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REINVIGORATING THE STUDY OF OPPORTUNISM IN SUPPLY CHAIN MANAGEMENT

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Opportunism is a core issue in supply chain management. However, assumption-omitted testing and a focus on general opportunism as opposed to specific forms of opportunism have stubbornly limited our understanding of this construct. Grounded in a review of empirical studies of opportunism, we identify empirical challenges that perpetuate conceptual limitations in the study of opportunism in supply chains. Hence, we provide suggestions about research designs and data sources that support an agenda that steers research to refine and develop the theory about opportunism. Our call for a reinvigoration of the study of opportunism supports rigor—by discussing research design and data sources—and relevance—by identifying topics for future supply chain research.

Keywords: bibliometric analysis; opportunism; supply chain management; transaction costs

Opportunism is pivotal in supply chain management (SCM) research (Handley, de Jong, & Benton, 2019; Kaufmann, Wagner, & Carter, 2017; Morgan, Kaleka, & Gooner, 2007). In spite of all the research on opportunism, we have a limited understanding of this construct. This limitation is rooted in two shortcomings: the dearth of testing of the opportunism assumption and, if tested, the focus on opportunism in general as opposed to specific opportunism forms. Hence, we discuss three empirical challenges—the not-out-there problem, the informant's cost–benefit problem, and social desirability—that call for the use of a wider set of research designs and data sources. Moreover, we propose a research agenda for testing the assumption of opportunism and the study of a variety of opportunism forms in supply chains.

The assumption of opportunism is controversial. On the one hand, opportunism is a cornerstone of transaction cost economics (TCE), which is one of the leading perspectives in SCM (e.g., Grover & Malhotra, 2003; Wever, Wognum, Trienekens, & Omta, 2012). On the other hand, some scholars have challenged the assumption of opportunism as being less than realistic (Conner & Prahalad, 1996; Noorderhaven, 1996) and “bad for practice” (Ghoshal & Moran, 1996). This controversy has continued to attract

increasing attention in recent debates (Foss & Weber, 2016a, 2016b; Lumineau & Verbeke, 2016) and empirical studies (Eapen & Krishnan, 2019; Mellewig, Hoetker, & Lütkevitte, 2018; Villena & Craighead, 2017).

In this study, we argue for the empirical testing of opportunism and its forms as a path to reconcile diverging perspectives concerning its realism. By realism, we mean the extent to which assumed opportunism is grounded in empirical evidence and reflects how individuals behave in practice. Further understanding of the opportunism assumption is important for several reasons. First, a better understanding of this assumption is a first step in addressing long-lasting criticisms regarding the detrimental managerial implications of opportunism by uncovering how and under which conditions it manifests. Second, and perhaps more importantly, unrealistic assumptions are likely to generate incorrect theories because the same prediction may be generated by different mechanisms. Empirical evidence would support a better understanding of the appropriateness of opportunism as a representation of human behavior in supply chains. Our study provides the groundwork for studying the forms, processes, and contingency factors of opportunism.

We make two main contributions: to identify the main challenges faced by researchers who have studied opportunism and to identify research opportunities linking the study of opportunism forms to core issues in SCM. Our endeavor shows that reinvigorating the study of opportunism offers bountiful opportunities to extend theory about traditional issues (e.g., outsourcing) as well as explore emerging issues (e.g., blockchains) in SCM.

OPPORTUNISM IN SUPPLY CHAIN MANAGEMENT

Thesis: The Relevance of Opportunism

Transaction cost economics (TCE) is built on an assumption of opportunism in combination with bounded rationality (John, 1984; Williamson & Ouchi, 1981). Over the last four decades, researchers have widely used TCE to address core issues in SCM, such as outsourcing (Ellram, Tate, & Billington, 2008; Handley, 2017), buyer–supplier disputes (Lumineau & Henderson, 2012), third-party logistics (Leuschner, Carter, Goldsby, & Rogers, 2014), manufacturing location decisions (McIvor, 2013), and governance decisions (Cao & Lumineau, 2015).

A central assumption in TCE is that the threat of opportunism is inherent in economic transactions. Opportunism refers to “self-interest seeking with guile. This includes but is scarcely limited to more blatant forms, such as lying, stealing, and cheating [...] More generally, opportunism refers to the incomplete or distorted disclosure of information, especially to calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse” (Williamson, 1985, p. 47). According to the TCE literature, the problem of economic organization entails the planning of governance structures that have the purpose and effect of economizing on bounded rationality while safeguarding transactions against the threat of opportunism. In conjunction with the idea of bounded rationality, opportunism is thus understood as a leading reason for the failure of markets and for the existence of firms. If individuals never engaged in opportunistic behavior, then the market would suffice for the mediation of all transactions, including those characterized by uncertainty, frequency, and asset specificity. Williamson (1999, p. 1099) concludes that “to assume the absence of opportunism will miss much of the action [and] our understanding of economic organization would be needlessly impoverished as a consequence.”

Antithesis: The Irrelevance of Opportunism

In contrast, many influential scholars have criticized the assumption of opportunism as being less than

realistic for a wide range of economic exchange relationships, instead viewing such relationships as being infused with trust rather than opportunism (e.g., Conner & Prahalad, 1996; Hesterly & Zenger, 1993; Madhok, 1996). This debate began in the 1980s (Maitland, Bryson, & Van de Ven, 1985), thrived in the 1990s (Donaldson, 1990; Griesinger, 1990), and remains lively today (Foss & Weber, 2016a, 2016b; Lumineau & Verbeke, 2016).

