by an increase in the volume of theoretical and empirical work exploring tensions made salient through amplified plurality, change and scarcity in organizational life. Contradictions abound in organizational goals, structures, processes, cultures and identities, triggering paradoxical tensions among performance, organization, belonging and learning (Lewis & Smith, 2014). Not surprisingly, the work on paradoxes spans a range of phenomena—from identity (e.g., Huy, 2002; O'Mahony & Bechky, 2006; Gotsi et al., 2010) and organizational identity (e.g., Albert & Whetten, 1985; Jay 2013) to strategy (e.g., Smith, 2014; Smets et al., 2015) and innovation (e.g., Andriopoulos & Lewis, 2009). Paradox studies also use an assortment of qualitative and quantitative methodologies—from action research (e.g., Lüscher & Lewis, 2008) and case studies (e.g. Jarzabkowski & Sillince, 2007) to surveys (e.g., Keller & Loewenstein, 2011) and experiments (e.g., Miron-Spektor et al., 2011b).

Interestingly, despite growing scholarly interest in paradoxes, few studies are expressly engaging with the methodological mechanics of 'doing' paradox research. This is an important gap, as empirically assessing paradox is challenging. To begin with, the field lacks clearly established guidelines regarding what counts as paradox. Moreover, there is uncertainty around who sees/thinks/experiences the paradox and what is relevant when it comes to the emergence, choice, interpretation and appropriation of paradoxes in empirical settings. Furthermore, there is still confusion around where one can find evidence of

paradoxes. Despite widespread agreement that these challenges make the study, review and publication of paradox work a perplexing process, we still lack good guides on how to address them.

This book chapter aims to shed some light on this gap. We start by discussing how the aforementioned challenges problematize methods of studying paradox. We then offer a number of suggestions to aid paradox researchers in dealing with these methodological challenges. These propositions include: 1) showing evidence of contradictory, interrelated, simultaneous and persistent paradoxical tensions in the empirical setting, 2) developing reliable and flexible protocols for paradox identification, 3) pushing for multi-level paradox studies, 4) practicing reflexivity, 5) staying close to the context, and 6) leveraging multi-modality.

Challenges of studying paradoxes

What is paradox? The empirical literature abounds with varying definitions of paradox. Moreover, scholars often confuse definitions of paradox with similar tension-oriented idioms such as dilemmas, dualities and dialectics (Putnam et al., 2016). Smith and Lewis defined paradox as “contradictory yet interrelated elements that exist simultaneously and persist over time.” This definition highlights two key constitutive elements—contradiction and interdependence. Contradiction highlights the inconsistencies and conflicts between dual elements, as in the opposing black and white slivers in the yin-yang. Paradox theory asserts that these distinct elements persist over time. Interdependence describes synergies, mutual-constitution, and the interwoven nature of these distinct elements. The yin-yang depicts interdependence as an overarching circle that encompasses distinct slivers, as well as the small dots enmeshed within their opposing hue. Such interdependence provokes the oppositional elements into an ongoing dynamic relationship (Schad et al., 2016). These

constitutive elements distinguish paradoxes from dilemmas, in which choices between elements resolve the underlying dualities, and from dialectics, in which interactions over time fundamentally morph and change the underlying dualities (Smith & Lewis, 2011).

Despite these constitutive elements, variance remains in how scholars operationalize paradox in empirical studies. Some scholars emphasize contradiction between dual elements, but obscure any interdependence. Others highlight static relationships between opposing elements, but obscure the dynamic interplay between alternatives (Putnam et al., 2016; Schad et al, 2016). The proliferation of definitional focus and variability in operationalization of paradox diminishes internal validity, complicates the basis for making more broad-based theoretical inferences about the frequency of paradoxes and makes it challenging to compare across studies. Moreover, the lack of agreed-upon criteria for paradox identification confuses reviewers and readers as they seek to evaluate theoretical claims. Such variation raises key questions for scholars studying paradox:

What counts as evidence of paradox? What are the criteria for identifying paradoxes in empirical settings?

