Interpretive research

A complementary approach to seeking knowledge in supply chain management

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Abstract

Purpose – Scholars have called for diversity in methods and multi-method research to enhance relevance to practice. However, many of the calls have only gone so far as to suggest the use of multiple methods within the positivism paradigm, which dominates the discipline and may constrain the ability to develop middle-range theory and propose workable solutions to today's supply chain challenges. The purpose of this paper is to present a rationale for expanding the methodological toolbox of the field to include interpretive research methods.

Design/methodology/approach – This research conceptually illustrates how positivist and interpretive philosophies translate into different research approaches by reviewing an extant positivist qualitative study that uses grounded theory and then detailing how an interpretive researcher would approach the same phenomenon using the hermeneutic method.

Findings – This research expands the boundaries and impact of the field by broadening the set of questions research can address. It contributes a detailed illustration of the interpretive research process, as well as applications for the interpretive approach in future research, particularly theory elaboration, middle-range theorizing, and emerging domains such as the farm-to-fork supply chain and the consumer-based supply chain.

Research limitations/implications – The development of alternative ways of seeking knowledge enhances the potential for creativity, expansion, and progress in the field.

Practical implications – Practical implications of this research include enabling researchers to elaborate theory and develop middle-range theories through an alternative philosophical paradigm. This paradigm facilitates practical insights that are directly relevant to particular domains and move beyond general theories seeking generalizability.

Social implications – Social implications of this research are much more indirect in nature. This research encourages supply chain management (SCM) scholars to look at phenomena (including those with social implications) from a different philosophical perspective, which can reveal new insights.

Originality/value – This research contributes a rationale for expanding the methodological toolbox of the field to include interpretive research methods and also contributes a methodological operationalization of the interpretive approach. By reflecting on the nature of science and method in SCM, the study opens the door for creativity and progress to expand the boundaries and impact of the field.

Keywords Qualitative research methods, Middle-range theory, Supply chain management

Paper type Conceptual paper

1. Introduction

There is a growing awareness that today's supply chain management (SCM) challenges are "intractably complex and relentlessly dynamic" (Fawcett and Waller, 2011, p. 291). Acknowledging the complex and dynamic nature of today's competitive environment and accompanying research realities, editors have called for diversity in methods and multi-method research to better understand these challenges and enhance rigor and relevance (Fawcett and Waller, 2011; Goldsby and Zinn, 2016; Sanders and Wagner, 2011). The maturity of the SCM field has been accompanied by a broadening of the methodological toolbox in order to address new opportunities and challenges. For example, the historically heavy reliance on quantitative methods opened the doors for qualitative

methods, such as case studies (e.g. Gammelgaard, 2017) and grounded theory (e.g. Mello and Flint, 2009), to increase relevance to practice. Further, the emergence of behavioral SCM, which acknowledges the role of managers in the implementation of the tools and techniques we study, paved the way for the use of experiments (e.g. Deck and Smith, 2013). Thus, it seems that scholars have responded to the call for maturation of the field (Mentzer and Kahn, 1995) through its development and acceptance of alternative ways of conducting research. However, despite the apparent embrace of alternative methods of seeking knowledge, it seems that there is still tacit agreement that the positivistic ones are the only way to approach SCM research (Gammelgaard and Flint, 2012).

More recently, SCM has also seen calls to refine our approach to seeking knowledge in terms of the way we theorize. Scholars have called for research that goes beyond "general theories" to theorize at a level that is more context-specific and managerially relevant. In particular, scholars have advocated for the development of middle-range theories (Frankel and Mollenkopf, 2015; Stank *et al.*, 2017) and the elaboration of existing theories (Ketokivi and Choi, 2014). The former, middle-range theorizing, aims to understand the interacting mechanisms that create particular outcomes in specific contexts whereas the latter, theory elaboration, seeks to contextualize the logic of a general theory. Yet, the guiding charges to understand the contextual inner-workings of general theories and the subsequent research that has adopted these approaches have also been limited to the positivist tradition.

With the calls for the broadening and diversification of methods and the development of context-relevant theories in mind, this research offers two important contributions. The first contribution is to illustrate the significance of philosophical paradigms in order to present a rationale for expanding the methodological toolbox of the field to include the interpretive approach. The second contribution of this research is to provide a detailed description of how philosophical assumptions are operationalized in the methodological and analytical procedures.

First, by adding interpretive methods to the methodological toolbox, we contribute an expansion of the questions our research can address and an improvement in our understanding of the particulars, which allows for the contextualization of theory to provide workable solutions to SCM challenges. Indeed, the dynamic, value-laden, and context-dependent nature of today's SCM challenges (Besiou and Van Wassenhove, 2015) pose difficulties for the positivist approach because of its emphasis on context-free generalizations (Hudson and Ozanne, 1988). Thus, the dominance of positivism in SCM may constrain our ability to propose workable solutions because it limits the types of question we can answer. By elaborating on an alternative paradigm of research methods, we aim to expand the boundaries and real-world impact of our field by broadening the set of questions our research can address.

Second, by providing a detailed description of how these assumptions are operationalized in the methodological and analytical procedures, we also demonstrate the importance of philosophical considerations in the research process. The current lack of pluralism seems to imply that SCM researchers view philosophical issues, such as ontology and axiology, as secondary to methodological issues, such as experimental design and endogeneity concerns. However, the methodological debates plaguing our field today cannot be disentangled from underlying philosophical assumptions (Gammelgaard and Flint, 2012; Mello and Flint, 2009). When one philosophy predominates, only research according to the precept and criteria of this approach is seen as valid. Thus, by reflecting on the nature of science and method in SCM, we hope to open the door for greater philosophical and methodological pluralism. The development of alternative ways of seeking knowledge enhances the potential for creativity, expansion, and progress.

The structure of the remainder of this research is as follows: in Section 2, the philosophical assumptions underlying positivist and interpretive research are outlined.

In Section 3, we illustrate how these assumptions are translated into different research approaches by first reviewing an extant positivist qualitative study that uses grounded theory and then detailing how an interpretive researcher would approach the same phenomenon using the hermeneutic method. The applicability of the interpretive approach for theory elaboration, middle-range theorizing, and emerging domains in SCM is detailed in Section 4 followed by the implications for future research in Section 5.

2. Differentiating positivist qualitative and interpretive research

There is an implicit assumption in SCM that qualitative and interpretive research approaches are synonymous. While there is some overlap between the methods that are used, the two approaches are founded on very different philosophies and aims (Gammelgaard and Flint, 2012; Hudson and Ozanne, 1988). Embedding the same method in a different philosophy fundamentally changes the method itself and the knowledge produced, so the method cannot be understood in isolation of the underlying philosophy. With this in mind, the primary purpose of this section is to clarify the assumptions that differentiate the positivist qualitative approach from the interpretive approach.

2.1 Ontological assumptions

Underlying both approaches are different ontological assumptions about the nature of reality and the nature of social beings (Hudson and Ozanne, 1988). Positivist qualitative research generally adopts a realist perspective and assumes that a single, objective reality exists independently of what individuals perceive (Mentzer and Kahn, 1995). The reality exists as a structure composed of relationships among the parts, so it can be separated to allow for precise, accurate measurements and objective observations (Bagozzi, 1980; Morgan and Smircich, 1980). With regard to social beings, positivist qualitative research generally adopts a deterministic view of human behavior such that individuals behave reactively to the external world (Morgan and Smircich, 1980).

Interpretive research, in contrast, rejects the existence of an objective, fragmentable reality. Instead, reality is perceived by individuals as they make sense of the world, so reality is a holistic structure that is continuously changing and more than the sum of its parts (Burrell and Morgan, 1979; Hudson and Ozanne, 1988). With regard to social beings, interpretive research adopts a voluntaristic view of human behavior such that individuals are not acted upon by the external world but, rather, behave proactively (Hudson and Ozanne, 1988).

