

TRIANGULATION IN INDUSTRIAL QUALITATIVE CASE STUDY RESEARCH: WIDENING THE SCOPE

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Abstract

The particular qualities of case study research have enabled the advancement of theory in industrial marketing research through revealing rich insight into context-specific phenomena. Triangulation is recommended as good practice in conducting case study research and is traditionally envisaged as offering validity through convergence of findings, sources or methods. Is this, however, the only interpretation of triangulation and in what way is it consistent with case study research that is often concerned with naturalistic settings and nuanced interpretations? The purpose of this study is to delve into the role of triangulation in qualitative case study research in order to re-appraise its role. The study offers firstly, an inventory of triangulation categories for case study research in industrial marketing and secondly, a theoretical reframing of triangulation consisting of three modes - convergence, complementarity and divergence. Both the inventory and the reframing are discussed with reference to illustrations of published case studies, thus extending current understanding of research practice in industrial marketing.

Key words:

qualitative case study research; triangulation; convergence; complementarity; divergence.

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conceptual and methodological paper

1. Introduction

Case study research is a form of empirical inquiry that investigates a contemporary phenomenon in-depth and within a real-life context (Yin, 2018), through circumscribing the area of study to a single or to a small number of units (Creswell, 2007; Miles and Huberman, 1994; Swanborn, 2010; Yin, 2018). Although case study research is frequently envisaged and practised as a type or strategy of qualitative enquiry (Creswell, 2007; Dubois & Gadde, 2014; Miles & Huberman, 1994), it does not belong to any particular research tradition (Easton, 1995; Ragin 1992; Stake, 1995). Its holistic focus (Easton, 2010; Verschuren, 2003) enables it to look at a few strategically chosen cases in naturalistic settings (Piekkari et al. 2009), enabling researchers to learn about organizations at first hand (Daft, 1983) and to ground their investigations in managerial situations (Varadarajan, 2003). The empirical element of case study research consists of real-world data, characteristically derived from multiple sources (Cresswell, 2007). These data may be qualitative, quantitative or both (Piekkari et al. 2010), come from primary (for example Windler et al. 2017) and/or secondary data (Harrison et al. 2018), collected across multiple time periods (Woodside & Wilson, 2003), separate independent research studies (for example, Kowalkowski et al. 2015; Storbacka et al. 2013) or, possibly, from different research strategies (Scandura & Williams, 2000). Case study research can be inductive, deductive or abductive and so can build theory (Eisenhardt, 1989), test theory (Johnston et al. 1999) or refine theory (Dubois & Gadde, 2002) but, overall, its aim is to investigate a phenomenon within context in order to gain a nuanced view from multiple perspectives (Flyvbjerg, 2006; Woodside & Wilson, 2003). These characteristics offer significant benefits to industrial marketing researchers, who grapple with a range of problems, as illustrated in recent publications in *Industrial Marketing Management*, such as Beverland (2018), Lindström and Polsa, (2016), Töytäri et al. (2015) and Tanskanen and Aminoff (2015). An investigation of case study research in industrial

marketing research is therefore likely to yield fertile ground for enquiry as well as appealing to a particular audience. Nevertheless, the discussion offers novel propositions about triangulation that are not confined to industrial or business-to-business marketing and indeed that may feature as a valuable focus of a subsequent future endeavour in the conclusions.

Discussions about rigour or quality in case study research (see, for example, Dubé & Paré, 2003; Gibbert & Ruigrok, 2010; Piekkari et al. 2009) recommend triangulation as good practice (Beverland & Lindgreen, 2010; Eisenhardt, 1989; Johnstone et al. 1999; Piekkari et al. 2010; Stake, 1994). Triangulation, originally a geometric technique for establishing location, is viewed in social sciences as a metaphor for research processes that employ different methods, theories or data sources that enable the capture of the phenomenon under study (Bilandzic, 2008, Wolfram Cox & Hassard, 2005). Triangulation, through this form of capture or corroboration, has long been asserted as a means of achieving a degree of validity or confidence in the findings of the study (Eisenhardt, 1989; Yin, 2018). However, in industrial marketing, case study research frequently consists of qualitative data (Dubois & Gadde, 2014) where authors aim to capture complexity (Möller & Parvinen, 2015) by studying the phenomenon within context (Flyvbjerg, 2006; Woodside & Wilson, 2003). Given these characteristics of case study research, is the corroboration of findings consistent with this style of enquiry and for advancing theory in industrial marketing? This question prompts this re-appraisal of triangulation with the purpose of this study being an investigation into how it supports research that focuses on in-depth, complex and within-context questions. Case study research, moreover, has a somewhat undefined philosophical stance (Easton, 2010), so to offer an epistemological basis for this study, a constructivist stance is adopted, which is aligned with the descriptions of case study research that appear above.

The structure of this paper is as follows: first, an overview of triangulation in case study research and in industrial marketing; secondly, by a discussion of how triangulation might be re-framed in industrial marketing case study research and concluding with the contributions of the study, areas for further research, limitations and implications for practice.

2. Triangulation in case study research

Case study research features significantly in industrial marketing research so it seems a very fitting area to re-visit triangulation. The scenario for this study is set out with ten case study research papers published in industrial marketing journals as illustrations in Table 1. These papers do not form in any way a formally constituted selection or sample, they merely act as illustrations that support the discussion. Although the epistemological basis, for case study research rarely features in published papers (Gibbert et al. 2008) to achieve the aim of this study, a consideration of epistemological foundations is important (see section 2). The column on triangulation category has been developed and subsequently extended from Denzin's (1978) categories (see Table 2). Triangulation mode emerges from the discussion around reframing triangulation (see section 3). Table 1 will be referred to throughout the paper as a means of providing practical examples of industrial marketing case studies that illuminate the study's key points.

Table 1 *Industrial marketing examples of triangulation in qualitative case study research*

Authors (year)	Philosophical position	Triangulation category and mode	Evidence of triangulation	Description
Aarikka-Stenroos et al (2017)	Assumed social constructivism. Study focuses on interests, goals, perceptions and influence of interviewees on innovation.	Data/source, unit and researcher Convergence	Data includes interviews, media data, ethnographical observations and minutes from meetings. Cases represent polar types of innovation. Analysis conducted by different researchers with different experience of the phenomena being studied.	Two comparative and longitudinal case studies. Examines the management of the full innovation process, from visioning to commercialization, in extensive networks.
Gonçalves et al. (2019)	Assumed post-positivism. Authors seek to validate presence of institutional logics, assumed to exist theoretically and then identify additional logics.	Iterative Complementarity	Multiple theories guide the interpretation of findings. Study validates presence of institutional logics based on theory and identifies additional logics by ecosystem level. Systematically compares literature, data and cases.	Uses ecosystem to examine how institutional logics shape the action of embedded individuals in business interactions. 12 cases. Multiple data from interviews, observation and documentation. Actors interviewed at different levels of ecosystem.
Ito (2018)	Assumed social constructivism as views of individuals shaped research including author self-interview and observation but there is mention of internal validity.	Data/source and unit (multiple cases). Convergence (internal validity)	Multiple data sources including interviews, secondary data and for one case, self-interview and observation. Points to common characteristics across cases but without specific reference to unit triangulation.	Longitudinal study of 6 cases (5 within one brand). Focus on the effect of the endorsement of new business projects by external firms, organizations, and individuals.
Ivens et al. (2016)	Assumed post-positivist, based on terms such as, 'antecedent variables'.	Methodological (within) Convergence	Mixed methods from multiple and different sources (written documents, company reports, strategy papers, internal newsletters and internal documents from the KAM teams) plus 35 interviews -all qualitative.	Single case study of large industrial company, exploring key account management (KAM) activities in interaction with the firm-internal network.