What is the locus of paradox? While paradoxes may be inherent in our social world, individual sense-making often reveals their contradictory and interdependent nature and differentiates them from resolvable tensions, dilemmas and tradeoffs (Smith & Lewis, 2011). In an empirical setting, this raises the question of *who* addresses these tensions—the scholars conducting the study or the subjects of the investigation. That is, does the scholar ‘project’ his or her sense-making inductively or deductively in an empirical setting, or does the scholar ‘elicit’ paradoxes from the subjects of the study.

A ‘projected’ approach involves observing the contradictory and interdependent nature of competing demands that may even be unrecognized by the participants in the

situation. In this approach, scholars remain detached, neutral and objective as they measure aspects of paradoxes, examine relevant evidence, and explore antecedents and consequences of these paradoxes. For example, Lewis et al. (2002) investigated innovation–efficiency paradoxes, exploring how contrasting management approaches impacted outcomes. Miron-Spektor and colleagues (2011b) sought to understand how individual frames and cognitions employed to address paradoxes between novelty and usefulness impacted creativity and innovation. Keller and Loewenstein (2011) explored collaboration and cooperation, seeking to understand whether distinctions in the national cultures of the US and China influenced how the individual approaches to these paradoxes.

In contrast to ‘projecting’ paradoxes, the ‘eliciting’ paradox approach entails a focus on processes by which people in their working life come to understand paradoxes, as well as their vicious or virtuous responses and relevant management practices. Scholars observed their subjects engaging with paradoxes through language, discourse, organizational text and in situ artifacts (Putnam et al., 2016). The underpinning premise here is that “interpretations of the social world *can*, and for certain purposes, *must* refer to the subjective meaning of the actions of human beings from which social reality originates” (Schutz, 1973, p. 62). Michaud (2014), for instance, showcased how numbers contribute to and mediate between different forms of board governance over time. Longitudinal, ethnographic data, including observation of board meetings and general assemblies, government related documents and semi-structured interviews provided the in-depth data from which to observe paradoxes of organizational governance. In another inductive study, Smith (2014) also followed an ‘elicitation’ approach through case study research. She observed how six top management teams addressed tensions of exploration/exploitation and revealed how some saw them as paradox and others did not.

To empirically explore paradox, scholars must acknowledge whether their study projects or elicits paradox. Each approach then exposes a number of key questions. Inductive scholars projecting a paradox must then determine how they can validate the paradoxical nature of tensions they see in their data. Deductive scholars must establish how they can operationalize and/or manipulate the paradox in their settings. Scholars eliciting a paradox must determine how they can validly demonstrate the paradoxical awareness or approaches of their research subjects. Beyond this, paradox researchers have to figure out how to conceptualize research questions that are relevant to participants' experiences and also how to understand often unfamiliar situations. To date, paradox studies have largely remained cryptic about these issues while 'projecting' or 'eliciting' paradoxes. It is thus important to shed some light on the following questions:

Who sees/thinks/experiences the paradox?

What is the role of the researcher in the study of paradoxes?

How does context inform paradoxical insights? Researchers have made a broad methodological distinction between 'contextual' and 'decontextual' approaches in empirically researching paradox, stemming from their deeper ontological and epistemological assumptions. A contextual approach links paradoxes to the specific nature and setting of the study. Such studies surface and theorize about particular tensions. This contextual sensitivity adds richness and nuance to these studies, though at the expense of generalizability. For instance, Kreiner et al.'s (2015) ten-year-long multiple method study described paradoxical processes of identity work in response to changes in identity within the Episcopal Church. Organizational members simultaneously stretched their identities while holding together social constructions of identity.

Decontextual studies explore paradoxes independent of their settings, or perhaps irrespective of the specific tensions. Frequently rooted in positivist paradigms, these studies often identify paradox meanings across actors and contexts. Such empirical studies more easily enable abstractions from local occurrences of paradoxes to general ‘categories’ of paradoxes. For instance, Khazanchi et al. (2007) examined the paradoxical interplay between flexibility and control values across North American manufacturing plants. Looking at Taiwanese strategic business units, Lin and McDonough (2014) found that ambidextrous cognitive frames, featuring an independent *and* a reflective cognitive style, foster ambidexterity. In their study of an R&D company, Miron-Spektor et al. (2011a) measured cognitive styles in 41 teams. They found that including creative and conformist members enhanced team radical innovation, while attentive-to-detail members had the opposite effect.