2.2 Axiological assumptions

Different axiologies, or fundamental goals, also underlie both approaches. The difference is not necessarily in the presence or absence of a goal, but, rather, in the relative weight that each approach assigns to each particular goal (Hudson and Ozanne, 1988). The primary goal of positivist qualitative research is explanation, which is achieved by illustrating the systematic association of variables underlying a phenomenon (Anderson, 1986; Hunt, 1983). The explanation, then, allows for some level of control and prediction to be achieved (Hudson and Ozanne, 1988). In contrast, the primary goal of interpretive research is empathetic understanding to generate meaning and expand boundaries, which is more of a process than an end product (Denzin, 1984).

2.3 Epistemological assumptions

Underlying both approaches are also different epistemological assumptions related to the knowledge generated, the view of causality, and the relationship between researcher and subject (Hudson and Ozanne, 1988). The two research approaches – with different goals and

assumptions of reality – generate different knowledge outputs, which must be evaluated differently. Positivist qualitative research adopts a generalizing approach such that the knowledge that is generated can ideally be applied to a large number of phenomena and contexts (Hudson and Ozanne, 1988; Keat and Urry, 1975). Interpretive research, in contrast, adopts a more particularistic approach in that particular phenomena are studied in a particular time and place (Hudson and Ozanne, 1988). With the interpretive approach, the particular motives, meanings, and experiences are studied to provide "thick descriptions" that are time- and context-bound (Geertz, 1973).

Given its goal of explanation and prediction, positivist qualitative research emphasizes causality and seeks to identify causes that temporally precede behavior (Hunt, 1983; Hudson and Ozanne, 1988). In line with this, positivist qualitative research adopts a detached relationship between researcher and subject in order to minimize influence and maintain objectivity (Bredo and Feinberg, 1982). Interpretive research, in contrast, holds that it is impossible to distinguish a cause from an effect given the mutual, simultaneous relationship between individuals and the external world (Lincoln and Guba, 1985; Rubinstein, 1981). Accordingly, the interpretive approach holds that the researcher and subject interact with each other, which creates a cooperative inquiry (Wallendorf, 1987) (Table I).

3. Illustrating the research process

As illustrated in Section 2, the positivist qualitative and interpretive approaches differ in their aims and assumptions about the world. However, both approaches share a common commitment to rigorous, empirical research (Thompson *et al.*, 1989), so the assumptions of each approach are consistent with the research process, including the methodological and analytical procedures (Hudson and Ozanne, 1988). In line with this, the purpose of this section is to illustrate how these philosophical differences are manifested in differences in the research process.

Instead of discussing general differences between the approaches, an extant study – Pagell and Wu (2009) – is used to illustrate how positivist qualitative research approached a phenomenon. Then, we outline how interpretive research might approach the same phenomenon to illustrate how the nature of the phenomenon changes as it is embedded in a different research process. While neither research approach translates into a single, unique research process (Hudson and Ozanne, 1988), leveraging an extant study allows us to highlight specific differences arising from the underlying philosophies (Table II explicates a high-level summary of the differences between the two research approaches based on Pagell and Wu (2009) and the hypothetical study developed in Section 3.2).

Assumptions	Positivist qualitative	Interpretive
Ontological		
Nature of reality	objective; tangible; single; fragmentable; divisible	socially constructed; multiple; holistic; contextual
Nature of social beings	deterministic; reactive	voluntaristic; proactive
Axiological		
Overriding goal	explanation; prediction	understanding
Epistemological		
Knowledge generated	nomothetic; time-free; context-independent	idiographic; time-bound; context-dependent
View of causality	real causes exist	multiple; simultaneous
Research relationship	dualism; separation; privileged point of observation	interactive; cooperative; no privileged point of observation

Table I.
Summary of assumptions

Source: Adapted from Hudson and Ozanne (1988), p. 509

	Actual (positivist qualitative)	Hypothetical (interpretive)
Theoretical framework	Conceptual framework	Orienting frame-of-reference
Methodological procedures		
Context	Industry	Culture
Sample selection	Theoretical sample	Judgment sample
Unit of analysis	Organization	Individual
Subject	Participant	Informant
Data collection	Structured interviews, archival sources	Semi-structured/depth interviews
Analytical procedures		
Level of analysis	Organization, supply chain	Cultural context, environment
Phase one	Within-case analysis (concise descriptions)	Intratextual analysis (full contextual detail)
Phase two	Cross-case analysis	Intertextual analysis
Output		
Knowledge generated	Theoretical model, generalizable propositions	Contextualized theoretical framework, emergent themes
Research purpose	Theory building	Theory elaboration

Notes: The Table summarizes the differences between our understanding of the positivist qualitative study in Pagell and Wu (2009) and our hypothetical interpretive study. It is important to note that neither research approach translates into a single, unique research process, so the summary of differences is not to be generalized to all research in either approach

Our purpose is not to suggest a higher or lower importance or value of any particular research, nor is it to suggest that the positivist qualitative research approach is "wrong." Rather, our purpose is to illustrate how philosophical assumptions are operationalized in the research process, particularly the methodological and analytical procedures, to demonstrate how the interpretive approach can be used in future research to generate knowledge that is different from (and complementary to) the positivist approach.

3.1 Positivist qualitative research approach

The purpose of this section is to illustrate the positivist qualitative approach to research. In the paragraphs that follow, each step (summarized in Figure 1) will be illustrated using Pagell and Wu (2009), an insightful and highly cited exemplar of qualitative research.

Pagell and Wu (2009) aimed to understand what the leaders in sustainable SCM are doing that is different from the leaders in traditional SCM in order to "build a theoretical and testable model of an integrated sustainable supply chain" (p. 38). To address these research questions, Pagell and Wu (2009) developed a conceptual framework based on three themes that emerged from the literature on sustainable SCM: the attempt to extend existing SCM practices into the realm of sustainability; the notion of ecocentricity, which suggests that "an organization should consider its relationships with the broader social and natural environments" (p. 39); and the integration of sustainability goals and practices into day-to-day supply chain operations.

3.1.1 Methodological procedures. Pagell and Wu (2009) used a multiple case study design with exemplars in sustainable SCM as the context of investigation, which are firms on the leading edge of their industry in terms of social and/or environmental performance. As Pagell and Wu (2009) stated, the selection of a relatively broad context was driven by "a need to develop propositions and theory that would be generalizable to a wide range of organizations" (p. 41). This is in line with the epistemology underlying positivist qualitative research regarding knowledge generation, which emphasizes a generalizing approach and aims to generate knowledge statements that are time- and context-free (Hudson and Ozanne, 1988).

Figure 1.
Positivist qualitative
research process in
Pagell and Wu (2009)
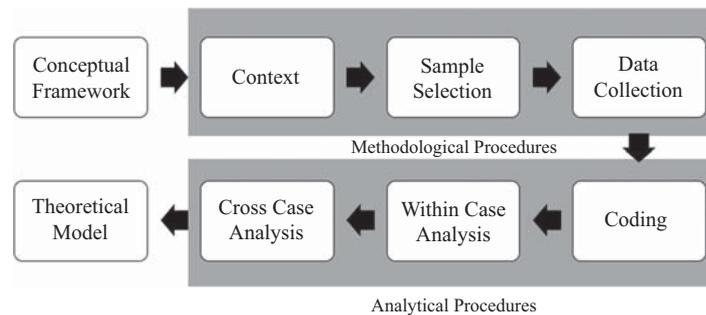
Notes: Note that the figure and corresponding discussion illustrate our interpretation of the approach taken in the published work of Pagell and Wu (2009) to the best of our ability as an example of the positivist qualitative approach to research and does not imply that all positivist qualitative studies follow the same exact research process

With the context of investigation defined, Pagell and Wu (2009) followed a theoretical sampling approach and selected a diverse sample that is representative of a wide range of industries and firm size. In line with context selection, the diversity of the sample also reflects the underlying epistemology regarding knowledge generation and the inherent emphasis on generalizability in the positivist qualitative approach. As Pagell and Wu (2009) stated in their justification, "(t)his diverse sample then allows for the development of propositions that will likely be applicable to a wide range of supply chains" (p. 42).