Järvinen & Taiminen (2016).	Assumed social constructivism as study offers rich description of the case and advances theoretical understanding of this new phenomenon.	Data source and researcher. Convergence	Multiple data sources i.e., interviews and researcher familiarity with content platform.	Single exploratory and extreme case study. Investigates organizational processes for developing content to meet customer needs integrating content marketing with B2B selling processes.
Karjaluoto et al. (2015).	Assumed post-positivist. Refers to 'construct validity'. Also refers to process in which interpretations were evaluated by case firms.	Data/source. Also uses multiple cases (unit triangulation?) Convergence/ complementarity	Data from interviews, observations and secondary sources. Described as a 'quality' procedure. Data triangulation stated as being used to 'increase the construct validity of the study'.	Multiple case studies on digital marketing communications (DMC) regarded as an 'ensemble' (unit triangulation). Engage in process very similar to complementary mode of triangulation although aim is construct validity.
Lopes de Sousa Jabbour et al. (2017)	Assumed post-positivism. Survey used to confirm study hypotheses. Case studies provided more 'thorough understanding' of the survey results.	Strategic and/or methodological Complementarity	Uses a quantitative-qualitative approach for methodological triangulation combining a survey and multiple qualitative case studies.	Multi method to study the external green supply chain practices of large companies and the effect on environmental performance.
Lundgren-Henriksson & Kock (2016)	Stated interpretivist.	Perceptual and data/source Complementarity	Data from multiple level actors across 3 organisations, providing nuanced picture. Finds strategy was talked about in different ways. Multiple sources - observation and retrospective data through interview. Overlap identified in multiple, contrasting discourses and meanings within discourse.	Single case exploring how co-opetition is constructed using sensemaking.

Pattinson et al. (2018)	Stated interpretive approach’.	Reflexive Complementarity	Uses the complementary processes of immersion and crystallization to ensure reflexivity in both the collection and analysis of data. Data collection involved 16 interviews and document analysis.	Multiple case studies to explore the emergence of coepetitive sensemaking within SMEs.
Windler et al. (2017)	Assumed constructivist stance as uses an interactive research approach whereby concepts, ideas and findings are tested with different target groups.	Strategic or methodological Convergence	Uses different research strategies in two separate data collection phases involving 1. Interviews; and 2. case studies comprising a workshop and interviews. Informants differed in each.	Seeks to develop and apply a methodology for identifying, assessing and segmenting customers for business solutions. Case studies were longitudinal.

Discussion of what constitutes good case study research is extensive in the literature and in industrial marketing research. Yin's (2018) criteria include steps in order to claim validity (internal and external), reliability and generalisability and are all aligned with positivist research. As illustrated in Table 1, validity in case study research continues to be a feature when arguing for the quality of a study even within what appears to be a constructivist or interpretivist study. Whether the recommendations are based on distillations of experience (Eisenhardt 1989; Yin 2018), analyses of publications (Beverland & Lindgreen, 2010; Piekkari, Welch & Paavilainen, 2009), or both, triangulation is consistently advised (for example, Beverland & Lindgreen, 2010; Dubé & Paré, 2003; Eisenhardt & Graebner, 2007; Gibbert & Ruigrok, 2010). Of particular interest to this study, are analyses of case studies in industrial marketing research, where the method appears particularly prevalent. Beverland and Lindgreen (2010), for example, offer three measures for improving case study quality: access to raw data, explanation of negative cases and evidence of data triangulation. Similarly, Piekkari, Plakoyiannaki and Welch (2010) find that best practice in case study research is characterised by multiple data sources, linkages between research effort and theory and the application of triangulation techniques. These steps are followed in the studies by Ivens et al. (2016) and Windler et al. (2017) as illustrated and described in Table 1. According to Woodside (2010), researchers should also triangulate across research methods, going beyond common techniques such as interviews and observations to gain accuracy, although whether accuracy is the goal of case study researchers is a moot point. In spite of the tendentiousness of this statement, there is consensus that in the industrial marketing case study research (as shown in the illustrations in Table 1), triangulation forms an important element. The comment about accuracy does however suggest that further enquiry may indicate ways in which current triangulation practice may be extended, in particular how the epistemological diversity of qualitative case study research in industrial marketing, as

illustrated in Table 1, offers the potential for widening the scope of triangulation. In order to appreciate the role of triangulation in case study research, it is first worth revisiting its foundations.

2.1 Foundations of triangulation

The original purpose of triangulation was to establish the distance between any two points or the relative position of two or more points by using such measures as vertices of a triangle or series of triangles (dictionary.com). With its absorption into social sciences, triangulation serves as a metaphor for research that employs different methods, theories or data sources, as a means of capturing social reality in a comprehensive manner (Bilandzic, 2008). A seminal contribution to triangulation was the work on multi-trait multi-method known as MTMM, which stated that multiple, independent measures of the same trait correlate more highly with each other than they do with measures of different traits involving separate methods (Campbell & Fiske, 1959). This notion of corroboration or convergence has underpinned much of the thinking behind triangulation, where it is argued that it contributes to internal and external validity (Jick, 1979; Decrop, 2004) and indicates that the conclusions of the study are not associated with sources of invalidity, characteristic of any given method (Davis et al. 2011; Scandura & Williams, 2000). As a result of this thinking, triangulation became a generally accepted means of providing research studies, whether qualitative, quantitative or mixed-methods, with a degree of validity (Bryman, 2006; Flick, 1992; Jick, 1979).

2.2 Triangulation in case study research

According to the contributors to good practice in case study research, triangulation can address both validity (Beverland & Lockshin, 2003; Yin, 2018) and reliability (Jick, 1997; Miles & Huberman, 1994). The contention according to Yin (2018) is that triangulating measures from different sources strengthens the validity of a study through countering bias that may arise from single measures and so contributes to establishing ‘facts’. This vein

continues with claims about how triangulation may support construct validity by triangulating the number of data sources (Beverland & Lockshin, 2003; Dubois & Gibbert, 2010), how it supports internal validity (Dubé & Paré, 2003) and convergent validity (Jick, 1979). Broadly speaking, the role of triangulation is understood as a means of corroboration through the convergence of sources, interpretations or even perceptions, thus checking the study's validity (Hammersley, 2008), ensuring a version of the truth (Guenzi & Storbacka, 2015; Järvensivu & Törnroos, 2010) or verifying the repeatability of an observation/interpretation (Stake, 2005). A recent example of triangulation used in this way, features in the study by Aarikka-Stenroos et al. (2017), where the authors report convergence of data and researcher interpretation (see Table 1). Such a view of triangulation for case study research follows a positivist or post-positivist view that is consistent with a single objective reality that centres on converging findings (Wolfram Cox & Hassard, 2010) or even accuracy (Woodside, 2010) or facts (Yin, 2018), signifying that the thrust of triangulation in case study research remains one of convergence (Eisenhardt, 1989; Beverland & Lindgreen, 2010).