Amidst this distinction, scholarly discourse on how context informs the emergence, choice, interpretation and appropriation of paradoxes remains limited. Little discussion exists on how wider socio-cultural influences shape paradoxes, how multiple intra-organizational interpretations can be considered and how other contextual factors such as time may mold paradoxes. For instance, scholars often aggregate individual perspectives on tensions to a collective level, with little insight about multi-level, individual-collective processes that shape organizational paradoxes. Reviewers, thus, commonly argue that scholars often extrapolate too readily from identified tensions in a text to generalized paradoxes across an organization. And paradox researchers are largely puzzled about how to open up space to unpack the socially constructed nature of paradoxes in their empirical settings. Grasping what words or phrases actually mean cannot be achieved solely by an analysis of these words or phrases (Giora, 1997). They embody different interests, are open to contradictions and subject to multiple interpretations (Nicolini, 2009); context, thus, matters in understanding paradoxes. A pressing danger is the development of ‘laundry lists’ of paradoxes that are

detached from their context and their dynamic relationships with other elements of organizational life. It is thus important to consider the following questions:

What role does context play in the empirical study?

How do we capture paradoxes and the terrain that shapes them?

Where can one find paradoxes? Historically, work on paradox in organizational studies has primarily focused on paradoxes in discourse and text (through interviews, studying discourse or observation) (e.g., Argyris, 1988; Putnam, 1986) or numbers (through surveys and secondary data) (e.g., Michaud, 2014). This, however, is problematic. First, it may miss paradoxes elsewhere in organizational life. Individuals, for instance, express paradox broadly beyond their language, including through musical, spatial or kinesthetic expression. Textual data, verbal descriptions and quantitative measures thus may offer only a limited perspective on the phenomenon. Gestures, sounds, laughter, humor and other modes of expression rarely feature as sources of paradox (see Jarzabkowski & Lê, forthcoming). Moreover, even as paradoxes surface in and through feelings, relatively few studies explores emotions (Schad et al., 2016; Vince & Broussine, 1996).

Second, overreliance on traditional data sources neglects the opportunity for triangulation. Looking for paradoxes in a wider repertoire of options may not only help with problems of measurement bias and construct validity in positivistic paradox studies, but may also improve understanding of the phenomenon for more interpretivist paradox work (Brewer & Hunter, 1989). Expanding the search for paradoxes in non-traditional sources can help increase the depth and scope of inquiry in empirical studies.

Despite increased calls for a richer account of paradox-related processes in and around the organization, studies still largely focus on textual data, verbal descriptions and

quantitative measures. The following question, thus, appears critical to the development of the paradox field:

How can paradox scholars move beyond verbal, text-based descriptions and quantitative measures of paradoxes?

Moving forward

The growing paradox field must pay greater attention to methodological issues around what counts as paradox, who sees/thinks/experiences the paradox, what role context plays and where one can find paradoxes. In concluding this chapter, we would like to put forward some suggestions for advancing paradox research taking these issues into consideration (for a summary see Table 1 below).

----- Insert Table 1 here -----

Showing evidence of contradictory, interrelated, simultaneous and persistent paradoxical tensions in the empirical setting. Scholars need to provide an in-depth account of *what* they specify as paradoxical in their studies. The theoretical work of Lewis (2000) and Smith and Lewis (2011) can serve as valuable guides in this process. As we noted earlier, Smith and Lewis's (2011) definition of paradox as "*contradictory yet interrelated elements that exist simultaneously and persist over time*" (p. 382), highlights key features of paradox: 1) contradictory; 2) interdependent, 3) simultaneous and 4) persistent.

Operationalizing paradox must hence begin with an identification of *contradictions*. This means that researchers need to search for opposing elements in their data. For instance, ambidexterity scholars focus on the opposing sides of exploitation and exploration. In their in-depth case study of a large Scandinavian based telecommunications company, Papachroni et al. (2016) identified different interpretations of tensions around the firm's strategic

orientation across organizational levels. These included simultaneous and interdependent tensions around defending and growing existing business, while exploring new opportunities for growth. In a similar vein, Jansen et al. (2008) asked executive directors to provide information about exploratory and exploitative activities at their individual branches. Doing so allowed them to capture variance in engaging competing demands across branches.