Critics usually argue that the assumption of opportunism paints an under-socialized view of human motivation and that human behavior is not adequately represented by opportunism. Milgrom and Roberts (1992, p. 42) conclude that the image of the individual in Williamson’s view is as an “extreme caricature.” Donaldson (1990) labels this perspective a regressive conception of the human being, and Hodgson (2004, p. 405) warns of the “possibly deleterious practical consequences of a faulty governance analysis based on opportunism alone.” In turn, scholars have advocated that “actors have to be assumed to be both opportunistic and not opportunistic” (Noorderhaven, 1995, p. 605) in what mainly represents a “switch to a different model of human nature” (Noorderhaven, 1996, p. 108).

The Need for a Synthesis

The controversy is fundamentally about a view of human nature as opposed to the notion of opportunism as self-interest with guile. We regard the pivotal issue in this debate as the realism of this behavioral assumption—that is, the extent to which this assumption reflects managers’ actual behaviors. Tsang (2006, p. 1002) argues that “an unrealistic core assumption will lead to an unrealistic mechanistic explanation and thus a defective theory.” Better empirical testing of opportunism would aid researchers in their assessment of the extent to which, and when, this core behavioral assumption adheres to field evidence. An alternative approach, mainly in economics, argues that it does not matter whether the assumptions of a theory are realistic so long as the theory yields sufficiently accurate predictions (Friedman, 1953). However, we believe that behavioral assumptions should be submitted to empirical testing as this is indeed a way to develop theory (Alvesson & Sandberg, 2011; Foss & Hallberg, 2014).

The debate on the behavioral assumption of opportunism suffers from two shortcomings. First, “the history of empirical research since the publication of Williamson’s seminal book, *Markets and Hierarchies*, in 1975 has been dominated by assumption-omitted testing” (Tsang, 2006, p. 1005), as studies seldom gauge opportunistic behaviors in their empirical tests. Accordingly, researchers have noted that “given its

theoretical centrality, it is surprising that the empirical literature is largely devoid of efforts to measure opportunism" (Macher & Richman, 2008, p. 40).

Second, the tendency has been to examine opportunism in general (Mellewigt et al., 2018; Ro, Su, & Chen, 2016; Tangpong, Hung, & Ro, 2010). However, a handful of studies have made inroads in the study of specific forms of opportunism such as shirking and poaching (Handley & Benton, 2012) and bluffing (Kaufmann et al., 2017). These empirical studies highlight the relevance of examining the context of forms of opportunism. To echo Chen, Peng, and Saparito (2002, p. 568), "to make further theoretical progress, researchers must tackle the harder and more interesting issues of what kinds of individuals are likely to be opportunists, under what circumstances, and to what extent." More broadly, "any effort to bridge this gap [between TCE and SCM] is therefore welcome" (Zipkin, 2012, p. 465).

Thus, leveraging studies about theory assumptions (Alvesson & Sandberg, 2011; Foss & Hallberg, 2014; Miller & Tsang, 2011), we call for direct measures of different forms of opportunism in order to theorize if and when forms of opportunism manifest in supply chains. Doing so is a step forward toward reconcile conflicting views on opportunism. A synthesis requires attending the methods used thus far in past research, since theory and methods are interwoven (Van Maanen, Sørensen, & Mitchell, 2007). An analysis of the linkages between the methodological and conceptual issues will provide practical guidance for subjecting this core behavioral assumption to empirical tests about core issues in SCM.

EMPIRICAL STUDIES OF OPPORTUNISM

We reviewed the empirical studies of opportunism in order to learn about factors contributing to the assumption-omitted testing and a focus on general opportunism in the SCM literature. We conducted a multistep search of top-tier journals in SCM and closely related disciplines to identify the empirical studies on opportunism. We developed a set of search words based on a comprehensive list of forms of opportunism, such as lying and cheating. (The Appendix S1 details the review procedures and results.) In total, our review of 83 empirical studies reveals the difficulty in understanding opportunism both in theory and in practice.

We discuss core issues about testing the opportunism assumption and elicit information about opportunism forms. First, by analyzing the methods and limitations sections of the 83 articles, we learned that researchers encounter major empirical challenges testing the assumption of opportunism. Second, we

found that opportunism research has mostly drawn on surveys conducted in the U.S. and European contexts and focused on conventional supply chain settings (Appendix S1).