Before venturing further into triangulation, clarification about exactly what is being triangulated is useful. Denzin's (1978) original four categories of triangulation: data, method, researcher and theory have been extended. Decrop (2004), for example, proposed informant, multi-level, longitudinal and interdisciplinary categories and Marschan-Piekkari et al. (2004) have added unit triangulation. Table 2 has been developed from the literature to present an inventory of eleven categories of triangulation deemed appropriate for qualitative case study research in industrial marketing. Examples have been drawn from industrial marketing and other disciplines.

Table 2 *Inventory of triangulation categories for qualitative case study research in industrial marketing*

Category	Application in qualitative case study research	Example
Data or source	Collect similar data types or sources e.g. interviews from different informants; variations in time (longitudinal), situations, levels of expertise, informant perspectives to deepen and strengthen research. In line with recommendations for multiple data sources	Authors mix primary and secondary data sources that were collected over a period of time to enhance analysis (Aarikka-Stenroos et al. 2017).
Investigator/researcher	Two or more researchers involved in gathering, analysing and interpreting data. May also involve external peer review of codes, inferences, conclusions. Could be extended to decision-making to strengthen whole research design.	Reliability enhanced through one researcher agreeing analysis with other (Järvinen & Taiminen, 2016), see Table 1.
Theoretical or interdisciplinary	Use more than one theoretical or disciplinary perspective in the interpretation of findings to facilitate theory-building or theory extension. Vibrant discussion in accounting literature.	Kushner & Morrow (2003) triangulate grounded theory, feminist theory, critical theory to yield methodological advancement.
Meta-triangulation or scientific philosophies	Builds on previous triangulation category where researchers use multi-paradigmatic or inter-paradigmatic approaches to building rich, contextualised and multidimensional theories. Might raise questions of incommensurability (see also between methods)	Jasperson et al. (2002) conduct review in which relationships between power and information technology impacts, development or deployment and management are triangulated.
Unit/project	Conventionally refers to use of two or more cases to replicate or converge findings across the cases. Scope however for findings that are complementary or even divergent inherent in multiple case study research. May also include existing case studies or projects ¹ .	Ito (2018) uses multiple cases (see Table 1). Kowalkowski et al. (2016) and Storbacka et al. (2013) bring together existing independent studies or projects in fresh research.

¹ We would like to thank the reviewers for this suggestion.

Perceptual	Views of actors at multiple levels or in diverse contexts, unlocking emic meanings. Consistent with findings not converging, instead seeking nuance.	Comparison of data from multiple informants, leading to follow-up interviews for clarification (Hallinger & Truong, 2016).
Reflexive	Relating not combining different kinds of data to counteract threats to validity initially. Scope however for increased role of researchers in unlocking deeper insight through engagement with data/informants. Importance of researcher's self-awareness in research process.	Pattinson et al. 2018 (see Table 1) attempt reflexivity through processes of immersion and crystallization.
Iterative	Employing systematic iterations between literature, case evidence (existing) and intuition, such as abductive reasoning.	Systematic comparison of the cases, data and the literature (Gonçalves et al. 2019).
Methodological or data type	Within-method (varieties of same method) used in study e.g. interviews and documents.	Ivens et al. (2016) report use range of qualitative data sources (primary and secondary) as an instance of within method triangulation.
	Between method (different methods) e.g. focus group and survey data	
Strategic (research)	Using multiple research strategies, e.g. observation, interviews, surveys to gain a holistic perspective or a version of truth.	Jack & Raturi (2006) report on 3 related investigations - case studies, survey and financial performance data.
Indefinite	Where actors in a situation give different accounts of a particular event with little attempt to reconcile these accounts. Important departure from triangulation as convergence.	No specific example found

Categories compiled from Bechara & Van de Ven (2011); Bonoma (1985); Bryman (n.d.); Denzin (1978); Decrop (2004); Downward & Mearman (2007); Dubois & Gadde (2014); Erzburger & Prein (1997); Flick (1992); Gibbert & Ruigrok (2010); Hammersley & Atkinson (1983); Hammersley, 2008; Jick (1979); Lewis (1998); Lewis & Grimes (1999); Marschan-Piekkari et al. (2004); Miles & Huberman (1994); Modell (2010); Olsen (2004); Patton (1989); Scandura & Williams (2000).

The following paragraphs briefly expand these categories with examples where they are found, beginning with the first category in the table – **data or source** triangulation. In qualitative case study research, this category would use qualitative data generated from a variety of sources, such as interviews from different informants, at different times or observation of different situations or contexts (Patton, 1989). The assumption is that having several data sources, varied by time, place or some other variable, the study acquires a degree of convergent validity (Jick, 1979) or enhanced confidence (Bryman, n.d.). For example, Aarikka-Stenroos et al. (2017) mix primary and secondary data sources that were collected over a period of time to enhance their analysis. The second category is **researcher** triangulation, where two or more researchers engage in the interpretation of evidence, conventionally to arrive at agreement (for example, Voss et al. 2002). There may be some parallels between this triangulation category and inter-coder reliability where the aim is to achieve a degree of consistency between coders (Miles & Huberman, 1994). An analysis of published mixed methods studies found that descriptions and applications of researcher triangulation were inconsistent, lacked detailed reporting, revealed incongruence between procedures and associated claims, however this research was limited to single-strand data analysis to reduce researcher bias (Archibald, 2016). According to the literature, researcher triangulation seems largely to be focused on the elimination of bias rather than enriched interpretations that some case study researchers might seek. Although, an example of an enriched style of researcher triangulation is illustrated by Järvinen and Taiminen (2016), who as well as gathering primary data through interviews and secondary data from the digital content of the case firm, independently review the raw data.