At the same time, paradox researchers need to capture the *interdependent* and *simultaneous* nature of paradoxical tensions in their empirical studies. Unlike continua or either/or choices, paradoxes denote opposing sides of the same coin. For example, Pascale (1992) captured interdependence by questioning managers about their existing, polarized frames to enable them to recognize relatedness and develop new and more insightful understanding of paradoxical tensions. For example, they began to understand that attempts to enhance group cohesion fueled desires for individual expression. In their survey of 80 product development projects, Lewis et al. (2002) found that contrasting project management styles offer disparate but interwoven approaches to monitoring, evaluation and control activities and enhance performance. Similarly, He and Wong (2004) investigated how exploration and exploitation jointly influence firm performance. Using a sample of 206 manufacturing firms, they found that the interaction between explorative and exploitative innovation strategies is positively related to sales growth rate, while the relative imbalance between explorative and exploitative innovation strategies is negatively related to sales growth rate.

Further, the interdependent nature of paradoxes should spur researchers to explore paradoxical tensions *across levels* in their data. Multi-level paradox studies can elucidate how tensions at one level of analysis may spark tensions in other levels. Such multi-level studies can enhance our insight into paradoxes. Bottom-up emergent processes and top-down processes have been employed as complementary approaches to multi-level investigation

(Kozlowski and Klein, 2000). For instance, Papachroni et al. (2016) identified a variety of interpretations of the innovation–efficiency tension across levels, ultimately influencing how ambidexterity is pursued in practice. Informants at the more operational and middle management levels highlighted innovation as a means to higher efficiency, while informants at higher organizational levels saw innovation and efficiency as interrelated yet conflicting. In their comparative case studies of NPD consultancies, Andriopoulos and Lewis (2009) interviewed with actors across levels and also demonstrated nested innovation tensions of strategic intent (profit-breakthroughs) at the top management level, which cascaded to the project level (tight-loose coupling), and to designers’ own personal drivers (discipline-passion). Empirical paradox studies, thus, need to take an integrative perspective and aim to analyze interrelations and interactions as a dynamic process (Teunissen, 1996).

Lastly, paradoxical tensions *persist* over time. Some studies may take a longitudinal approach, depicting the persistence of underlying tensions (Jay, 2013). Other studies can collect cross-sectional data across different points in time in their study. Gotsi et al. (2010), for instance, argued that creative workers persistently grapple with their creative and business identities, but can become better at managing this tension through paradoxical identity regulation practices. Similarly, Miron-Spektor et al. (2011b) examined how the adoption of paradoxical frames enhances creativity. They discussed the persistent conflict between thinking outside the box and offering practical solutions that can be implemented within organizational constraints. They proposed the positive influence of paradoxical frames as an answer to this conundrum. Paradoxical tensions are dynamic – cyclical and constantly shifting in their relationship to one another. Revealing evidence of the dynamic nature of these tensions and their management, therefore, requires researchers to pay attention to temporality and process in their empirical settings.

Developing reliable and flexible protocols for paradox identification. Published studies are increasingly providing details on how they identify the aforementioned characteristics of paradoxes in their empirical settings. For instance, in their interviews with NPD professionals, Andriopoulos and Lewis (2009) identified patterns and variance in descriptions of innovation tensions using language indicators such as tension, friction, yet, but, on one hand...on the other hand, juggle, balance, it can swing both ways, there is a fine line, how can you...and still. They also looked for contradictory statements within the same transcript. Moreover, in their experimental study, Miron-Spektor et al. (2011b) discussed how they manipulated cognitive frames by using a priming task in which participants read a description of a product and then reported on the features that they thought made the product successful. Miron-Spektor et al. (2011b) varied the product's description, triggering a creativity frame (stressing novelty), an efficiency frame (emphasizing low cost and efficient production), a creativity–efficiency frame (creativity or efficiency features were noted) and a paradoxical frame (creativity and emphasis focus). Yet, the field is far from having established methodological guidelines on how to identify paradoxes in data.

What would greatly help, thus, is the development of reliable and flexible protocols for paradox identification. Such protocols would start with a definition of paradox and then highlight processes which researchers can use to go through transcribed text, archival material, observation notes, artefacts, images, videos, etc. to identify words, expressions, emotions, gestures, images, physical characteristics, etc. that signify paradoxical meanings. The development of units (a 'dictionary' of words/expressions/ emotions/images/object characteristics) to be used to identify reliably paradoxical meanings in different modalities would be a great help. Researchers could then go through, for instance, a transcribed text and look for, in each sentence, words and expressions that signify paradoxical meanings.