EMPIRICAL CHALLENGES IN THE STUDY OF OPPORTUNISM

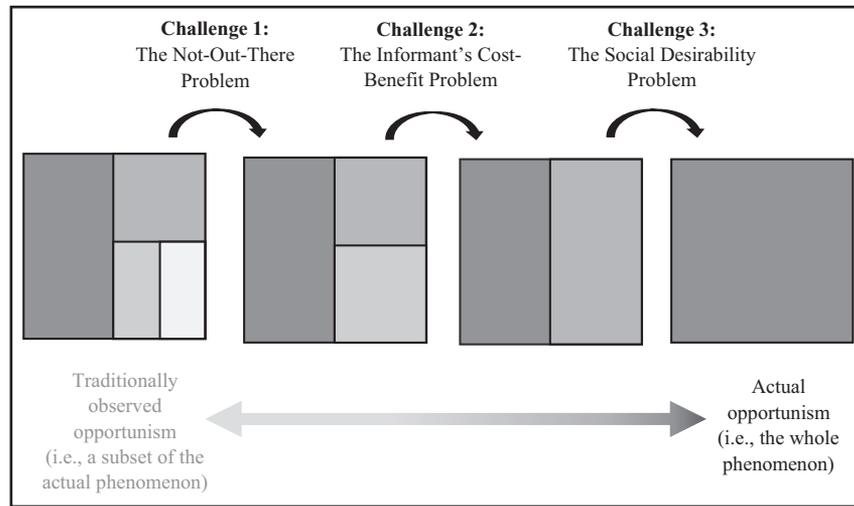
Our analysis of past articles' methodology and limitations identified three empirical challenges: the not-out-there problem, the informant's cost-benefit problem, and the social desirability problem. These empirical challenges reflect distinct but interrelated issues at different stages of the research process: ways to capture opportunism and identify data sources, strategies to motivate respondents, and approaches to minimize biases in the data on opportunism. Figure 1 presents the empirical challenges during the research process. The stages are ideal types that support our discussion of connections among methodological and conceptual issues for each empirical challenge. Table 1 summarizes each empirical challenge.

The Not-Out-There Problem

Problem Scope. The not-out-there problem pertains to the elusive nature of opportunism. Opportunism is a canonical example of a difficult-to-capture construct (Godfrey & Hill, 1995). For example, a buyer usually cannot know if she or he has been swindled by a supplier until the transaction has actually been completed (and sometimes not even then). Bluffing and deception behaviors illustrate specific forms of opportunism that are often concealed to external observers (Rottenburger & Kaufmann, 2019). Like other deceitful practices or socially questionable behaviors such as bullying and corruption, opportunism is not "a phenomenon 'out there' that impinges upon organizational action, but a dark interior to be found within organizational boundaries and practice" (Linstead, Maréchal, & Griffin, 2014, p. 166). Hence, our notion of the not-out-there problem encompasses the difficulty of accessing opportunism and its different forms in supply chains.

Methodological Issues. The not-out-there problem complicates access to data in the study of opportunism in supply chains. It is plausible that certain forms of opportunism are easier to capture than others. For example, blatant forms of opportunism such as lying and stealing are more easily captured than instances in which the supplier intentionally manipulates or withholds product information from the buyer. The ease of capturing forms of opportunism may lead scholars to overestimate the role of some forms of opportunism and underestimate the role of others (Table 1).

FIGURE 1
Three Interrelated Challenges to the Study of Opportunism.



Note: The three research problems broadly map onto how researchers typically progress from an idea to designing a study and analyzing data. The light-colored box on the left hand side represents the subcomponent of the phenomenon that is traditionally observed by researchers. As we move from left to right along the research process, the darker colored cells represent the components of the phenomenon of opportunism that researchers are actually able to observe after specific empirical challenges have been overcome. The darkest colored cells represent the entirety of the phenomenon of opportunism, which plausibly remains to be examined; however, empirical challenges have traditionally prevented scholars from completing this analysis

The major hurdle involves the biases that are evident in the available data on opportunistic behaviors. Only extreme cases of opportunism become public. The not-out-there problem requires caution when analyzing potential differences between detected and (still) undetected cases of opportunism. Given the prevalence of research designs aimed at generalizability, the not-out-there problem raises questions about the external validity of the empirical literature on opportunism.

Conceptual Issues. The difficulty of capturing opportunism is a broad challenge in SCM research. Studies on opportunism seldom address the distinction between the propensity to act opportunistically and opportunistic behavior (Das & Rahman, 2002). Conceptual studies of opportunism adhere to TCE regarding the opportunism propensity; however, empirical studies have often amalgamated attitudes and behaviors in their measures of self-interest seeking with guile. This amalgamation is problematic; it clouds the inner processes linking attitudes and behaviors, and the attitudes that prompt behaviors that are generally viewed as opportunistic.

The Informant's Cost-Benefit Problem

Problem Scope. Managers may be reluctant to share information about, for example, individuals' attitudes

and departmental or organizational practices of opportunism. An informant's participation in opportunism studies is a function of his/her potential losses and benefits.

Forms of opportunism are traditionally perpetrated by an individual party or group toward a counterparty or group (e.g., consumers or investors). If the informant is the perpetrator, she or he might be perceived as a traitor by her or his peers in the organization or industry (reputational costs); dismissed (financial costs); or faced with social stigma, shame, or prosecution by industry regulators and law enforcement authorities (reputational and financial costs). If the informant is the victim, she or he might experience distress (emotional costs); dismissal (financial costs); and loss of her or his peers' trust and respect (reputational costs). Some individuals may be driven by altruistic or moral motives to contribute to the research; some may simply be willing to share experiences. However, the costs of managers' participation are usually higher than their benefits.

Methodological Issues. Surveys have prevailed in studies of opportunism, but high costs of informants have contributed to modest sample sizes, which weakens the power of the analyses and the transferability of the findings across empirical settings (Luo, 2007a, 2007b; Zhou & Xu, 2012).