The third category of triangulation is **theoretical** where, it is contended greater insight may be gained from looking at a data set from a number of theoretical perspectives (Decrop, 1999;

Downward & Mearman, 2007; Hoque et al. 2013) or, as Jick (1979) opined, triangulation may serve as a critical test for competing theories. Denzin (1978) outlines a three-step process for theoretical triangulation which consists of a) defining theoretical perspectives to be used b) data analysis using each theoretical lens and c) theory-building to account for the differing interpretations. He concludes that for theoretical triangulation to be a success, the researcher needs to have a sensitivity to fresh theoretical insights. His rather structured approach may not suit all researchers but the overall aim of being alert to theoretical pluralism, as argued by Hoque, Covaleski, and Gooneratne (2013) in their investigation into management accounting, may be a suitable fit with case study research. Building on theoretical triangulation is **metatriangulation** (Lewis & Grimes, 1999). Here, researchers apply multiple paradigms as a means of exploring '*disparity and interplay and thereby arrive at an enlarged and enlightened understanding of the phenomena of interest*' (Lewis & Grimes, 1999 p. 676). By adopting multiple lenses, representations may become two or even three dimensional to enable higher levels of abstraction (Wolfram Cox & Hassard, 2005). Furthermore, triangulating alternative philosophies of science can provide a richer and more holistic understanding of complex managerial problems (Bechara & Van de Ven, 2011), such as those encountered in industrial scenarios. This particular category of triangulation illustrates just how far it has travelled from its measurement origins and, unsurprisingly, entails some warnings. Bringing multiple paradigms to bear in the investigation of a phenomenon may to some extent preserve its integrity but researchers need to be aware of the potential transition zones between paradigms (Modell, 2015). Equally, it is asserted that the concept of incommensurability is restrictive and inhibits the exchange and discussion of research from studies in other paradigmatic camps (Davies & Fitchett, 2005). There appears to be no official cease fire to 'paradigm wars' of incommensurability but triangulating

multiple theoretical lens in case study research is once again aligned with its purpose of unlocking ‘emic insights’ (Sinkovics et al. 2008).

Unit triangulation refers to the process of evaluating the various units of analysis in the research (Marschan-Piekkari et al. 2004) and appears similar to cross case analysis (Miles & Huberman, 1994). This particular triangulation category has strong links with sampling or selection in case study research, where cases or units of analysis are chosen on the basis of their likelihood of being able to generate new theory (Eisenhardt & Graebner, 2007). The choice of single and multiple cases or units in case study research is hotly debated (see Dubois & Araujo, 2007; Dubois & Gadde, 2014; Eisenhardt & Graebner, 2007) and involves questions of replication (Yin, 2018), theoretical sampling (Eisenhardt & Graebner, 2007) or saturation (Hoque et al. 2013). The success of unit triangulation thus rests on robust selection processes rather than any criteria of generalising to a population (Järvensivu & Törnroos, 2010). As shown in Table 1, Ito (2018) triangulates the multiple units in his case study in line with suggestions by Marschan-Piekkari et al. (2004) but rather seems not to press home some of the obvious benefits of the multiple cases. Instead the author presents each case separately, only comparing the data across the cases in a summary table. Whereas, Karjaluoto, Mustonen & Ulkuniemi, (2015) regard their cases as an ‘ensemble’ that represents the diversity in the selection. Other researchers have brought together a number of previously unlinked research projects to progress research, for example, Kowalkowski et al. (2015) bring together five independent research projects to identify service growth strategies. This approach adds a new and interesting dimension to selection in case study research.

The four following categories of triangulation offer some alternatives to assumptions of convergence through a recognition of the value of differing views and perceptions, although

surprisingly retaining references to validity. **Perceptual** triangulation, for example refers to knowledge generated through multiple data sources and how this knowledge is framed by the perceptions of actors (Bonoma, 1985). Lundgren-Henriksson and Kock (2016) appear to use a form of perceptual triangulation by using sensemaking to identify how multiple managers individually ascribe meaning to change. **Reflexive** triangulation (see Pattinson, Nicholson, & Lindgreen, 2018 in Table 1) consists of researchers returning to their research to compare the various accounts, phases, including their own perspectives (Hammersley & Atkinson, 1983). Hammersley (2008) later develops a view of triangulation described as **indefinite**, where actors in a situation give different accounts of a particular event, with the researchers making little attempt at reconciliation and no attempt at all in checking for validity. Indefinite triangulation can therefore result in divergent interpretations or uncover multiple perspectives (Fielding & Fielding, 1986); in so doing it encourages reflection on how one arrives at the interpretation. A further comparison can be made with **iterative** triangulation (Lewis, 1998) where evidence from existing cases is triangulated with the literature and ‘intuition’. An example of this type of triangulation might be detected in the systematic comparison of the cases, data and the literature by Gonçalves et al. (2019). Whilst intuition as a research skill may have its limitation, these four triangulation categories highlight the recursive and creative nature of case study research and coincide with the purpose of qualitative research.

The penultimate category in Table 2, of **methodological** triangulation, is a familiar aspect of triangulation, generally subdivided into within-method and between-method triangulation. The former uses multiple techniques within a given methodology, for example, qualitative evidence from focus groups and archival analysis. Researchers will need to be aware of differences that exist even in data sets of the same type, for example, in the level of detail or the analysis and presentation (Farmer et al. 2006) but in case study research, within-method

triangulation can increase the internal validity of the findings (Dubé & Paré, 2003), contribute to criteria such as trustworthiness (Sinkovics et al. 2008) or confirmability/dependability/transferability and credibility (Lincoln & Guba, 1985). There are parallels once again with the MTMM model of Campbell and Fiske (1959) described above. Within-method triangulation is used by Ivens et al. (2016) as shown in Table 1, where a range of qualitative data sources are collected and analysed. Between-method triangulation combines sources from different methodologies, usually understood to be qualitative and quantitative. The studies by Lopes de Sousa Jabbour et al. (2017) and Windler et al. (2017) appear to use steps in their research that might correspond to methodological triangulation (see Table 1). Whilst Denzin (1978) may argue that these examples of between-method, Miles and Huberman (1994) see it as triangulation by data type and there is no easy resolution to these differing viewpoints. At a practical level, between-method triangulation has prompted concerns about how data from such different sources might be weighted (Jick, 1979) or how might the authors convey confidence or trustworthiness across diverse data sources. The rationale for between-method triangulation rests on the proposition that the use of more than one method compensates for any weaknesses in the other and is thus the basis for mixed methods research (Erzberger & Prein, 1997; Greene et al. 1989; Jick, 1979). **Strategic** triangulation may be derived from a similar thought process employing multiple methods to counterbalance strengths and weaknesses of particular research designs (Scandura & Williams, 2000) with a series of studies by Jack and Raturi (2006) providing a possible example (see Table 2).

This inventory of triangulation categories is an indication of the potential of triangulation for case study research and as illustrated, there is evidence of researchers in industrial marketing using explicitly or implicitly several of the categories. The inventory reveals an extensive

and perhaps unexpected range of triangulation categories (11) in the literature, many of which on the face of it are dedicated to validity claims. Whilst examples of data, researcher, unit and methods triangulation abound, other examples of triangulation categories are far less common. Do so many categories of benefit case study research and what does each category actually bring to good practice in case study research? It is also apparent that some of the practices of case study researchers implicitly use a form of triangulation, such as unit triangulation, which is more widely recognised as multiple case study research. If the purpose of multiple case study research is to build stronger theory through comparisons grounded varied empirical evidence (Eisenhardt and Graebner, 2007), then surely the purpose of unit triangulation is similar (Marschan-Piekkari et al. 2004).