Incorporating reliability assessments into this process would also help. While identifying paradoxes, researchers can, for instance, measure the number of cases (words, word combinations, expressions, emotions, images, object characteristics) that different coders regard as paradoxical and then compare the cases. When differences are too great, the reliability is problematic. The widely-used Cohen's Kappa (κ) (Cohen, 1960) could measure reliability in categorizing paradoxes.

The benefits of paradox identification protocols would be threefold. First, they would help minimize researchers' biases regarding evidence of paradoxes in their research context. This is an important benefit, taking into account growing pressures for objectivity, and researchers' perceptual and cognitive limitations. Second, definitional rigor would improve precision in identifying paradoxes in speech, text, artefacts and other modalities. Third, a commonly understood paradox 'vocabulary' would enable more direct comparisons of different empirical analyses across different contexts.

Obviously, scholars employing paradox identification protocols would also encounter challenges. Developing and applying such protocols would not be an easy or quick task. For instance, the more empirical data move away from the purely written modality, the less straightforward the process of paradox identification is likely to be. Moreover, although external sources such as dictionaries are very helpful in establishing the basic meanings of words, dictionaries can also vary in their descriptions of meanings. Cross-checking multiple dictionaries is, thus, recommended to avoid such problems. In addition, multi-word units, expressions, metaphors and idioms may pose greater challenges for paradox identification than single word analyses. Further, researchers need to make decisions as to whether they are observing/interpreting latent versus salient paradoxes. For instance, they will need to be clear about whether individuality–collaboration tensions lie dormant in a creative setting, or

whether they have become salient due to changes in reward structures, cost-cutting or increased competition.

Pushing for multi-level paradox studies. Paradoxes occur concurrently on several intra- and extra-organizational levels (Andriopoulos & Lewis, 2009). Multiple ‘voices’ are thus important when it comes to studying paradoxes empirically. For example, paradoxes prevalent at the top management level can cascade downwards and influence, constrain or shape paradoxes that are experienced by middle management, groups and individuals. Empirical studies, thus, not only need to understand how paradoxes emerge at the top, but also how they are understood by and how they influence those on lower organizational levels and how they affect day-to-day practices (Raisch & Birkinshaw, 2008).

Practice research, for instance, can help to further understand not only how senior management experiences and manages paradoxes, but also how these practices are perceived by and how they influence those in lower organizational levels and translated into their daily practices. Jarzabkowski and Le (forthcoming) conducted such a practice study, collecting real-time longitudinal qualitative data from senior and middle managers (through non-participant observation, interviews, archival material and impromptu interactions) over 24 months at a telecommunications company.

Paradox research questions can also focus on bottom up emergence, where dynamic interactions among individuals, teams and organizational units may, over time, bring to the surface paradoxes that manifest at higher levels. Interventions to manage these paradoxes could elicit different interpretations and reactions across levels. Yet, we must acknowledge that such complexity makes researching paradox challenging. Multiple levels and multiple related processes may all impact the paradoxes under investigation. This quest for ‘nested’ foci requires paradox researchers to constantly explore: What are the causes, the reasons or

explanations for the occurrence of paradoxes? What impact/effects do they have? Are there any intervening conditions that seem to be playing a role?

We, therefore, encourage paradox scholars to use methods that enable them to go beyond the formal, macro level and consider further the interaction between top-level interventions and organizational responses from different levels. This also calls for a greater repertoire of methods in studying paradox. Case studies and ethnography can only go part way to generating depth and breadth in empirical paradox studies. Methods such as dialogue-based group-level data gathering techniques may elicit valuable participant-generated insights, not accessible through individual interviews. For example, limited-structure focus groups, with limited structure, where participants interact, trigger each other and challenge one another's contributions can be a useful method for paradox studies. They can help unearth organizational actors' views, issues and experiences. Moreover, self-report methods (such as diaries) and video data can also provide researchers with a more intimate view of paradoxes in use, as experienced by different organizational actors. Diaries and videos will allow paradox scholars to access events in real time, during times when paradoxes become salient.