TABLE 1
Empirical Challenges to the Study of Opportunism

	Not-Out-There Problem	Informant's Cost-Benefit Problem	The Social Desirability Problem
Problem Scope	Opportunism is elusive and often hidden, thus making it difficult to identify and capture.	Respondents may be unwilling or unavailable to share information on opportunism attitudes or behaviors due to potential costs (e.g., reputation damage). Respondents may overemphasize the risks compared to the benefits.	Opportunism is socially undesirable such that individuals prefer to answer the researcher's questions in such a manner that they will be viewed favorably.
Methodological Issues	<i>Examples:</i> Data nonequivalence. Nonobservation of opportunistic behavior. Sampling bias.	<i>Examples:</i> Small sample size (particularly relevant in survey research). Single observation point in time. One-sided data (no dyadic analysis). Single informant.	<i>Examples:</i> Socially desirable responses (particularly relevant in survey research). Respondents recognize opportunism items. Information retrieval bias.
Conceptual Issues	<i>Examples:</i> Ambiguity between opportunism propensity and actual opportunistic behavior. Current insights concern forms of opportunism that are easy to capture empirically. <i>Practical implications in SCM:</i> For example, incomplete training of managers to identify and cope with severe, but understudied forms of opportunism.	<i>Examples:</i> Scarcity of theory on dynamics and temporal issues about opportunism. Overlooking of asymmetries between parties. <i>Practical implications in SCM:</i> For example, limited information and advice about specific organizational and industry contexts (e.g., fear of retaliation).	<i>Examples:</i> Concealment of the drivers of opportunistic attitudes. Ambiguous linkage between attitudes and behaviors in opportunism research. Limited information about managers' true assumptions and motives. <i>Practical implications in SCM:</i> For example, incipient advice on how managers actually cope with guilt, shame, and blaming.

Each of the three challenges entails both methodological and conceptual issues, which, in turn, have practical implications for SCM.

The high costs facing informants might limit the set of research designs that are feasible for researchers (Table 1). For instance, an in-depth analysis of opportunism requires that researchers persuade firms to participate in what might be a lengthy research process involving interviews, focus groups and analysis of secondary data—as opposed to surveys that might be a one-off event and administrated online. Even when managers agree to host a study about opportunism (e.g., lying and cheating), they may remain concerned

about the use of their data for academic research despite confidentiality agreements. Confidentiality concerns are exacerbated in dyadic studies involving data collection from the potential perpetrator and victim (e.g., buyer and supplier).

Conceptual Issues. A notable shortcoming relates to the difficulty of engaging informants in analyses of the dynamics of opportunism over a period of time (e.g., during contract negotiations or for the duration of a buyer–supplier agreement). Engaging respondents

over a period of time is necessary to advance theory about shifts in opportunistic attitudes or the emergence of specific forms of opportunism. The theory remains limited with regard to temporal aspects, such as the timing of partners' opportunism and retaliation, the speed of the opportunism, or the intensity of the opportunism over time.

Furthermore, the organizational and cultural contexts might complicate the informant's cost-benefit problem. First, organizations differ in how much they might incentivize their employees to report opportunism. Some organizations may actively develop procedures for reporting opportunism while others may nurture a culture of secrecy. Second, the individual's values plausibly alter the relationship between the potential losses and expected benefits for respondents.

The Social Desirability Problem

Problem Scope. Deceitfulness and guile are at the core of the opportunism construct (John, 1984; Williamson, 1985). These attributes make opportunism an "unflattering behavioral assumption" (Williamson, 1995, p. 29). Managers seldom want to be perceived as opportunistic. The social undesirability of opportunism prompts individuals to answer questions in a manner that improve others' perceptions of them.

In light of the dominance of the Western context in tests of opportunism, the social desirability problem requires caution with regard to received wisdom. For instance, collectivistic countries may react more strongly to opportunistic behavior by a manager because it may be perceived to affect the collective identity of the firm (Chen et al., 2002; Handley & Angst, 2015). However, in a highly individualistic country, the same opportunistic behavior may be attributed only to the individual perpetrator.

Methodological Issues. The "unflattering" nature of opportunism exacerbates the threats to validity rooted in the social desirability problem. In their review of the opportunism literature, Crosno and Dahlstrom (2008, p. 193) indeed observe that "given the nature of opportunism, these [self-] reports should yield lower levels of opportunism and weaker effect sizes." This quote illustrates the challenges of developing robust estimates based on survey data, which have dominated the research on opportunism. The failure to curb the social desirability problem contributes to underestimating (when evaluating oneself) or overestimating opportunism (when evaluating a counterpart), thus also undermining the internal validity of empirical tests.

Conceptual Issues. The social desirability problem prevents SCM researchers from accurately and easily assessing the individual's motivations that consciously or unconsciously drive opportunistic behavior (Das &

Kumar, 2011; Jap, 2007). Here, the concern is not about getting managers to share information but about whether the researcher accurately captures sensitive issues that underlie emotions and actions relating to opportunism. As Nooteboom, Berger, and Noorderhaven (1997, p. 774) observe, the study of an individual's propensity for opportunism "requires touching causes rooted in people's mind and heart." The social desirability problem presents a serious hurdle for researchers seeking to access the so-called black box of managers' feelings and emotions surrounding different opportunism forms.