Table 2 also reveals some deep-seated inconsistencies in triangulation as the categories in case study research tend to represent a positivist view, consistent with a single objective reality that centres on converging findings (Wolfram Cox & Hassard, 2010). The purpose of triangulation in case study research therefore still seems to be one largely of convergence (Eisenhardt, 1989; Beverland & Lindgreen, 2010). Stake (2004), although subscribing to views about repeatability in case study research by observing that if researchers subscribe to a constructed reality, it becomes hard to believe that any complex observation can be triangulated in this way. Therefore, case study researchers in industrial marketing may need to be aware that whilst triangulation may offer benefits, the term and indeed the practice is redolent of its original interpretation as a means of corroborating findings and interpretations.

There is some evidence of triangulation, however, being used as a means of identifying alternative explanations in marketing research reports (see Diaz Ruiz & Holmlund, 2017). If the notion of a plurality of views (Piekkari et al. 2010) is axiomatic to case study research,

then is there a role for triangulation in supporting that goal? It is timely therefore to reframe triangulation in case study research to capture the breadth of contributions in industrial marketing literature. However, as the discussion in the preceding section has attempted to show, such ‘measures’ may not be consistent with more contemporary thinking in qualitative case study research, particularly within industrial marketing. As this paper argues, there may be ways in which triangulation may strengthen case study research other than validity.

2.3 *Alternative views of triangulation*

Accounts exist of triangulation denoting a shift towards seeing it as capable of exposing analytic richness (Fielding, 2009), through enhancing the evaluation of alternative explanations (Patton, 1989; Wallendorf & Belk, 1989) and offering different perspectives on the phenomenon (Dubé & Paré, 2003; Silverman, 2006). Triangulation may thus ‘*stimulate us to better define and analyze problems in organizational research*’ (Jick, 1979, p. 610).

This important step away from a focus on convergence indicates that triangulation may act as a kaleidoscope (Flick, 1992), a prism (Wilson & Hutchinson, 1991) or as a means of crystallization (Richardson, 2000). Within the mixed-methods literature, discussions have taken place on how triangulating quantitative and qualitative methods can result in complementary, divergent or even contradictory outcomes (Erzberger & Prein, 1997; Flick, 1992). Complementary outcomes offer researchers the opportunity to establish a holistic view of the phenomenon through a balance of qualitative and quantitative methods (Erzberger & Prein, 1997; Jick, 1979). Divergent, dissonant or contradictory results encourage or, even oblige, researchers to seek deeper meanings to explain contrasting findings (Flick, 2017). Mixed methods researchers are often adept at navigating the qualitative and quantitative ‘divide’. Kelle & Erzberger (2004) argue that triangulation firstly, serves as a cumulative validation of research results and secondly, enables an amplification of perspectives on the phenomenon and, perhaps, this observation goes to the

very heart of what triangulation offers, that is both a means of asserting confidence in the findings and a conviction that all avenues have been explored. These alternative outcomes are largely ‘owned’ by the mixed methods contributors such as Erzberger & Prein, (1997), Jick, (1997) and Mertens & Hesse-Biber (2012) as they are chiefly predicated on the issues related to combining or bringing together qualitative and quantitative data but they also provide a foundation for reframing of triangulation for case study research.

2.4 Case study epistemology and triangulation

The term qualitative research comprises a broad church of thinking and practices but according to Miles and Huberman (1994) is characterised by investigations conducted through an intense and/or prolonged contact with the ‘field’. Such investigations, they state, provide a holistic overview consisting of perceptions of local actors as they explicate the way in which they account for their day-to-day situations. However qualitative research is underpinned by more than one epistemological position, examples of which are positivism, post-positivism or realism, constructivism and critical theory (Guba & Lincoln, 1994; Sobh & Perry, 2006), critical postmodernism (Gephart, 2004) and, with reference to case study research, naïve relativism (Järvensivu & Törnroos, 2010). Investigations into case study research have indicated that researchers make little explicit reference to the epistemological basis for their studies (for example, Gibbert et al. 2008), leading to calls for some philosophical validation of research approaches (Easton, 2010). In line with the aim of this study, which is to widen the scope of triangulation in qualitative case study research, some epistemological positioning is offered. Case study research occupies a somewhat ambiguous position ontologically or, as Gerring (2004, p. 352) describes it, as being ‘neither fish nor fowl’. This ambiguity may contribute to the multiplicity of epistemological assumptions drawn from the studies in Table 1. Indeed, there are only two specific references to an

epistemological or ontological stance therein - Lundgren-Henriksson & Kock (2016) and Pattinson et al. (2018), who state that their studies are based on an interpretivist stance.

Using a continuum has provided one way of positioning epistemological approaches to case study research, with naïve realism at one extreme and naïve relativism at the other and critical realism and moderate constructionism or constructivism lying between these two extremes (Järvensivu & Törnroos, 2010). Although critical realism has its adherents in case study research, for example Easton (2010) and Sobh and Perry (2006), there are arguments that an interpretivist epistemology, united with a constructivist ontology, is a good fit with the aims of case study research (Peters, Pressey, Vanharanta, & Johnston, 2013). Constructivist and interpretivist research assume multiple realities, subject-object interrelatedness and contextuality (Guba, 1979), which makes the assumption that sense-making or meaning-making activities constitute forms of reality (Lincoln, 2007), that consist of an interpretation of the phenomenon (Hirschman, 1986). In Table 1, an example of a single case investigates cooperation from a sense-making perspective, that relates instances of multiple meanings and nuanced interpretations (Lundgren-Henriksson & Kock, 2016). The argument for investigating case studies using qualitative methods is that both experiential understanding and interpretation as method enable the capture of complex meanings (Stake, 1995), thus enabling that deep understanding of actors, interactions and behaviours (Borghini, Carù, & Cova, 2010) so central to the strategy. An extension to this style of thinking is a process of inquiry in which practitioners become co-researchers and researchers become co-practitioners, as each articulates what they have been made aware of in the unfolding process (Shotter, 2006). As a possible illustration of this process of enquiry, Karjaluoto et al. (2015) describe how they presented the interpretations of their data to the case firms which were discussed in workshops, leading to complementary interpretations and revisions.

Whilst constructivist researchers share the goal of studying a complex world of lived experience from the point of view of those that live it with a respect for a life view, the emic perspective and the actor's definition of a situation (Schwandt, 1994), positivist language and techniques persist. An explicitly interpretive illustration in Table 1 (Pattinson et al. 2018) refers to immersion and crystallization (see Richardson, 2000) but then goes on to describe how these processes support the validity of the study. Against a background of what might be considered constructivist research, it is somewhat disconcerting to note again reference to validity in the study by Aarika-Stenroos et al. (2017), which focuses on the interests, goals, perceptions and influence of interviewees on innovation. Such variation in terminology and conflicting vocabulary tends to substantiate Gerring's (2004) comment above about the epistemological ambiguity of qualitative case study research. It is this ambiguity which has prompted this reframing of triangulation, further inspired by consideration of the relative merits of different methods, and mixed methods in particular, for allowing value to be attributed to multiple realities through divergence and complementarity rather than a focus on convergence.