Practicing reflexivity. The importance of reflexivity as a process for making the research process visible is also paramount while studying paradoxes. Researchers need to situate themselves socially and emotionally in relation to the experience of their respondents and reflect upon their biases, assumptions, even their personality, to ascertain whether what they heard, read or saw conveys what respondents said, did or felt, rather than what the researcher thought and felt. Making themselves deliberately aware of their biases is important so that their ability to truly capture the voice of their respondents is not hampered (Mauther & Doucet, 2003). They also have to think about how their familiarity with participants'

experience may impact all stages of the research process: from sampling to data collection, data analysis and drawing conclusions. A necessary balance between researchers' own experience and that of the study's participants, thus, needs to be achieved.

An example is the work of Jay (2013) in hybrid organizations. To study how the Cambridge Energy Alliance (CEA) changed over time, Jay (2013) conducted a two-year ethnographic study, gathering participant observation, interviews and archival data. His guiding research questions explored the challenges that CEA faced as a hybrid organization, and how people thought about their hybridity and under what conditions and through what practices they overcame the challenges. Throughout his empirical study, Jay (2013) sought to be reflexive and transparent about his impact, to triangulate insights with multiple data sources and reflect on his role when theorizing about the organizational processes observed. Interestingly, his observations also revealed that organizational members became more reflexive and aware of the paradox during the organizational change.

We advise paradox researchers to stay close to the words used by organizational actors and seek feedback on their interpretations. Using a log to record what participants have said or done, the interpretation, and what the researcher thought or felt about it can also help (Berger, 2015). Other practical measures include reviewing material more than once during the phase of data analysis. Involving more people in different stages of the project (from collecting data to comparing analysis of more than one coder) can also aid the accuracy of the study.

Staying close to the context. Paradox scholars also have to stay close to the life-world of their subjects (or objects) when they interpret paradoxes in-use and the practices employed to manage these paradoxes. This does not mean that paradox researchers should not group or categorize paradoxes and make theoretical abstractions. If scholars develop

laundry lists of paradoxes that are detached from their context may enable scholars to gain in generality, but lose in accuracy and depth.

Researchers, thus, need to consider what is relevant within their paradox setting. This involves uncovering reasons - factors and conditions that explain the emergence, choice, interpretation and appropriation of particular paradoxes in their empirical setting. They must put the emphasis on revealing the drivers and inhibitors of paradoxes and their management within their settings and at particular points in time, and unveiling the temporal and spatial contextual factors that are shaping the meanings, uses and management of these paradoxes. Smith (2014), for instance, carried out her research in the SBUs of a Fortune 500 corporation, drawing on their strategic commitments to exploit and explore in their annual budget plans. To unveil contradictions, informants were asked to describe challenges in managing multiple strategic domains and how they responded to these challenges. Smith (2014) discussed how competitive contexts increasingly pose paradoxical demands on firms and their senior leaders. Within the context of her study, she found that paradoxes and dilemmas were interwoven, exposing issues related to resources, organizational design, and product design. She, thus, proposed the value of dynamic decision making and leadership practices in sustaining strategic paradoxes and facilitating an adaptive context.

Staying close to the context obviously requires suitable research methods. Research questions focusing on how paradoxes emerge, how they develop, how they grow or how they terminate over time, may be better suited, for example, to process studies. Here, the emphasis is on how events unfold temporally and sequentially to cause different input variables to exert their influence on one or more outcome variables. For example, in his in-depth field study of the public-private Cambridge Energy Alliance, Jay (2013) unveiled a process model of navigating performance paradoxes, through a synthesis of organizational logics.

Longitudinal research designs are suited to research questions seeking to explain virtuous and vicious cycles in managing paradoxes. Taking into account that extant paradox research is predominantly static, researchers need to employ more methods that access the dynamics of paradox across time and achieve more nuanced temporal theorizing about cycles, pacing and event sequences. An example of a study that adopted a longitudinal method showcasing rhythms of change and firm performance is the work of Klarner and Raisch (2013). In their explorative analysis of 67 European insurance companies' annual reports between 1995 and 2004, they identified that corporate strategic changes take place in distinct rhythms (regular or irregular): focused, punctuated and temporarily switching. They showed that firms that change regularly outperform peers that change irregularly.