For each organization, Pagell and Wu (2009) used a semi-structured interview protocol and interviewed multiple respondents. The interviews were conducted on site or by phone and were recorded and transcribed to ensure accuracy in data collection. While the semi-structured protocol allowed for some flexibility in the interviews, the protocol was formally revised following each interview. The structure and formality of the interviews are driven by the ontology regarding the nature of reality and social beings and the epistemology about the relationship between researcher and subject underlying positivist qualitative research. That is, positivism requires a privileged point of observation for the researcher in order to minimize influence, and the detached relationship between researcher and subject is facilitated by the independent, separable nature of reality (Bredo and Feinberg, 1982).

In addition to the interviews, data collection also included information from public sources for each organization in order to triangulate the data. Ultimately, field notes from multiple researchers and data from multiple sources were combined to "mitigate biases and enhance reliability and validity" (Pagell and Wu, 2009, p. 43). This is driven, in part, by the ontological assumption of an objective, fragmentable reality and the epistemological assumption of a detached relationship between researcher and subject. More fundamentally, however, it is motivated by the epistemology related to knowledge generation, which determines what the approach considers to be important facts and problems and ultimately determines the criteria upon which it should be evaluated (Hudson and Ozanne, 1988). Because it is also positivist, qualitative research is often judged based on the same criteria as quantitative research (e.g. reliability and validity) despite the disagreement on how it best achieves these ends (Pratt, 2008).

3.1.2 Analytical procedures. Upon completion of data collection, Pagell and Wu (2009) coded the transcripts, field notes and archival sources using an iterative process of coding schemes. The goal of the coding was "to identify the extent of adoption of practices that might be central to sustainable [SCM]" (p. 43). Coding the text collected in interviews is one

way that the qualitative approach can meet the knowledge generation criteria (e.g. reliability and validity) demanded of positivist research. For example, Pagell and Wu (2009) stated: "potential contamination from the researchers' biases was also controlled by avoiding coding and model building until all data were collected" (p. 43). Further, the multi-step iterative process employed by Pagell and Wu (2009) "forced 100 percent interrater reliability" (p. 43) in order to provide a check on "individual biases clouding the analysis" (p. 43). More fundamentally, the iterative process of coding is reflective of positivism's ontology regarding the singular and divisible nature of reality such that objective measurements and observations of the world are possible (Bagozzi, 1980; Burrell and Morgan, 1979; Morgan and Smircich, 1980).

Pagell and Wu (2009) used within-case analysis and cross-case analysis to evaluate the texts. In the first phase, within-case analysis was used to identify an "inventory of factors" (p. 44) that was linked to sustainable SCM for each exemplar. The goal of within-case analysis was to understand sustainable SCM in a single context, so a "concise description of sustainable [SCM] practices" (p. 44) was developed for each exemplar. In the second phase, cross-case analysis was used to identify patterns across organizations and rearrange the data from a case-by-case format to a construct-by-construct format (Pagell and Wu, 2009). That is, the inventory of factors for each organization was "cut" from its description and "pasted" onto the relevant construct. This ability to "cut and paste" is reflective of the ontology underlying positivist qualitative research. Because a single, objective reality exists as a structure composed of a relationship among parts (Hudson and Ozanne, 1988), the practices can be separated from the exemplar and assigned to a broader bundle of practices.

In order to be both parsimonious and complete, Pagell and Wu (2009) eliminated some of the practices in the process of categorizing bundles to build theory. Practices that "had low levels of adoption, limited applicability, and/or which did not relate to other practices" (p. 45) were eliminated, as well as those that "seemed tangential to [their] purpose and/or which were highly company specific" (p. 44). As Pagell and Wu (2009) acknowledged, the idiosyncrasies are intriguing but would not be applicable to a large number of organizations, so they were eliminated. The elimination of practices, particularly those with limited adoption, is reflective of the underlying epistemology, as positivism endeavors to generate time- and context-free knowledge (Hudson and Ozanne, 1988). Indeed, Pagell and Wu (2009) acknowledged that eliminating industry idiosyncrasies and temporal factors are limitations of the study and a potential avenue for future research (p. 53).

Ultimately, Pagell and Wu (2009) identified five key bundles of practices in their analysis, which were then used to construct a formal theoretical model and 16 propositions. The contributions and knowledge outputs of the research are a manifestation of the axiology underlying positivist qualitative research. The primary goal of the positivist qualitative approach is explanation, which is achieved when the systematic association of variables underlying a phenomenon is demonstrated (Anderson, 1986; Hunt, 1983). In line with this, Pagell and Wu (2009) delivered a "coherent and testable" (p. 37) model of sustainable SCM practices.

3.2 Interpretive research approach

The purpose of this section is to outline a hypothetical interpretive research study in order to illustrate how the nature of the phenomenon changes as it is embedded in a different research process. Again, what is being studied does not change, but rather how it is being studied and the questions that can be addressed. For example, an interpretive study could investigate questions such as: what are the factors that managers consider in the design and implementation of sustainable SCM practices? What is managers' understanding of the consequences for themselves, the organization, the supply chain, and society? It is important

to reiterate that our purpose is not to detract from the important contributions provided by Pagell and Wu (2009), nor is it to suggest that the positivist qualitative approach is "wrong." Rather, our purpose is to illustrate how underlying philosophies determine what each approach considers to be important facts and problems and, thus, the questions that can be addressed and the type of knowledge that is generated.

Within the interpretive approach, there are a number of methods, such as existential-phenomenology, semiotics, and ethnography. Fundamental to each of these methods, however, is the use of the part-to-whole process, or the hermeneutic circle depicted in Figure 2. The hermeneutic circle is the foundational pillar of interpretive research, and it is what enables the researcher to move from text to context – from original meaning to contextualization and significance (Hirsch, 1967). It represents an iterative spiral of understanding in which the "parts" (i.e. texts) can only be understood in relation to the "whole" (i.e. cultural context) (Prasad, 2017). Indeed, a "spiral" may be a better description because it connotes interpretation as an open-ended process that iteratively moves closer and closer to meaning as interpretations are refined and challenged as opposed to interpretation as a beginning-to-end process around a closed circle (Osborne, 1991). Interpretation involves an endless set of movements between text and context (Osborne, 1991; Prasad, 2017), so each hermeneutic study follows a relatively unique path of analysis (Prasad, 2017).