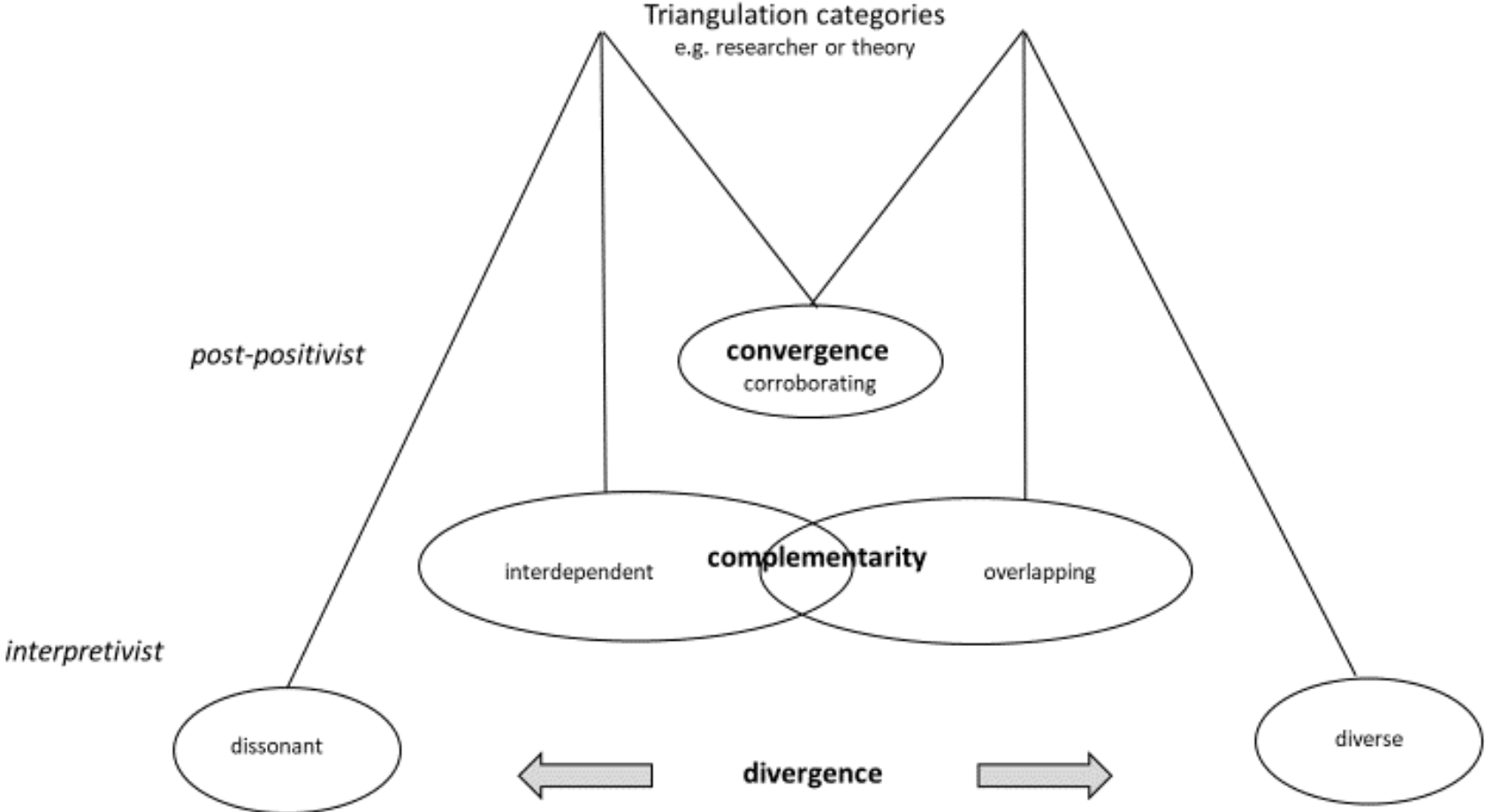
3 Reframing triangulation

In this section, a reframing of triangulation is presented where it better supports the plurality characteristic of case study research, as seen in industrial marketing investigations. This study contends that triangulation offers scope to the constructivist researcher through its ability to act as a prism or kaleidoscope. This contention is presented in Figure 1, where three modes of triangulation are portrayed that extend the scope of triangulation for industrial marketing cases. The convergence mode shows the outcomes of a triangulation category, such as researcher, narrowing to a specific point; the complementarity mode shows outcomes overlapping or running in parallel and, finally, the divergent mode illustrates how outcomes might be quite diverse or even dissonant. Research approaches that might accompany these

modes are presented in italics. These three modes are now discussed in greater detail with references to the case study illustrations from industrial marketing in Table 1.

As noted previously, a distinctly positivist or post-positivist view of triangulation appears to dominate much of the case study research methods literature, where the aim is to corroborate (Miles and Huberman, 1994), to converge (for example, Greene et al. 1989) or to correlate (Homburg et al. 2012), with five out of the ten illustrations in Table 1 citing convergence or an equivalent. Convergence of data, in methods or in researcher interpretation supports claims for validity, trustworthiness (Decrop, 2004; Wallendorf & Belk, 1989) or instils confidence (Eisenhardt, 1989). However, the view that triangulation may act as a prism (Wilson & Hutchinson, 1991) or kaleidoscope (Flick, 1992), offers case study researchers in industrial marketing significant opportunities for gaining greater insight. Triangulation, accordingly, can be extended to include complementary and divergent as well as convergent modes that might support the emergence of new theory. As such it enables researchers to reflect upon different interpretations of their study at a number of different levels from data to metatheoretical.

Figure 1 Three modes of triangulation for qualitative case study research in industrial marketing



3.1 Triangulation as convergence

Triangulation, as discussed above, is frequently predicated on findings or outcomes that converge on a single point, with the likelihood of theoretical concepts and their operational definitions capturing various empirical phenomena with greater precision (Modell, 2009). This convergence encourages researchers to have greater confidence in the reliability and/or validity of the research (Greene et al. 1989; Wolfram Cox & Hassard, 2010). As shown in Table 1, Karjaluoto, et al. (2015) state explicitly that data triangulation supports the validity of their study, similarly, Ito (2018) mentions internal validity. In so doing, the authors suggest a post-positivist epistemology. Such thinking is in line with recommendations by Scandura and Williams (2000), who urge the corroboration of findings in the triangulation of differing research strategies so that the study becomes more convincing. Reflexive triangulation (Hammersley & Atkinson, 1983) also serves as a reminder of this mode of triangulation, where the aim is to minimise threats to validity. Less common categories of triangulation such as iterative and perceptual triangulation (see Table 2) may sit less easily with the convergence mode, seeming instead to be more consistent with moderate constructionism (Järvensivu & Törnroos, 2010) or abductive reasoning (Dubois & Gadde, 2002, 2014).