Researchers should also conduct paradox studies across contexts. Paradox studies have rarely focused on national differences, for instance (see Keller & Loewenstein, 2011; Li, 2014; Nisbett, 2010), perhaps because of the difficulty in conducting empirical work across national contexts and the increasing emphasis on the universal over the particular. In a rare cross-national empirical paradox study, Keller and Loewenstein (2011) argued that understanding the cultural construction of organizations is important. They, thus, employed a cultural consensus model analysis to assess what types of situations respondents categorized as cooperative and whether these categorizations were consistent within and across China and the United States.

Leveraging multi-modality. Despite the fact that paradoxes may occur in different modalities, artefacts, text from archival material, signs, images, gestures, emotions, sounds or even music, researcher have rarely studied them. We, thus, call for more multi-modal research in paradox studies. In particular, we argue that non-traditional data sources can offer rich insights. Extant studies tend to over-rely on 'traditional' data sources, such as interviews,

observations and archival data. We encourage paradox scholars to move beyond these modalities and start drawing insights from more diverse sources, including narratives, photographs, organizational artifacts and non-verbal interactions.

The study of Vince and Broussine (1996), which focuses on organizational members' emotions underlying organizational change, fostering forces of uncertainty and defensiveness, is an example of one study that moved beyond traditional sources. In their participative research process, the researchers used drawings with managers in six public service organizations to tease out such paradoxical emotions, and work with these as part of the management change process. In particular, the researchers asked participants in workshops to draw pictures that expressed their feelings about changes at work. They were then invited to reflect and set down notes on the reverse of their drawings. This was followed by group reflections on each drawing and individual interpretations. Language certainly played a key role in the articulation of paradoxes in the drawings. This multi-modal perspective on paradox enabled Vince and Broussine (1996) to capture a deeper basis for their interpretive analysis.

We also encourage researchers to study paradoxes in modes of expression, which may extend language, as different modes of expression may instantiate or extend linguistic paradoxes. Hatch and Ehrlich (1993), for instance, observed the laughing that took place during a series of routine staff meetings held by senior managers of a unit within a large, multinational computer company. They argued that laughter in these meetings pointed to paradox and ambiguity, even when some group members failed to respond to remarks that they did not find funny. Combining humor and laughing analysis with the study of paradox enabled Hatch and Ehrlich (1993) to access everyday experiences in their case organization. In a later study, Hatch (1997) also studied laughter and irony in the social construction of contradiction. She argued that laughter not only indicated an affection, but also group

involvement in the construction of ironic humor in her empirical setting. The cognitive and emotional aspects of irony produced the experience of contradiction that materialized in shared laughter. Interpretations of ironically humorous remarks reflected managers' contradictory constructions of their everyday interactions as a management team. Similarly, Jarzabkowski and Lê (forthcoming) also looked at laughter as a means of socially constructing paradox, shaping the way managers formulated and legitimated their responses to paradox. By adopting a practice approach, their study revealed that as managers joined the laughter about the paradoxical nature of their tasks, they also joined constructions of ways to perform those tasks.

Conclusion

The proliferation and complexity of paradox studies remains both exciting and daunting. While these studies reinforce a core body of knowledge, they often obscure because of the use of inadequate methodological approaches. Our goal in this chapter was to advance paradox research by revealing and addressing key methodological challenges. We invite paradox scholars to sharpen their methodological rigor and expand their methods and data sources to further advance our understanding of organizational paradoxes.

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Table 1. Empirically studying paradoxes: Issues, decisions and suggestions

Key methodological issues	Decisions to be made	Suggestions
<i>What?</i>	What counts as evidence of paradox? What are the criteria for identifying paradoxes in empirical settings?	Showing evidence of contradictory, interrelated, simultaneous and persistent paradoxical tensions in the empirical setting Developing reliable and flexible protocols for paradox identification
<i>Who?</i>	Who sees/thinks/experiences the paradox? What is the role of the researcher in the study of paradoxes?	Pushing for multi-level paradox studies Practicing reflexivity
<i>How?</i>	What role does context play in the empirical study? How do we capture paradoxes and the terrain that shapes them?	Staying close to the context
<i>Where?</i>	How can paradox scholars move beyond verbal, text-based descriptions and quantitative measures of paradoxes?	Leveraging multi-modality