RESEARCH DESIGNS AND DATA SOURCES: RESEARCH OPPORTUNITIES

Overcoming the empirical challenges previously identified will require researchers taking advantage of a wide set of research designs and data sources. Table 2 provides an overview of the main advantages and disadvantages of specific research designs and data sources to study opportunism. We discuss next how leveraging these research designs and data sources could help toward further testing the assumption of opportunism as well as developing theory about multiple opportunism forms in supply chains.

Survey Design

Surveys have dominated past research on opportunism. Such a pattern makes possible an evaluation of the extent to which surveys overcome each of the empirical challenges of studying opportunism (Table 2; top row). As for the not-out-there problem, surveys are useful for capturing blunt and general forms of opportunism, but nuanced forms of opportunism might be overlooked. Scholars tend to survey the most visible and more accessible manifestations of opportunism, thus falling prey to the "streetlight effect."

Due to the sensitive nature and potential high costs of answering questions about opportunism, the ease of use of surveys minimizes the costs to the informant. Particular attention needs to be given to extra guarantees of anonymity, confidentiality, and benefits to participants (Rokkan, Heide, & Wathne, 2003, p. 215). Rewards and gifts may increase the value of participation. However, ironically, opportunistic individuals may choose to participate with the sole purpose of receiving financial incentives or as revenge against the opportunistic party.

We envisage opportunities to draw on tried and tested survey design techniques to collect data on opportunism. The unflattering nature of opportunism calls for the use of, for example, forced-choice items, randomized response techniques, the self-administration of questionnaires, the selection and training of

TABLE 2

Comparison of Research Designs in the Study of Opportunism

	The Not-Out-There Problem	The Informant's Cost-Benefit Problem	The Social Desirability Problem
Survey Design (Dominant research design in prior studies)	(+) Convenient way to collect data about opportunism from managers (-) Difficulty of accessing representative samples (hampers external validity) (-) Risk of observational biases	(+) Low costs for respondents (role of financial and nonfinancial incentives) (-) A party's survey about opportunism might raise its partner's suspicion (importance of anonymity and confidentiality)	(+) Existence of tried and tested strategies to curb social desirability biases in surveys, both in prevention and detection (-) The "unflattering nature" of opportunism is a threat to truthful responses (-) Risk of bystander effect and cultural issues
Laboratory Experiments	(+) Use of vignettes to elicit data on opportunism (+) To manipulate variables of interest (but not accessible otherwise) (-) No organizational context to study opportunism	(+) Perpetrators and victims face low financial or reputation costs (-) Costs and benefits vary in organizational contexts (not captured in laboratory)	(+) Use of scenarios curbs social desirability associated with questions about opportunism (+) Opportunities to take advantage of new technologies to minimize social desirability (-) Social desirability may stem from the experimental setup and/or the experimenter
Field Experiments	(+) Observation of opportunism in context (+) Study of managers' reactions to events (-) Difficult to persuade firms to participate	(+) Low costs to informants to participate in studies of opportunism (+) Use of multiple informants in their work context during the study of opportunism (-) High costs for the hosting organization (e.g., setting up the experiment)	(+) Study manager's reaction to opportunism <i>in situ</i> (-) If individuals find out about the study, the likelihood of social desirability is high
Case Studies and Ethnography	(+) Rich account of specific forms of opportunism (+) Informant might provide leads to cases of opportunism or relevant informants (-) Firm's unwillingness to cooperate with researchers interested in opportunism	(+) Opportunity to study the formation of perceptions about partners' opportunism (-) High researcher investment in gaining informant's trust to answer sensitive questions about opportunism (-) High costs for the hosting organization and participants	(+) Use of triangulation and indirect questioning (+) Use of covert research techniques to tap into sensitive questions (-) High cost of training interviewers to prevent respondent's bias on sensitive questions (-) Rationalization of events by managers (unwillingness to admit a weakness)

We use (+) for illustrating an advantage and (-) is an illustration of a disadvantage.

interviewers, or proxy subjects (Nederhof, 1984). The bystander effects, informants' cultural sensibilities (Christensen & Rosenthal, 1982; Kreuter, Presser, &

Tourangeau, 2008), and industry-specific social conventions (Kriauciunas, Parmigiani, & Rivera-Santos, 2011) are relevant when studying the extent to which

cultural and interpersonal factors underpin opportunism in supply chains within and across industries.

The use of surveys will continue to support the testing of the assumption of opportunism. Surveys are a prime research design to collect dyadic and longitudinal data, where SCM theory about multiparty processes and patterns of opportunism remains scant.

Laboratory Experiments

Laboratory experiments are particularly promising to address the not-out-there problem in two ways (Table 2). First, one of their advantages is to enable researchers to use scenarios to “generate” specific forms of opportunism that are otherwise inaccessible to study (Ro et al., 2016; Rottenburger & Kaufmann, 2019). Scenarios are presented to participants as vignettes that convey carefully scripted descriptions of the variables under study. For instance, future research might use experiments to examine events that trigger individual’s opportunism (Carter & Stevens, 2007; Seggie, Griffith, & Jap, 2013), such as shirking or lying. Second, researchers may experimentally manipulate the main partner’s characteristics to test hypotheses about managers’ preferences for punishment—or lack thereof—in reaction to partners’ opportunism. Future experimental research should start to isolate explanatory mechanisms of opportunism between buyers and suppliers (Handley & Angst, 2015).