Underlying the hermeneutic circle is the perspective that actors direct themselves to aspects of their lifeworld that have meaning (Bauman, 1978; Dilthey, 1976). That is, actions and behaviors are not solely the product of personal intentions and desires but are also the outcome of aspects of the cultural context, such as sociocultural, political, and institutional forces (Arnold and Fischer, 1994). Thus, through empathetic understanding in which the researcher "feels one's way inside the experience of the actor" (Blumer, 1969; Hudson and Ozanne, 1988, p. 518), the researcher seeks to reveal meaning through the actor's interpretation of the influences that are guiding their actions and behaviors. The interpretation is a "process of explaining and clarifying with the intent of making the obscure more obvious" (Prasad, 2017, p. 31), which allows the researcher to go beyond the appearance of everyday experiences to capture deeper meanings (Prasad, 2017).
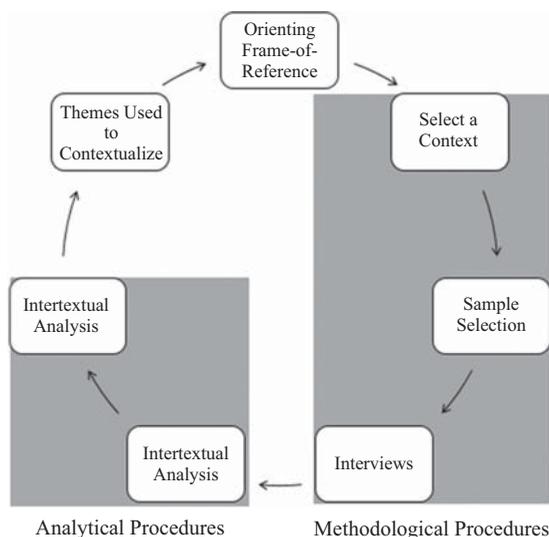
The hermeneutic circle begins with an orienting frame-of-reference to analyze how the context becomes self-relevant to the informant (Thompson, 1997). The orienting frame-of-reference is what provides the framework for the methodological and analytical procedures that follow. For sake of comparability, the three themes that formed the basis for the conceptual framework in Pagell and Wu (2009) can be reconfigured to provide the orienting frame-of-reference here. The second theme – the idea of ecocentricity – could be the foundation for the orienting frame-of-reference to analyze how natural and social aspects of the environment become self-relevant. The first and third themes suggest a dialectical relationship between traditional SCM practices and sustainability goals. On the one hand, traditional SCM practices could be extended into the realm of sustainability; on the other hand, sustainability goals and practices could be extended into traditional SCM practices. In combination, the orienting frame-of-reference juxtaposes these themes to provide a framework to understand how managers react to and actively try to influence the natural and social aspects of their environment as they design and implement sustainable SCM practices.

3.2.1 *Methodological procedures*. Based on this orienting frame-of-reference, a context is selected. For sake of comparability, exemplars in sustainable SCM are used as the context. (Note that focusing on exemplars in an industry with the greatest potential for sustainability impact, such as beverage or energy industries, would also provide rich insights.) However, in contrast to the epistemological motivation for context selection in the positivist approach, which necessitates generalizability of findings, context selection in the interpretive approach is driven by the axiology of understanding as more of process than an end product (Denzin, 1984). With the interpretive approach, context selection is driven by its potential to maximize conceptual insights and understanding. Thus, while the interpretive and positivist qualitative approaches use similar means (a broad context), they do so to achieve different ends (understanding vs generalizability).

Within this context, the orienting frame-of-reference is then used as a guide to form criteria and select informants for the study based on their potential to provide descriptive detail. Given the emphasis on in-depth understanding in context, the number of informants interviewed is always small. In other disciplines where the interpretive approach has been used more frequently, the number of informants for a single study has typically ranged between 3 (Fournier, 1998) and 20 (Thompson and Haytko, 1997). This is driven by the axiology underlying the interpretive approach to provide "thick" descriptions (Geertz, 1973) vs the emphasis on generalizability in the positivist approach.

Following selection of the judgment sample, the next step is to collect data. Within interpretive research, there are a number of data-gathering techniques, including existential-phenomenological, ethnographic, and depth interviews. The strength of these interview methods is to provide descriptive detail, so the interview should be conducted in a comfortable setting in which informants describe their experiences freely and openly (Thompson *et al.*, 1989). The interview setting should be at the discretion of the informant to ensure open conversation and facilitate empathetic understanding by creating opportunities to get close to the informant and experience the empirical context directly. This driven by the epistemology underlying the interpretive approach, which emphasizes a cooperative relationship between researcher and subject (Wallendorf, 1987).

The general purpose of the research is first explained to the informant followed by an assurance of confidentiality and anonymity. Following the assurance of confidentiality, the researcher requests to record the interview. If it is not permissible to record the interview, extensive field notes are taken. Because of the emphasis on experience and personalization of context, the ideal interview should consist of short open-ended questions by the researcher followed by lengthier responses from the informant. The interview itself is

semi-structured in that it is more of a circular dialogue directed by the experiences of the informant and the researcher's domain of interest (Thompson *et al.*, 1989). While the researcher will use the orienting frame-of-reference as a guide, the interview's progression will inevitably be influenced by the recurring interaction between researcher and informant (Wimpenny and Gass, 2000). This is driven by the epistemology underlying the interpretive approach, which rejects the idea that the researcher enjoys a privileged point of observation (Lincoln and Guba, 1985). If empathetic understanding is to be achieved, the researcher cannot be separated from the social reality (Hudson and Ozanne, 1988).

Although the interview process in the interpretive approach seems similar to grounded theory, there are subtle, but important, underlying philosophical differences that yield different data. With grounded theory, the purpose of the interviews is to provide an understanding of social processes at a high level of conceptualization to develop a substantive theory (Wilson and Hutchinson, 1991). In hermeneutics, the purpose of the interview is to elicit the most detail possible and provide a first-person description of a domain of experience (Thompson *et al.*, 1989) that can be explored, illuminated, and probed by the researcher (Wimpenny and Gass, 2000). It is this underlying purpose (e.g. theory development or personal description of experience) that determines the types of questions that are asked, so the nature of the interview changes as it is embedded in a different research approach (Wimpenny and Gass, 2000).

3.2.2 Analytical procedures. Another important point of differentiation between the two approaches is the level of analysis. For example, the level of analysis in Pagell and Wu (2009) is the supply chain, whereas the "level" of analysis for the hypothetical interpretive study is the cultural context in which the informant is embedded (Prasad, 2017). This difference in the level of analysis is a reflection of the difference in disciplinary roots; grounded theory emerged from sociology (e.g. Glaser and Strauss, 1967), and hermeneutics emerged from philosophy (e.g. Gadamer, 1960; Heidegger, 1962). Given the philosophical roots of hermeneutics, the transcribed interview and the narrative provided reflect the individual's lived experience in the context of their lifeworld (Lakoff and Johnson, 1980). It is this emphasis on the individual's lifeworld and the premise that lived experience cannot be understood in isolation of broader cultural milieu that provides the descriptive details key to conceptual development (Dilthey, 1976; Thompson, 1997).

The first phase of analysis is intratextual analysis, and the orienting frame-of-reference is first used to interpret the text in context for each informant. The researcher reads and rereads the interview transcripts for each informant (Thompson, 1997) to understand temporal sequencing of key events in the informant's life (Murray, 2002; Stern, 1995; Thompson, 1997). From this, a summary is identified for each informant that captures an in-depth description of their experience. The goal of this phase of analysis is to capture each informant's story in full contextual detail (Prasad, 2017), which is driven by the ontology and epistemology underlying the interpretive approach. The ontology regarding the nature of reality reiterates the importance of understanding how the informant perceives aspects of the environment holistically, and the epistemology regarding knowledge generation emphasizes a particularistic approach to produce "thick" descriptions (Geertz, 1973).

Upon completion of intratextual analysis, analysis continues by interpreting across informants, which is known as intertextual analysis. In this phase, the researcher searches for common storylines between the narratives and moves up a level of abstraction (Prasad, 2017). In contrast to the "cutting and pasting" in cross-case analysis in the positivist approach, the ontology underlying the interpretive approach rejects the notion that reality is fragmentable (Hudson and Ozanne, 1988). Instead, this phase begins the process of conceptualizing an "etic" interpretation that finds commonalities across lived experiences (Prasad, 2017). The storylines that emerge become the overarching themes, and this process

continues until a rich description of the text is constructed. Following convention (Arnould and Wallendorf, 1994), several rounds of thematic analysis are conducted to assess etic themes, and this "spiral" continues until the orienting frame-of-reference is contextualized (Osborne, 1991). The contextualized version of the orienting-frame-of-reference captures idiosyncratic meanings, reasons, and experiences to reveal complexities and clarify the obscure (Bauman, 1978) and is ultimately the contribution of the research.