In mixed methods research, it is assumed that findings will converge where two or more distinct methods yield comparable data (Jick, 1979), which chimes with the refrain of the convergence stream that triangulation consists of finding points of intersection across the various categories of triangulation. The study by Ivens et al. (2016) provides such an example where the authors triangulate multiple qualitative sources (within-method triangulation) but only later do they make claims for validity and reliability which are not directly related. Järvinen and Taiminen (2016) triangulate data sources and researcher

interpretations to achieve convergence. These illustrations therefore rely on triangulation for convergence but do not necessarily follow a critical realist epistemology as suggested in Figure 1. For case study research, where new depths or fresh insight are sought that contribute to theory building (Siggelkow, 2007), the focus could be on triangulation revealing findings that jar. Triangulation as convergence, therefore, in case study research, whilst seeking to establish traditional forms of rigour, runs the risk of constraining the discussion to those points of the study that can be corroborated and thus miss some of those insights that this research strategy is intended to uncover. Equally, the very act of reconciling the data, sources or interpretations so that they converge may offer valuable insights into the research (Farmer et al. 2006), indicating that it is a finely balanced argument for case study researchers in industrial marketing.

3.2 Triangulation as complementarity

By moving away from the need for corroboration, then the potentially constricting nature of convergence (Wolfram Cox & Hassard, 2005) is replaced by a process of potential liberation through seeking complementary information (Erzberger & Prein, 1997; Hammersley, 2008). The concept of complementarity has been used in management theory to explain how some organizational activities and practices when adopted together actually enhance each other (Milgrom & Roberts, 1995). This notion of two different entities merging in such a way so that the qualities of each are enhanced or improved is central to complementarity (en.oxforddictionaries.com/definition/complementarity) and it has been observed that complementary findings although they display a degree of interdependence, rely on each other for clarity of understanding (Carroll & Rothe, 2010). In mixed methods research, complementarity shows how different facets of a phenomenon overlap or run in parallel (Greene et al. 1989). In Table 1, a study into green supply chain practices (de Sousa Jabbour et al. 2017) triangulates a survey with multiple case studies to gain a more thorough

understanding of the variables in the survey. This particular study suggests a complementary mode of triangulation with an overall epistemological foundation that is hard to discern, possibly owing to its mixed methods approach. The study by Pattinson et al. (2018), as cited earlier, appears to use immersion and crystallization as complementary processes to achieve reflexive triangulation. A complementary mode of triangulation can thus offer an enhanced and clarified view (Crump & Logan, 2008) of the phenomenon.

Complementarity across the various triangulation categories does seem to provide a basis for liberation that the mixed method researchers describe (for example, Hammersley, 2008). It is quite common that researchers work independently to code and analyse data, coming together only at the end of the task but complementarity offers an alternative. Meta-triangulation would seem to be a particularly strong possibility for the complementarity mode owing to its basis on multiple and interrelated paradigms. The study by Gonçalves (2019) invokes several logics and theories (service dominant logic, neo-institutional and ecosystems) to guide the interpretation of the findings in a study seeking to validate institutional logics in business interactions. The category of unit triangulation might be more problematic for the complementary mode of triangulation. Contributors to case selection in multiple case study research argue for the practice of replication, that is, where further cases are selected to verify or confirm the theory emerging from the study (Gibbert et al. 2008; Yin, 2018). Theoretical sampling is intended to allow for more robust theory (Eisenhardt & Graebner, 2007), where each case study forms a distinct experiment but situated in a real-world context in which the phenomenon occurs. Underlying these arguments, is the view that the findings from each case, as they converge, will strengthen the emergent theory. What is the impact then of triangulation as complementarity in multiple case study research? Since any two cases are unlikely to be identical in real life, findings that complement each other, that is, are

interdependent and/or overlap may offer the enhanced understanding that case study research is well suited to uncover. Complementarity is thus a valuable mode in triangulation, as it can explain differing perspectives of the research phenomenon through for example such categories as reflective, iterative or perceptual, thus offering arguably greater insight than convergence.

3.3 *Triangulation as divergence*

The third mode of triangulation shown in Figure 1 is divergence. Divergence makes appearances in the mixed methods research literature (for example Jick, 1997; Modell, 2015) and in qualitative research (for example Patton, 1989; Flick, 2004). Jick (1997) argues that divergence in data and its subsequent reconciliation may add credibility to the study and uncover unseen factors. It may also lead to clearer definitions and theoretical elaboration (Davis et al. 2011; Wolfram Cox & Hassard, 2010). More broadly, if researchers pay attention to anomalies in data, they may be able to interrogate existing theoretical perspectives (Hesse-Biber, 2010) and discover emic meanings held by actors (Sinkovics et al. 2008; Stake, 2004). In case study research, divergent findings support other methods of establishing rigour or quality, such as addressing negative cases (Beverland & Lindgreen, 2010), and can lead to reflection on coding categories (Welch, Piekkari, Plakoyiannaki & Paavilainen-Mäntymäki, 2011). Gibbert and Ruigrok (2010) describe in their analysis of case study research practices how a creative reporting of setbacks in case study research actually enhances rigour, providing evidence of thorough and interesting research. Such ‘messiness’ may assist new insight into the theory development and lead to new avenues of inquiry that contribute to knowledge development (Davis et al. 2013). Dubois and Gadde (2002) relate how observations may add new dimensions to the subject, resulting in quite a different picture of phenomenon. Divergence can play a significant role in revealing new theory but as

a mode of triangulation, it is frequently overlooked in the practice of case study research in spite of its benefits, which is why there is no illustration in Table 1.

Returning once again to Table 2, how might divergence affect triangulation categories? It does not take much reflection to realise that dealing with divergence is part of every researcher's experience and practice, for example divergence in researcher triangulation may offer valuable paths to explore or follow. Perceptual triangulation seems to invite divergence as a means of achieving some holistic understanding, as indeed does iterative and reflective. Meta-triangulation also offers a suitable 'space' to accommodate differing explanations (Lewis & Grime, 1999). Once again, unit triangulation may be something of a sticking point. Conventional wisdom in case study research is to believe that the selection of cases is based on their suitability for 'illuminating and extending the relationships of the constructs' implying that the theory will be more robust if there is convergence across the cases (Eisenhardt & Graebner 2007, p. 27). Surely, though, this depends on the aim of the research which might be to compare, to contrast or seek maximum variation (Flyvbjerg, 2006)? In which case divergence may be an expectation rather than a problem. Table 1 provides an illustration of 'deviant' cases in a multiple case study but rather disappointingly these instances are only briefly discussed (Ito, 2018). Although divergence is largely overlooked as a triangulation mode in case study research, there is good evidence from qualitative and mixed methods research, that it can provoke quite profound reflection and hence is quite consistent with generating new theory in industrial marketing research.