We envisage opportunities to use experimental research where the informant’s cost–benefit problem is an issue (e.g., managers’ fear of retaliation, guilt, and embarrassment). If the study is about the perpetrator of opportunism, respondents do not feel that they will incur financial or reputational costs by disclosing information about their firm. If the study is about the victim of opportunism, participants might find the laboratory setting a more comfortable place to answer questions, take part in role-playing or share their experience. In addressing the informant’s cost–benefit problem, we advise researchers to be mindful that some costs (e.g., reputation) vary across industries and cultural contexts, which are hard to capture in laboratory experiments.

Experimental designs further address the social desirability problem in the study of opportunism (Table 2). Future researchers can take advantage of psychophysiological (e.g., eye tracking) and neuroimaging tools (e.g., functional magnetic resonance imaging), which generally are less affected by the social desirability problem, in studies of opportunism (Dimoka et al., 2012). Future experimental research is thus particularly suitable to test the relationships among opportunism and the concepts (e.g., flexibility, power) that are central to the SCM literature in a controlled environment. Scholars should keep in mind that laboratory designs (e.g., wording of instructions, task

structure) and the experimenter (e.g., appearance, race) may trigger respondent’s social desirability biases. Such issues might be more relevant in studies about individual’s reactions and feeling toward counterparty’s opportunism.

Field Experiments

The use of field experiments remains scarce in SCM studies of opportunism (for exceptions, see Jap, 2003, 2007). Building on the exemplary field experiments of deceitful behaviors other than opportunism (Aven, 2015; Nagin, Rebitzer, Sanders, & Taylor, 2002), we argue that field experiments not only address the not-out-there problem but also capture the organizational and industry contexts. Researchers can study managers’ reactions to a specific event in their work context (Table 2).

The informant’s costs associated with field experiments vary. Managers tend to be reluctant to engage in field experiments, perhaps because such experiments require tight coordination between the researcher and the firm (e.g., setting up the treatment and control groups). Researchers might also take advantage of industry events—such as changes in regulations—to carry out a field experiment such that the informant’s costs are minimal (Graffin, Bundy, Porac, Wade, & Quinn, 2013). Another advantage is the opportunity to study multiple individuals from the same organization while in their work context, which allows researchers the advantage of not relying on a single informant only.

The control group and the experimental group are often unaware that a study is being conducted; thus, social desirability concerns are reduced. For example, Jap (2007) uses 25 quasi-experiments to study how the buyer’s auction design (e.g., the number of bidders and price visibility) affected the buyer–supplier relationship. Her findings show how a higher number of bidders increase the supplier’s suspicions of opportunism toward the buyer.

Case Studies and Ethnography

Case studies and ethnographic research typically draw on extensive and detailed data sources to overcome the not-out-there problem (Table 2). In their study of multiple cases of buyer–supplier relationships in Brazil, Brito and Miguel (2017) learned from their interviewees how unexplained and apparently opportunistic behaviors (e.g., unwillingness to share information) were deemed disrespectful according to local cultural values. Qualitative research is particularly appropriate for capturing the “hearts and minds” of the perpetrators and victims (Nooteboom et al., 1997).

If the researcher remains in the organization for a relatively long period, she or he may be perceived as an insider and be privy to secrets about opportunistic

practices. Respondents' psychological costs of sharing information progressively decrease. A drawback is that participating organizations incur the high costs associated with extended periods of research and in-depth analyses. Researchers must also think through issues related to rapport and attachment to participants (Dickson-Swift, James, Kippen, & Liamputtong, 2009).

The ethnographic study of transparency by Bernstein (2012) in a Chinese factory used covert techniques to study how workers curb their efforts when they are not supervised or observed. In opportunism studies, we suggest that future observational studies might also use covert techniques—which may entail some element of deception (Roulet, Gill, Stenger, & Gill, 2017)—to help them study opportunism unfolding in the organizational context (e.g., during outsourcing negotiations). Covert techniques mitigate the social desirability problem (Table 2).

Widening the Set of Data Sources on Opportunism

Opportunities to study opportunism accrue from data sources that require minimal, if any, direct input from the informant. Table 3 shows the data sources that might be used to study opportunism.

Perpetrators. Organizational records, such as meeting minutes, emails, and transaction documents, provide a glimpse of practices concerning opportunism. By inspecting a firm's documents, the researcher may gain access to the operations of the perpetrators while circumventing the social desirability problem (Table 3). However, managers might report only the extreme cases of opportunism where legal action is perhaps required, thus leaving out mundane forms of opportunism that might have a bearing on the relationships among supply chain members.

Victims. We invite researchers to take advantage of the opportunity to theorize the role of victims of opportunism. Records of transactions, management support systems, strategic documents, and internal communications (e.g., emails and memos) often provide candid views of a partner's opportunism. In organizational behavior (Conway & Briner, 2002; Tuckey & Neall, 2014), the use of diaries has also proved useful for gathering data on other difficult-to-capture concepts, such as victims' emotions in cases of bullying or employees' perceived breach of the psychological contracts by employers. Diary studies allow scholars to focus on opportunism-related issues in a single organization or dyad; however, they are less feasible in examining extended supply chains.