4. Uses for the interpretive research approach in SCM
There are two emergent areas of research that are particularly well-suited to the interpretive approach: middle-range theorizing (Stank *et al.*, 2017; Frankel and Mollenkopf, 2015) and theory elaboration (e.g. Ketokivi and Choi, 2014), which are discussed in Sections 4.1 and 4.2, respectively. Additionally, while definitely not an exhaustive list of its potential application in future SCM research, existing and emerging domains for which the interpretive approach may be particularly insightful are discussed in Section 4.3.

4.1 Middle-range theorizing
Since the call for rigor in Mentzer and Kahn (1995), SCM has embraced the importance of theory to define, explain, and understand phenomena. At one extreme, there are general theories that are operationalized at a high level of abstraction and designed to apply to a wide range of phenomena and contexts (Hunt, 1983; Stank *et al.*, 2017). Many of the theories SCM has borrowed from other disciplines, such as management and marketing, fall into this category (Stank *et al.*, 2017; Stock, 1997). At the other extreme, there is idiographic knowledge that is highly specific and designed to apply to particular phenomena at a particular time and place (Hudson and Ozanne, 1988). Somewhere in between these two extremes is middle-range theory (MRT), which leverages the strengths of each to explain relationships and mechanisms within a particular domain (Merton, 1968; Pinder and Moore, 1979; Stank *et al.*, 2017). Middle-range theorizing facilitates the unification of theories into a coherent paradigm, which allows the field to progress through explanation and consolidation of domain-specific mechanisms.

Calls for MRT in SCM research have increased in recent years (e.g. Stank *et al.*, 2017; Frankel and Mollenkopf, 2015), as middle-range theorizing "allow[s] scholars in a maturing discipline to synthesize and apply the rich accumulation of empirical findings to current problems" (Stank *et al.*, 2017, p. 6). Despite its promise for increased relevance, however, middle-range theorizing has not yet become the norm. The lack of response to the calls for MRT may be due, in part, to the dominance of the positivist approach in SCM research. With this in mind, we posit that the interpretive approach can be used to complement extant positivist research, theorize at a level that is more nuanced, and ultimately allow future research to respond to these calls to develop domain-specific theories in SCM.

Explicit in many of the characteristic features of MRT (see Table III) is an emphasis on the particulars, such as assumptions and concepts that are "appropriate for the focal domain" or problems that are "specifically relevant" (Stank *et al.*, 2017). In interpretive research, it is the particulars of a phenomenon that are of primary importance (Hudson and Ozanne, 1988), and it is this epistemology that makes the interpretive research approach particularly suitable for middle-range theorizing. Whereas the positivist approach emphasizes law-like regularities, the interpretive approach emphasizes understanding of motives, meanings, reasons, and experiences that are time- and context-bound (Hudson and Ozanne, 1988). Given that MRT reconciles the general with the particulars of the focal domain, positivist and interpretive research approaches can be synergistic in its development. Thus, to illustrate its potential to contribute to the development of domain-specific theories in SCM, the inherent alignment between the interpretive approach and each of the characteristic features of middle-range theorizing is discussed next and summarized in Table III.

Characteristic feature	Alignment with the interpretive approach
Synthesize empirical findings that have emerged through research in a particular domain of knowledge	The orienting frame-of-reference focuses on a tension or juxtaposition between theories and/or empirical findings
Rely on a limited set of realistic assumptions appropriate for the focal domain	Emphasis on direct experience in the focal domain provides depth of insight regarding the assumptions that are realistic and appropriate
Define concepts in a manner that is specific to the focal domain	The phenomenon is preserved in context, which provides concepts built on meanings grounded in experience
Restrict theoretical propositions regarding the relationships among concepts to the focal domain	The axiology of empathetic understanding in context provides a foundation to develop deep understanding, rather than generalizations
Make predictions that are specifically relevant to resolving theoretical and practical problems within the focal domain	Empathetic understanding sensitizes the researcher to theoretical and practical problems present in the focal domain
Provide a basis for potential linkages to more general theories that could potentially extend into other domains	The bottom-up philosophy provides a basis for potential linkages to other domains by reconciling the particulars with existing supply chain models and practices

Source: Adapted from Stank *et al.* (2017), p. 7

Table III.
Characteristic features of MRT and alignment with the interpretive approach

First, in other disciplines such as marketing where the interpretive approach has been used more frequently (e.g. Flint *et al.*, 2014), the orienting frame-of-reference often focuses on a tension or juxtaposition between theories or extant empirical findings. The synthesis of empirical findings in the focal domain critical to the development of MRT is a natural first step in developing the orienting frame-of-reference for interpretive research. Second, the interpretive research approach emphasizes and creates opportunities to experience the focal domain directly (Ozanne and Murray, 1994), and the "level" of analysis for interpretive research is the cultural context. Given this focus, the interpretive approach can provide depth of insight regarding the assumptions that are realistic and appropriate for the focal domain. In particular, empathetic understanding of the cultural context illuminates potential opportunities and constraints that can affect the occurrence and meaning of behavior (Johns, 2006). Third, the foundational pillar of the interpretive approach is the hermeneutic circle, which maintains that the "parts" cannot be separated from the "whole" (Prasad, 2017). By preserving the phenomena in context, the interpretive approach can elaborate MRT by providing concepts built on meanings that are grounded in experience (Ozanne and Murray, 1994).

Fourth, while the axiology of interpretive research does not readily facilitate the statement of generalizations, it does facilitate generalization within the context (Hudson and Ozanne, 1988). Recognition of the value of understanding experience in context provides a foundation to develop a deep understanding of the phenomenon, including contextual factors that may be relevant to other decisions and behaviors. Fifth, the interpretive approach can sensitize the researcher to the theoretical and practical problems present in the focal domain. Indeed, as Stank *et al.* (2017) acknowledged, MRT must "incorporate contextual accuracy and detail in [its] formulation" (p. 8). Through empathetic understanding, the interpretive approach can shed light on how the context becomes self-relevant (Thompson, 1997) and its influences are interpreted, integrated, and negotiated to specific circumstances.

Finally, while the purpose is not generalizability, the "bottom-up" philosophy implicit in the interpretive approach provides a basis for potential linkages to other domains. By starting with understanding behavior in context (i.e. in the focal domain), the interpretive approach facilitates understanding of how managers interpret, react to, and influence their environments. The empathetic understanding foundational to interpretive research

facilitates the reconciliation of the particulars of the domain with existing supply chain models and practices to elaborate MRT. Indeed, the interpretive approach can be used to complement positivist research, and the combination provides immense opportunities for middle-range theorizing in SCM.

4.2 Theory elaboration

Implicit in interpretive research is a bottom-up approach to developing practices that acknowledge the particulars of a context. Given this focus on contextualized logic (Ketokivi and Choi, 2014), theory elaboration is one of the more obvious uses for the interpretive approach in future SCM research. While seemingly similar to MRT, the logic to be contextualized in theory elaboration reflects more general theories, whereas the logic in middle-range theorizing reflects the body of evidence from a particular focal domain (Stank *et al.*, 2017). With theory elaboration, the orienting frame-of-reference is a theory, but the empirical context may not be well-known or understood enough to hypothesize *a priori* (Ketokivi and Choi, 2014). Accordingly, theory elaboration aims to reconcile the general (i.e. a theory) with the particulars (i.e. cultural idiosyncrasies) to both refine and broaden existing frameworks (Ketokivi and Choi, 2014). Broadly speaking, refinement of theory through the interpretive approach allows for the incorporation of objectives, considerations, and constraints not explicitly present in positivist research.