3.4 Rigour and/or richness

The discussion of triangulation has shown how the three modes depicted in Figure 1, could offer case study researchers in industrial marketing substantial opportunities for strengthening, enhancing and enriching their investigations. At the same time, it prompts

some reflections about the epistemological foundations of research. If researchers are seeking to claim that their study is rigorous through such classical measures as validity (Gibbert & Ruigrok, 2010), reliability and generalizability (see also Yin, 2018), or qualitative criteria such as trustworthiness (Wallendorf and Belk, 1989), then the expectations are that triangulation will show that sources, units, theories or researchers will demonstrate a degree of corroboration. Critical realism, as an instance of post-positivism, seeks some form of independent reality that convergence or corroboration might arguably capture (Easton, 2010; Järvensivu & Törnroos, 2010). If the researchers are less disinclined to work within a language of capture and constraint (Wolfram Cox & Hassard, 2010), then they may be open to the triangulation modes and categories that reveal work running in parallel or deviating, which might be more consistent with constructivist research. We have argued that these modes have the potential to widen the scope within case study research and are suitably aligned to its aims and characteristics. However, the illustrations in Table 1, suggest that triangulation, although involving different categories such as researcher, is largely used in convergence mode. This conclusion prompts the observation that researchers seem to be missing a trick in terms of optimising the characteristics of case study research in addressing industrial marketing research questions.

4 Conclusions

The purpose of this study has been to delve into the role of triangulation in qualitative case study research in industrial marketing research to re-appraise its role and thereby contribute to the debate on good practice in qualitative case study research in industrial marketing. By adopting a constructivist stance, the investigation has been able to widen the scope of triangulation by reconsidering its emphasis on convergence. It has been argued that convergence or corroboration, favoured in traditional and in many contemporary instances of

case study research, may not always be aligned with the holistic nature of case study research and its purpose of generating new theory in industrial marketing.

4.1 Contributions to research practice

The study makes several contributions to qualitative case study research in industrial marketing. Firstly, it extends Denzin's (1978) original triangulation categories and reconfigures them for case study research, to include such categories as meta-triangulation and unit triangulation. These categories offer case study researchers in industrial marketing valuable ways of evaluating their findings and their practices thus enriching the discipline. It is also hoped that this inventory will lead researchers to pause and reflect more deeply on what is being triangulated, that is theory, data or reflections. Secondly, it proposes a framework of triangulation modes for case study research – of convergence, complementarity and divergence aligned to dominant epistemologies in industrial marketing in case study research. This reframing, it is argued, acknowledges the role of convergence but also marks a shift towards embracing opportunities for widening the scope of triangulation in generating new theory. The reframing provides industrial marketing researchers with the means both to strengthen insight and unlock the richness in qualitative case study research and, which according to the illustrations in Table 1, may be somewhat overdue. Thirdly, the study provides researchers with a revised and refreshed understanding of triangulation in qualitative case study research. Whilst the initial purpose of the research was to contribute to the debate in industrial marketing with its continuing focus on case study research (see for example, Beverland & Lindgreen, 2010; Dubois & Gadde, 2002; Piekkari et al. 2010), discussion has suggested that the framework may not necessarily be confined to that domain and could also be considered for case study research in marketing or, indeed, other domains where case study research is consistent with the research purpose and where consideration of convergence, complementarity and divergence are likely to be of similar value.

4.2 *Further research and practitioner implications*

The study invites a number of avenues for further study. The study underlines the breadth in contemporary perspectives of triangulation, suggesting that it has drifted some way from its original moorings. Evolving understanding of a) what constitutes case study research and b) how this research is evaluated is pressing. In the light of recent observations by Symon et al. (2018), the issue is not just about judging qualitative research using appropriate criteria, but how those criteria vary according to context and culture. From the discussion, it emerges that the concept of triangulation is highly elastic and encompasses a diverse range of research thinking and practice. Is this elasticity a benefit or is the term being stretched so far that it is at risk of losing its meaning and hence usefulness? Is it just a term for stimulating better definitions and analyses of problems as Jick (1979)? A further area for attention is the conclusions that might be drawn from a case study where triangulation as corroboration has not been carried out. Such is the weight of literature in support of triangulation in case study research that its omission might provoke questions about rigour or confidence in the contribution that the study makes. A further finding that emerges from this study is the breadth of terminology in use in industrial marketing case study research. Even when pursuing overtly constructivist case studies, researchers may use positivist vocabulary such as validity. Research might consider how does this continued use of such terms impact on the contributions of studies?

This study had adopted a broadly constructivist stance but this is not the only philosophical position open to case study researchers as argued by Easton (2010) and Sobh & Perry (2006). Critical realism may indeed yield valuable insight into triangulation, in particular considering triangulation and validity. Triangulation continues to be used as a means of claiming a study's validity, is validity a goal consistent with the aims of case study research? What

other quality criteria should case study researchers in industrial marketing and marketing more generally consider? Further research may also be needed into case selection in case study research, as indicated by the unit category triangulation. The themes of replication and theoretical sampling still tend to dominate (Eisenhardt & Graebner, 2007; Yin, 2018) in spite of updates (for example, Dubois & Gadde, 2014), so further clarification is needed about how complementarity and divergence might affect selection in in multiple case study research?

It is acknowledged that this study has adopted a narrow focus by concentrating on triangulation in industrial case study marketing research, in spite of it offering a very fertile ground for this investigation. For future research, a broader consideration of how triangulation is used in marketing, such as business-to consumer and consumer-to-consumer, and management journals may bolster understanding in this topic. Given that practitioners in consumer-orientated spaces face fragmentation and even disintegration of traditional frameworks of segmentation, this provides reason enough to explore the use of triangulation further in these contexts. Such a study may involve how a particular case study investigation used triangulation, following any one of the three modes suggested or even identifying others. In addition, our focus on case studies within industrial marketing (where they are heavily relied upon) may indicate not a strength but a weakness² that this paper is indirectly advancing. Researchers need to be mindful that despite the proliferation of case study research in this field, over-reliance on one method also has its dangers. Indeed, Edmondson and Mcmanus (2007) note that different methods are appropriate depending on the maturity of the research field. Future research should also consider the appropriateness of the case study method to industrial marketing studies and question whether other methods should be considered.

² Authors would like to thank the reviewers for this comment.

For the practitioner community of industrial marketing, a greater appreciation of how triangulation can strengthen and unlock research should prove valuable. In particular, in an era which sees a proliferation of new, hitherto unimagined business models which challenge prevailing assumptions and norms, is an emphasis on convergence constraining discoveries revealed in case study research and in turn limiting firm development? Complementary and divergent modes have the potential to provide more insightful findings as managers are required to reflect upon the different interpretations in complex situations. Complementarity may already be intuitive to managers due to its use in management theory to explain how some organizational activities and practices when adopted together can enhance each other (Milgrom & Roberts, 1995). Complementarity explains differing perspectives of the phenomena under research and in so doing provides managers with a broader picture to guide their decision and actions. Divergence, where the resulting data or findings may not appear to naturally fit together, could be ignored or discounted by managers as problematic, however it should prompt managers to ask the question ‘why?’ and as such can identify unseen factors and a different picture of the phenomenon being investigated (Dubois & Gadde, 2002). Divergence in case study research therefore has the potential to provide industrial marketing managers with innovative insights that takes them outside of current firm thinking and widens the scope - so vital as we enter the fourth industrial revolution.

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