Building projects provide a typical example in which the minutes of meetings among the client, contractors, and project managers provide detailed accounts of instances in which managers may "cut corners" by willingly supplying materials below agreed-upon

quality standards (Oliveira & Lumineau, 2017). Meeting minutes specifically address the not-out-there problem of opportunism instances. Thus, these documents provide researchers an opportunity to advance research on how managers cope with the daily management of supply chains. Furthermore, professional counseling records also provide rare access to the emotions of victims of opportunism (Table 3).

Third Parties. An array of third parties, such as auditing firms (Short, Toffel, & Hugill, 2016) and trade associations (Abernethy, Bouwens, & Kroos, 2017), manages large repositories of data on opportunism-related issues. For example, Lumineau and Oxley (2012) accessed a law firm's legal files concerning buyer-supplier disputes that included recorded behaviors linked to opportunism (e.g., misappropriation of rents). Platforms generate data that were not previously available to researchers interested in opportunism. In-depth analyses enable researchers to capture modifications to supply chain activities and the degree of cooperation, or lack therefore, of actors in the supply chain. Nongovernmental organizations such as Transparency International, the Construction Sector Transparency Initiative, and the Open Contracting Partnership, also collect data on opportunism-related practices in public tendering processes. Generally, we are encouraged by such data-related developments, but the challenges ahead call on SCM researchers from different research traditions to join efforts to empirically study opportunism in supply chains.

FURTHER TOPICS FOR RESEARCH

Taking advantage of our suggestions about the study of opportunism in supply chains, Table 4 summarizes an agenda for future research. This agenda foregrounds research about different opportunism forms and the future of opportunism in supply chains.

Shifting the Research Focus from General to Specific Opportunism Forms

First, we argue that the likelihood of opportunism remains a central issue in SCM (Table 4). Future testing of the assumption of opportunism will address the little knowledge available about whether opportunism is null or extremely unlikely (thus supporting the *unrealism* of the assumption), or its frequency (thus supporting the *realism* of the assumption). Moreover, future empirical studies of opportunism will provide an evidentiary basis about when opportunism is unlikely versus frequent (thus supporting a *contingency* argument; see Kelly, Wagner, & Ramsay, 2018 for an exception).

Second, we submit that generative knowledge about the *unrealism* versus *realism* of the opportunism

TABLE 3

Unobtrusive Data Sources

	Examples of Data Sources	The Not-Out-There Problem	The Informant's Cost-Benefit Problem	The Social Desirability Problem
Perpetrator	<ul style="list-style-type: none"> • Internal memos, minutes, and transaction documents • Confessions and biographies • Whistleblowers 	<ul style="list-style-type: none"> • For example, confessions provide insights into perpetrators' opportunism practices in an industry 	<ul style="list-style-type: none"> • For example, protection schemes of whistleblowers reduce informant's costs through anonymity 	<ul style="list-style-type: none"> • For example, incentives provided by authorities encourage perpetrators to answer truthfully about their actions
Victim	<ul style="list-style-type: none"> • Strategy documents and internal communication • Suppliers' audits • HR records, counseling notes 	<ul style="list-style-type: none"> • For example, counseling notes capture feelings and emotions of victims of opportunism 	<ul style="list-style-type: none"> • For example, diaries and biographies yield low costs for the victims 	<ul style="list-style-type: none"> • For example, internal documents provide already collected data about opportunism, thus limiting the social desirability problem
Third party	<ul style="list-style-type: none"> • Advisory firms • Transparency International, Open Contracting Partnership 	<ul style="list-style-type: none"> • For example, provides data on multiple forms of opportunism 	<ul style="list-style-type: none"> • For example, neither the perpetrator nor the victim are involved in data collection 	<ul style="list-style-type: none"> • For example, low social desirability; data from third parties often entails expert evidence (no self-reports)

assumption can be advanced by studying different forms of opportunism in supply chains (Table 4). Conceptual studies have devised many opportunism types. For instance, Griesinger (1990) categorizes opportunistic behavior into three types (dishonesty, infidelity, and shirking), and Wathne and Heide (2000) suggest four opportunism types (evasion, adaptation refusal, violation, and forced renegotiation). Building on these instructive conceptual discussions, we call on SCM researchers to carry out systematic research about the multidimensionality of the opportunism construct. Two studies in particular have made progress in testing opportunism types. Handley and Benton (2012) developed their own scales to empirically distinguish manifestations of shirking and poaching in buyer-supplier relationships. Lumineau and Quélin (2012) disentangled strong-

form opportunism from weak-form opportunism by examining complaints voiced by firms in documents exchanged with their business partners. Future research will advance the SCM literature by identifying the salience of opportunism forms across supply chain settings.