In particular, the interpretive approach can be leveraged to contextualize the logic of a general theory by introducing new concepts, modifying the relationships between concepts, and/or identifying potential boundary conditions (Whetten, 1989; Ketokivi and Choi, 2014). First, the interpretive approach creates opportunities to experience the empirical context directly given the cooperative inquiry between researcher and subject (Wallendorf, 1987), which facilitates the introduction of concepts that are appropriate and grounded in experience. Second, the ontology underlying the interpretive approach posits that individuals actively create and interact with their external world (Hudson and Ozanne, 1988), which then allows the researcher to identify influences. By understanding the influences as they occur in the empirical context, the researcher can reevaluate the linkages posited by theory and refine them to match. Finally, the interpretive approach sheds light on how the context becomes self-relevant to individual actors (Thompson, 1997), which illuminates contextual idiosyncrasies that present opportunities and constraints for the predictions of a theory. Not all aspects of the empirical context are integrated or negotiated to the specific circumstances of an individual actor, so empathetic understanding can sensitize the researcher to potential boundary conditions.

4.3 Potential content areas for the interpretive approach in SCM

The purpose of this section is to highlight a few of the many content areas within SCM – both existing and emerging – for which the interpretive approach may be particularly insightful. While definitely not an exhaustive illustration of its potential for future research, the following discussion highlights its applicability to some of today's most pressing SCM challenges. In doing so, the discussion explicates how the interpretive approach can broaden the set of questions future research can address and increase the relevance of our research to practice.

4.3.1 Agriculture and the farm-to-fork supply chain. Retailers and manufacturers face increased pressure from consumers to provide more information about where the product came from, who produced it, how it was produced, and if the environment and society were treated appropriately (Parmigiani *et al.*, 2011; Wowak *et al.*, 2016). In light of consumers' concerns, governments have implemented increasingly stronger standards for transparency and traceability in the farm-to-fork supply chain. Many retailers and manufacturers have

been successful in coordinating with first- and second-tier suppliers (Skilton and Robinson, 2009; Wowak *et al.*, 2016). With the length and complexity of today's supply chains, however, retailers and manufacturers continue to struggle as they try to coordinate further upstream (Choi and Krause, 2006). In particular, the farm continues to be a challenge in delivering the farm-to-fork experience consumers and regulators demand.

This challenge has prompted attempts to adapt existing models and practices to the farm-level. However, such adaptations have major limitations because they were originally developed for organizations downstream and do not account for the individual and cultural complexities present in agriculture, which differ significantly from those traditionally considered. Despite discussions about rapid industrialization and the structural transformation occurring within the industry, agriculture is still overwhelmingly comprised of family businesses with 99 percent of farms classified as family farms and accounting for the vast majority – approximately 89 percent – of farm production in the United States (Hoppe *et al.*, 2016). Corporations, the organizational structure that many of the existing models and practices are based on, make up less than 1 percent of the sector.

While this discontinuity could be addressed using positivist qualitative approaches, such as case study analysis (Pullman and Dillard, 2010), the idiosyncrasies and general lack of knowledge of the farm context warrants the use of the interpretive approach to reveal more about the complexities (Gammelgaard and Flint, 2012). For example, the interpretive approach could build on extant research that illustrates the critical role culture plays in agriculture (Wu and Pullman, 2015) to investigate the idiosyncratic effects of culture on individual farmer behavior and how these effects create barriers in the farm-supply chain interface. Given its emphasis on understanding actors' experiences in context, the interpretive approach provides immense opportunities for future research to develop workable solutions and facilitate coordination in the farm-to-fork supply chain.

4.3.2 Motor carrier industry and truck drivers. "The trucking industry is the lifeblood of supply chains" (Miller *et al.*, 2017, p. 197). Despite the large body of the literature in this domain, however, idiosyncrasies of the motor carrier industry continue to create challenges in the implementation and performance of logistics operations and strategies. In particular, the high rate of truck driver turnover and safety performance of motor carriers continue to trouble managers, policymakers, and researchers (Miller, 2017). With this in mind, the interpretive approach could help to identify the particular cultural idiosyncrasies that are driving these challenges.

For example, consider *Pedal to the Metal*, an ethnography of trucking culture that explores how truck drivers react to and try to influence their environments (Ouellet, 1994). The use of ethnography, an interpretive approach, allows Ouellet (1994) to understand how the cultural context – including relevant histories, social customs, and political and economic institutions (Dilthey, 1976) – influences truck drivers' behavior. By creating opportunities to experience the context directly, the interpretive approach facilitates empathetic understanding of how particular values and norms influence perceptions and behaviors. Academics, managers, and policymakers alike could leverage this understanding to facilitate buy-in from truck drivers and help to ensure safe, informed action in the motor carrier industry.

4.3.3 Omnichannel retail and the consumer-based supply chain. The proliferation of omnichannel retail has brought the consumer into focus for both academia and practice, and there has been a shift toward more consumer-based SCM research (Esper and Peinkofer, 2017). The goal of this domain of contemporary research is to develop a deeper understanding of consumers because consumers are "critical active participants in supply chain execution" (Ta *et al.*, 2015, p. 134). While this could be – and has been – investigated using both positivist qualitative and quantitative approaches (e.g. Esper *et al.*, 2003; Rao *et al.*, 2011;

Peinkofer *et al.*, 2015), there are still areas within this domain that have been largely unexplored and may be better suited to the interpretive approach. In particular, the "consumer context" research area within this domain is a fruitful avenue for future interpretive research because it recognizes the importance of contextual idiosyncrasies in the implementation and performance of consumer-based SCM strategies (Esper and Peinkofer, 2017).

Recognition of the value of understanding consumers' experience in context warrants the use of the interpretive approach to shed light on the realties consumers face in today's retail landscape. Indeed, marketing scholars have illustrated the usefulness of the interpretive approach, as well as other non-positivist approaches, in understanding how aspects of the environment influence the perceptions, attitudes, and behaviors of consumers (Flint *et al.*, 2014). While many of these cognitive and intangible factors have been "assumed away" by the positivist approach, they have a fundamental influence on the success of SCM strategies, so it is critical to develop a more nuanced understanding of these factors. Accordingly, the interpretive approach could contribute to the elaboration of MRT in the consumer-based domain by providing guidance on the considerations and constraints that managers must be cognizant of as SCM strategies are developed and implemented. In doing so, potential boundary conditions could be identified, which would help to refine theory and respond to calls for more contingency-focused research (Esper and Peinkofer, 2017).

5. Conclusions and future research

Rather than "assuming away" or trying to eliminate the "constraints" posed by the particulars, the interpretive approach leverages these variations and contingencies to develop workable solutions and theorize at a level that is relevant for both research and practice. As "messy" as the particulars may be, they have significant implications for the performance of our research in academia and in practice. Indeed, the significance of the particulars illustrates the value of not confining our analysis to insights that are generalizable or quantifiable (Gammelgaard and Flint, 2012). Moreover, recognizing that our context does not have to be a context of something more general to be worth studying creates opportunities to make the benefits of our research more fully realizable (Bajde and Gopaldas, 2018). However, this expansion requires an openness to paradigms beyond the positivist approach that dominates SCM research and a willingness to work with this inherent messiness by fostering a culture of inquiry. A culture of inquiry and an openness to alternative ways of seeking knowledge will allow for the refinement of both theory and method in SCM.

One of the strengths of SCM research has always been "the combination of different methodological approaches and research designs" (Ketokivi and Choi, 2014, p. 233). However, to date, the different methodological approaches – even qualitative – that have been utilized are grounded in positivism, which dominates our field (Gammelgaard and Flint, 2012). From the first day of our doctoral programs, we are taught that "the method should match the research question." But, instead of allowing the research question to drive the method, we are predisposed to the "tool" of our choice (Davis-Sramek and Fugate, 2007), and this predominance is perpetuated by the fact that we are trained by faculty who have predispositions to particular tools (Dooley, 2009). To overcome this predominance, we provided a detailed illustration of the interpretive approach and its immense potential for future research.

The problems of our field have expanded without the concurrent expansion in methods to match the indefinite nature of today's SCM challenges (Fawcett and Waller, 2011). To address these challenges, SCM scholars should have a strong and robust interest in expanding the field's methodological toolbox. Expanding our methodological toolbox to

include the interpretive approach is an important first step to foster reflection on the nature of science and method in SCM. In this way, we hope to foster further creativity in our field by opening the door for additional philosophical perspectives to guide future research, such as realism, symbolic interactionism, constructivism, and relativism (Flint *et al.*, 2014). In doing so, we hope to expand the boundaries and impact of the field by broadening the set of questions our research can address.

References

Anderson, P.F. (1986), "On method in consumer research: a critical relativist perspective", *Journal of Consumer Research*, Vol. 13 No. 2, pp. 155-173.

Arnold, S.J. and Fischer, E. (1994), "Hermeneutics and consumer research", *Journal of Consumer Research*, Vol. 21 No. 1, pp. 55-70.

Arnould, E.J. and Wallendorf, M. (1994), "Market-oriented ethnography: interpretation building and marketing strategy formulation", *Journal of Marketing Research*, Vol. 31 No. 4, pp. 484-504.

Bagozzi, R.P. (1980), *Causal Models in Marketing*, Wiley, New York, NY.

Bajde, D. and Gopaldas, A. (2018), "What makes a good paper? Analytic and continental ideals in consumer culture theory", *Qualitative Market Research*.

Bauman, Z. (1978), *Hermeneutics and Social Science (Routledge Revivals): Approaches to Understanding*, Routledge, London.

Besiou, M. and Van Wassenhove, L.N. (2015), "Addressing the challenge of modeling for decision-making in socially responsible operations", *Production and Operations Management*, Vol. 24 No. 9, pp. 1390-1401.

Blumer, H. (1969), *Symbolic Interactionism: Perspective and Method*, Prentice-Hall, Englewood Cliffs, NJ.

Bredo, E. and Feinberg, W. (1982), *Knowledge and Values in Social and Educational Research*, Temple University Press, Philadelphia, PA.

Burrell, G. and Morgan, G. (1979), *Sociology Paradigm and Organizational Analysis: Elements of the Sociology of Corporate Life*, Routledge, Oxon, OX.

Choi, T.Y. and Krause, D.R. (2006), "The supply base and its complexity: implications for transaction costs, risks, responsiveness, and innovation", *Journal of Operations Management*, Vol. 24 No. 5, pp. 637-652.

Davis-Sramek, B. and Fugate, B.S. (2007), "State of logistics: a visionary perspective", *Journal of Business Logistics*, Vol. 28 No. 2, pp. 1-34.

Deck, C. and Smith, V. (2013), "Using laboratory experiments in logistics and supply chain research", *Journal of Business Logistics*, Vol. 34 No. 1, pp. 6-14.

Denzin, N.K. (1984), "Toward a phenomenology of domestic, family violence", *American Journal of Sociology*, Vol. 90 No. 3, pp. 483-513.

Dilthey, W. (1976), *Selected Writings*, Ed., Trans. and Introduced by Rickman, H.P.

Dooley, K.J. (2009), "The empiricism-modeling dichotomy in operations and supply chain management", *Journal of Supply Chain Management*, Vol. 45 No. 1, pp. 38-43.

Esper, T.L. and Peinkofer, S.T. (2017), "Consumer-based supply chain management performance research: a structured literature review", *Transportation Journal*, Vol. 56 No. 4, pp. 395-428.

Esper, T.L., Jensen, T.D., Turnipseed, F.L. and Burton, S. (2003), "The last mile: an examination of effects of online retail delivery strategies on consumers", *Journal of Business Logistics*, Vol. 24 No. 2, pp. 177-201.

Fawcett, S.E. and Waller, M.A. (2011), "Moving the needle: making a contribution when the easy questions have been answered", *Journal of Business Logistics*, Vol. 32 No. 4, pp. 291-295.

Flint, D.J., Hoyt, C. and Swift, N. (2014), *Shopper Marketing: Profiting from the Place where Suppliers, Brand Manufacturers, and Retailers Connect*, Pearson Education, Upper Saddle River, NJ.

Fournier, S. (1998), "Consumers and their brands: developing relationship theory in consumer research", *Journal of Consumer Research*, Vol. 24 No. 4, pp. 343-373.

Frankel, R. and Mollenkopf, D.A. (2015), "Cross-functional integration revisited: exploring the conceptual elephant", *Journal of Business Logistics*, Vol. 36 No. 1, pp. 18-24.

Gadamer, H.G. (1960), *Truth and Method*, Seabury, New York, NY.

Gammelgaard, B. (2017), "The qualitative case study", *International Journal of Logistics Management*, Vol. 28 No. 4, pp. 910-913.

Gammelgaard, B. and Flint, D. (2012), "Qualitative research in logistics and supply chain management: beyond the justification for using qualitative methods", *International Journal of Physical Distribution & Logistics Management*, Vol. 42 Nos 8/9, pp. 721-725.

Geertz, C. (1973), *Interpretation of Cultures*, Basic Books, New York, NY.

Glaser, B. and Strauss, A.L. (1967), *The Discovery of Grounded Theory: Strategies for Qualitative Research*, Aldine, Chicago, IL.

Goldsby, T.J. and Zinn, W. (2016), "Technology innovation and new business models: can logistics and supply chain research accelerate the evolution?", *Journal of Business Logistics*, Vol. 37 No. 2, pp. 80-81.

Heidegger, M. (1962), *Being and Time*, SCM Press, London.

Hirsch, E.D. (1967), *Validity in Interpretation*, Yale University Press, New Haven, CT.

Hoppe, R. and MacDonald, J.M., United States Department of Agriculture, Economic Research Service (2016), "America's Diverse Family Farms, 2016 Edition", United States Department of Agriculture, Economic Research Service, Washington, DC.

Hudson, L.A. and Ozanne, J.L. (1988), "Alternative ways of seeking knowledge in consumer research", *Journal of Consumer Research*, Vol. 4 No. 1, pp. 508-521.

Hunt, S.D. (1983), *Marketing Theory: The Philosophy of Marketing Science*, Irwin, Homewood, IL.

Johns, G. (2006), "The essential impact of context on organizational behavior", *The Academy of Management Review*, Vol. 31 No. 2, pp. 386-408.

Keat, R. and Urry, J. (1975), *Social Theory as Science (Routledge Revivals)*, Routledge, London.

Ketokivi, M. and Choi, T. (2014), "Renaissance of case research as a scientific method", *Journal of Operations Management*, Vol. 32 No. 5, pp. 232-240.

Lakoff, G. and Johnson, M. (1980), *Metaphors We Live By*, University of Chicago Press, Chicago, IL.

Lincoln, Y.S. and Guba, E.G. (1985), *Naturalistic Inquiry*, Sage, Newbury Park, CA.

Mello, J. and Flint, D.J. (2009), "A refined view of grounded theory and its application to logistics research", *Journal of Business Logistics*, Vol. 30 No. 1, pp. 107-125.

Mentzer, J.T. and Kahn, K.B. (1995), "A framework of logistics research", *Journal of Business Logistics*, Vol. 16 No. 1, pp. 231-250.

Merton, R.K. (1968), *Social Theory and Social Structure*, Simon & Schuster, New York, NY.

Miller, J.W. (2017), "A multivariate time-series examination of motor carrier safety behaviors", *Journal of Business Logistics*, Vol. 38 No. 4, pp. 266-289.