Third, we envisage opportunities to conduct empirical studies on processes by which specific opportunism forms manifest (Table 4). For instance, we still know little about the potentially different origins and consequences of opportunism in outsourcing (e.g., Handley, 2017) compared to third-party logistics (e.g., Leuschner et al., 2014) or manufacturing location decisions (McIvor, 2013). In addition, future researchers can distinguish the different stages of each SCM arrangement as a way to explore the process of opportunism manifestation across stages from partner

TABLE 4

Further Topics for Research on Opportunism in Supply Chains

	From General Opportunism to Opportunism Forms	Turning the Attention to the Automation of Opportunism
Likelihood	<p><i>The (un)realism of the opportunism assumption in supply chains</i> What is the likelihood of opportunism? To what extent is opportunism likely to hamper the function of supply chains?</p>	<p><i>The influence of new technologies for curbing or fostering opportunism</i> What is the likelihood of opportunism in automated transactions (e.g., smart contracts)? To what extent does the use of blockchain technology affect the likelihood of opportunism in supply chains?</p>
Opportunism Forms	<p><i>Opportunism forms in supply chains</i> What are the main opportunism forms (e.g., dishonesty, shirking) in supply chains forms (e.g., dyads vs. networks)? Which opportunism forms do managers recognize?</p>	<p><i>Technology-embedded opportunism forms</i> What opportunism forms are mitigated by automating transactions across the supply chain? Which opportunism forms develop with the design and use of blockchain technology in supply chains?</p>
Processes	<p><i>The processes that underlie the antecedents and outcomes of opportunism in supply chains</i> How do specific opportunism forms occur in the design and operation of supply chains? What are the different motivations to engage with opportunism ex ante vs. ex post?</p>	<p><i>New technology's implications for the processes that underlie the antecedents and outcomes of opportunism</i> Ex ante and ex post, who engages with opportunism in automated transactions? How can opportunism spread or be contained in large, automated systems of transactions?</p>
Contingency	<p><i>The conditions under which opportunism manifests in supply chains</i> When do cultural factors curb or prompt opportunism forms? Which industry features exacerbate opportunism forms?</p>	<p><i>Conditions under which opportunism might become automated</i> When automated systems are the most resilient to opportunism? Under which conditions can technology actually enable opportunism in supply chains?</p>

The gray cell indicates the enduring debate about the (un)realism of the opportunism assumption in supply chains; this debate provides the starting point for future research that examines different forms of opportunism, processes, and contingency factors as research (a) moves from the study of general opportunism to develop a granular understanding of multiple forms of opportunism and (b) turns attention to the automation of opportunism in supply chains.

selection, negotiation, implementation, and operation under that agreement. We envisage plentiful opportunities to study the temporal aspects (e.g., sequence and pace) in explicating opportunism (Oliveira & Lumineau, 2019).

Finally, we call for research that examines opportunism forms in order to research contingency factors about opportunism (Rindfleisch et al., 2010; for exceptions, see Handley & Angst, 2015; Handley & Benton, 2012). SCM stands to benefit from future research on cross-cultural elements of opportunism

(e.g., North American versus Asian, or African versus European). The SCM literature has yet to empirically examine the implications of the institutional context—e.g., national culture, legal framework—for the manifestations of opportunism in supply chains (Table 4). Such research would reveal the conditions under which the disruption of global supply chains might occur due to specific opportunism forms, thus providing relevant insight to design global supply chains that are resilient to opportunism across national contexts.

The Automation of Opportunism in Supply Chains

The spread of automation in supply chains raises novel questions about opportunism (Table 4). Data on e-procurement, for instance, may be used to examine specific forms of opportunism in automated transactions. Researchers are advised to examine the motivations of those that produce the data, but we think that machine-enabled transactions provide SCM researchers with renewed opportunities to study opportunism.

Opportunism has traditionally been associated with a heavy reliance on third parties—such as banks, financial bookers, and auditing firms—and limited transparency among the parties. The removal of intermediaries and enhanced transparency support the common expectation that the automation of transactions will decrease, if not eliminate, concerns about opportunism (Roeck, Sternberg, & Hofmann, 2019; Saberi, Kouhizadeh, Sarkis, & Shen, 2019).

On the one hand, automatically executed transactions decrease the margin for opportunistic behaviors by compelling the parties to perform according to an established agreement. In blockchain-based technology, the electronic records are not only virtually impossible to tamper with but are also easily traceable (Rauchs et al., 2018; Tucker & Catalini, 2018). In turn, opportunistic behaviors are thought to be easily detectable, if not altogether preventable.

On the other hand, automation and blockchain technology are not a panacea to mitigate opportunism. Indeed, future researchers are advised to observe that human actors continue to be involved at the interface between the digital and the physical world, which might give rise to opportunism that is embedded in how new technologies operate (Table 4). Future research on forms of opportunism, processes and contingency factors will benefit to turn attention to the design stage of automation in supply chains. It is also plausible that the sources of opportunism might differ between traditional supply chains and supply chains that rely on more automation. In the latter, the threat of opportunism is likely to concentrate on the stages of the supply chain where individuals are directly involved (e.g., when individuals design the system).

Therefore, concerns about opportunism between individuals might become less relevant (as automation supports secure transactions among strangers), while the sources of opportunism related to the system itself will become critical. The design of automation systems provides a fertile ground to research about opportunism in supply chains.

CONCLUSION

We argued for further empirical tests of the behavioral assumption of opportunism. First, we conducted an extensive review of the empirical literature to

identify three major empirical challenges to the study of opportunism: the not-out-there problem, the informant's cost-benefit problem, and the social desirability problem. Second, we showed that adopting new and varied research designs and data sources are instrumental in the advancement of the theories of opportunism. Finally, we noted specific ways in which to refine existing and develop new theories with regard to opportunism in SCM. The reinvigoration of the study of the phenomenon of opportunism will provide numerous opportunities for SCM researchers and practitioners.

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