Miller, J.W., Golicic, S.L. and Fugate, B.S. (2017), "Developing and testing a dynamic theory of motor carrier safety", *Journal of Business Logistics*, Vol. 38 No. 2, pp. 96-114.

Morgan, G. and Smircich, L. (1980), "The case for qualitative research", *Academy of Management Review*, Vol. 5 No. 4, pp. 491-500.

Murray, J. (2002), "The politics of consumption: a re-inquiry on Thompson and Haytko's (1997) 'speaking of fashion'", *Journal of Consumer Research*, Vol. 29 No. 3, pp. 427-440.

Osborne, G.R. (1991), *The Hermeneutical Spiral: A Comprehensive Introduction to Biblical Interpretation*, InterVarsity Press, Downers Grove, IL.

Ouellet, L. (1994), *Pedal to the Metal: The Work Life of Truckers*, Temple University Press, Philadelphia, PA.

Ozanne, J.L. and Murray, J.B. (1994), "An experiential approach for developing conceptual skills in marketing doctoral students", *Marketing Education Review*, Vol. 4 No. 3, pp. 28-33.

Pagell, M. and Wu, Z. (2009), "Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars", *Journal of Supply Chain Management*, Vol. 45 No. 2, pp. 37-56.

Parmigiani, A., Klassen, R.D. and Russo, M.V. (2011), "Efficiency meets accountability: performance implications of supply chain configuration, control, and capabilities", *Journal of Operations Management*, Vol. 29 No. 3, pp. 212-223.

Peinkofer, S.T., Esper, T.L., Smith, R.J. and Williams, B.D. (2015), "Assessing the impact of price promotions on consumer response to online stockouts", *Journal of Business Logistics*, Vol. 36 No. 3, pp. 260-272.

Pinder, C.C. and Moore, L.F. (1979), "The resurrection of taxonomy to aid the development of middle range theories of organizational behavior", *Administrative Science Quarterly*, Vol. 24 No. 1, pp. 99-118.

Prasad, P. (2017), *Crafting Qualitative Research: Beyond Positivist Traditions*, Routledge, New York, NY.

Pratt, M.G. (2008), "Fitting oval pegs into round holes: tensions in evaluating and publishing qualitative research in top-tier North American journals", *Organizational Research Methods*, Vol. 11 No. 3, pp. 481-509.

Pullman, M.E. and Dillard, J. (2010), "Values based supply chain management and emergent organizational structures", *International Journal of Operations & Production Management*, Vol. 30 No. 7, pp. 744-771.

Rao, S., Griffis, S.E. and Goldsby, T.J. (2011), "Failure to deliver? Linking online order fulfillment glitches with future purchase behavior", *Journal of Operations Management*, Vol. 29 Nos 7/8, pp. 692-703.

Rubinstein, D. (1981), *Marx and Wittgenstein: Social Praxis and Social Explanation*, Routledge, Oxon, OX.

Sanders, N.R. and Wagner, S.M. (2011), "Multidisciplinary and multimethod research for addressing contemporary supply chain challenges", *Journal of Business Logistics*, Vol. 32 No. 4, pp. 317-323.

Skilton, P.F. and Robinson, J.L. (2009), "Traceability and normal accident theory: how does supply network complexity influence the traceability of adverse events?", *Journal of Supply Chain Management*, Vol. 45 No. 3, pp. 40-53.

Stank, T.P., Pellathy, D.A., In, J., Mollenkopf, D.A. and Bell, J.E. (2017), "New frontiers in logistics research: theorizing at the middle range", *Journal of Business Logistics*, Vol. 38 No. 1, pp. 6-17.

Stern, B.B. (1995), "Consumer myths: Frye's taxonomy and the structural analysis of consumption text", *Journal of Consumer Research*, Vol. 22 No. 2, pp. 165-185.

Stock, J.R. (1997), "Applying theories from other disciplines to logistics", *International Journal of Physical Distribution & Logistics Management*, Vol. 27 Nos 9/10, pp. 515-539.

Ta, H., Esper, T. and Hofer, A.R. (2015), "Business-to-consumer (B2C) collaboration: rethinking the role of consumers in supply chain management", *Journal of Business Logistics*, Vol. 36 No. 1, pp. 133-134.

Thompson, C.J. (1997), "Interpreting consumers: a hermeneutical framework for deriving marketing insights from the texts of consumers' consumption stories", *Journal of Marketing Research*, Vol. 34 No. 4, pp. 438-455.

Thompson, C.J. and Haytko, D.L. (1997), "Speaking of fashion: consumers' uses of fashion discourses and the appropriation of countervailing cultural meanings", *Journal of Consumer Research*, Vol. 24 No. 1, pp. 15-42.

Thompson, C.J., Locander, W.B. and Pollio, H.R. (1989), "Putting consumer experience back into consumer research: the philosophy and method of existential-phenomenology", *Journal of Consumer Research*, Vol. 16 No. 2, pp. 133-146.

Wallendorf, M. (1987), "On the road again: the nature of qualitative research on the consumer behavior odyssey", in Wallendorf, M. and Anderson, P. (Eds), *Advances in Consumer Research,* Vol. 14, Assocation for Consumer Research, Provo, UT, pp. 374-375.

Whetten, D.A. (1989), "What constitutes a theoretical contribution?", *Academy of Management Review*, Vol. 14 No. 4, pp. 490-495.

Wilson, H.S. and Hutchinson, S.A. (1991), "Triangulation of qualitative methods: Heideggerian hermeneutics and grounded theory", *Qualitative Health Research*, Vol. 1 No. 2, pp. 263-276.

Wimpenny, P. and Gass, J. (2000), "Interviewing in phenomenology and grounded theory: is there a difference?", *Journal of Advanced Nursing*, Vol. 31 No. 6, pp. 1485-1492.

Wowak, K.D., Craighead, C.W. and Ketchen, D.J. (2016), "Tracing bad products in supply chains: the roles of temporality, supply chain permeation, and product information ambiguity", *Journal of Business Logistics*, Vol. 37 No. 2, pp. 132-151.

Wu, Z. and Pullman, M. (2015), "Cultural embeddedness in supply networks", *Journal of Operations Management*, Vol. 32, pp. 45-58.

Further reading

Ellram, L.M. (1991), "Supply-chain management: the industrial organization perspective", *International Journal of Physical Distribution & Logistics Management*, Vol. 21 No. 1, pp. 13-22.

Ellram, L.M. and Cooper, M.C. (1990), "Supply chain management, partnership, and the shipper-third party relationship", *The International Journal of Logistics Management*, Vol. 1 No. 2, pp. 1-10.

Ellram, L.M. and Cooper, M.C. (2014), "Supply chain management: it's all about the journey, not the destination", *Journal of Supply Chain Management*, Vol. 50 No. 1, pp. 8-20.

Lambert, D.M. (1992), "Developing a customer-focused logistics strategy", *International Journal of Physical Distribution & Logistics Management*, Vol. 22 No. 6, pp. 12-19.

Lee, H.L. and Billington, C. (1992), "Managing supply chain inventory: pitfalls and opportunities", *Sloan Management Review*, Vol. 33 No. 3, pp. 65-73.

McKinnon, A.C. (1990), "Electronic data interchange in the retail supply chain: the distribution contractor's role", *International Journal of Retail & Distribution Management*, Vol. 18 No. 2.

Oliver, R.K. and Webber, M.D. (1982), "Supply-chain management: logistics catches up with strategy", *Outlook*, Vol. 5 No. 1, pp. 42-47.

Zinn, W. and Goldsby, T.J. (2017), "Ensuring impact: thought leadership in logistics and supply chain research", *Journal of Business Logistics*, Vol. 38 No. 2, pp. 78-79.

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