



# In defence of triangulation: A critical realist approach to mixed methods research in management accounting

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## ARTICLE INFO

### Keywords:

Critical realism  
Management accounting  
Mixed methods research  
Triangulation  
Validation

## ABSTRACT

The notion of triangulation constitutes a key component of mixed methods research but has been contested on ontological and epistemological grounds, especially where this entails integration of theories and/or methods rooted in different philosophical assumptions (or paradigms). Drawing on critical realism, this paper addresses two criticisms of the use of triangulation in mixed methods research straddling between the functionalist and interpretive paradigms, namely (1) its propensity to suppress variations in situated meanings and (2) its treatment of empirical observations as objectively verifiable rather than inherently theory-related. The modified notion of triangulation advanced in this paper counters these criticisms by re-conceptualizing it as firmly grounded in abductive reasoning. This provides a foundation for maintaining researchers' sensitivity to context-specific variations in meanings in efforts to derive theory-related explanations. The possibilities of using such a modified notion of triangulation in management accounting research are illustrated through a review of two empirical studies straddling between the functionalist and interpretive paradigms.

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## 1. Introduction

Mixed methods research, combining qualitative and quantitative approaches, has a long history in management accounting (e.g., Hopwood, 1973; Otley, 1978) and has recently attracted increasing attention (Anderson and Widener, 2007; Brown and Brignall, 2007; Hopper and Hoque, 2006; Lillis and Mundy, 2005; Modell, 2005, 2007). Although the majority of this research tends to be classified into the functionalist paradigm, there is evidence of growing interest in combining theories and methods generally associated with different paradigms (Brown and Brignall, 2007; Hopper and Hoque, 2006; Modell, 2005). Recent debates on qualitative management accounting research also suggest that such paradigm-straddling approaches, combining elements of the functionalist and

interpretive paradigms, are indeed more widespread and perhaps accepted than previously recognized (Ahrens, 2008; Kakkuri-Knuuttila et al., 2008a,b). At the same time, however, there are growing concerns with the lack of recognition and communication across these paradigms resulting from the fragmentation and polarization of accounting academia (e.g., Ahrens et al., 2008; Hopwood, 2007, 2008; Khalifa and Quattrone, 2008; Reiter and Williams, 2002). This suggests that, however desirable from the point of view of furthering our understanding of management accounting (cf. Gioia and Pitre, 1990), there may be considerable barriers to combining different paradigms in actual research practice.

The tensions associated with straddling between paradigms are readily observable when one considers the issue of *triangulation* between theories and methods rooted in different paradigms. While triangulation is generally seen as a vital validation technique in mixed methods research (Brewer and Hunter, 1989; Erzberger and Kelle,

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2003; Erzberger and Prein, 1997), some scepticism of such practices has emerged in the management accounting literature. The notion of triangulation originates in positioning geometry, where one's position in space is determined in relation to some stable and objectively verifiable reference points. Several authors have questioned the usefulness of this metaphor as a means of more 'accurate' positioning of research findings where reality is seen as changeable and socially constructed (Ahrens and Chapman, 2006; Llewellyn, 2007; Tomkins and Groves, 1983a,b). Similar criticisms have been raised in the wider mixed methods literature in the social sciences and suggest that triangulation is not a legitimate validation technique where research straddles between the functionalist and interpretive paradigms (e.g., Blaikie, 1991, 2000).

These philosophically tuned criticisms of triangulation have not yet been satisfactorily addressed by advocates of mixed methods research in management accounting. Discussions of such research have either tended to be mute about its philosophical underpinnings (but see Brown and Brignall (2007) for an exception) or premised on the assumption that the choice of theories and methods may be emancipated from their ontological and epistemological roots (Modell, 2005). This neglect of the philosophical foundations of triangulation is potentially detrimental to the status of mixed methods research in management accounting as it may lead opponents of such research to reject it as excessively eclectic or resting on inconsistent philosophical assumptions (Modell, 2007).

This paper addresses this problem by advancing a critical realist approach to mixed methods research in management accounting. Critical realism has recently been advocated as a potential way of bridging the polarized positions of the functionalist and interpretive paradigms in organization and management studies (e.g., Ackroyd and Fleetwood, 2000; Fleetwood, 2004, 2005; Reed, 2005a; Sayer, 2004) and has gradually found its way into the mixed methods literature in management accounting (e.g., Brown and Brignall, 2007). A key premise in this regard is that critical realism, unlike more 'naïve' forms of empirical realism,<sup>1</sup> accepts the existence of some reasonably stable and mind-independent reality but rejects the possibility of verifying research findings in any absolute or 'objective' sense. This position partly mirrors the criticisms of triangulation outlined above and underlines the potential usefulness of critical realism for dealing with these. However, critical realism has not yet been systematically applied to examine how a modified notion of triangulation may be advanced in mixed methods research in management accounting.

The remainder of the paper and my over-riding line of argument are structured as follows. Given the often ill-specified meanings attributed to triangulation, I start by briefly reviewing the use of this concept in functionalist management accounting research and elaborate on the tar-

get of criticism in Section 2. I also examine how mixed methods researchers subscribing to pragmatist lines of thought have responded to these criticisms before advancing a critical realist approach to triangulation in Section 3. While there is some resemblance between these pragmatist and critical realist approaches, I argue that the latter provides a more clearly articulated foundation for modifying the notion of triangulation in response to objections to its use in mixed methods research straddling between the functionalist and interpretive paradigms. This modified notion of triangulation rests heavily on abductive reasoning as a means of deriving theoretically informed explanations while preserving researchers' sensitivity to variations in situated meanings. To illustrate how such a notion of triangulation may be applied in practice, I review two management accounting studies in Section 4 (Covaleski and Dirsmith, 1983; Hoque and Hopper, 1994, 1997). My analysis of these studies raises the issue of whether some mixed methods research in management accounting is indeed more consistent with critical realism than hitherto recognized. This forms the stepping-stone for discussing the conclusions and implications for future research in Section 5.

## 2. Triangulation in mixed methods research

### 2.1. The conventional logic of triangulation

The notion of triangulation in the social sciences is generally used in a less literal sense than in its original application in such fields as navigation and land surveying. Early articulations of this metaphor in the social sciences conceptualized it as the mixing of multiple theories, methods, data sources and/or researchers with the aim of enhancing the validity of research findings (e.g., Denzin, 1978; Jick, 1979). The emphasis was here on reducing bias by integrating theories, methods, data sources and researchers with complementary strengths and non-overlapping weaknesses. The underlying, though largely implicit, assumption was that research findings might hereby better capture some unified social reality.

While triangulation is sometimes equated with mixed methods research, it is important to emphasize the integrative element of the former technique (Erzberger and Kelle, 2003; Moran-Ellis et al., 2006). The conventional logic of method triangulation implies that different methods are combined to provide complementary insights into the same empirical phenomenon with the aim of enhancing the validity of representations.<sup>2</sup> This excludes instances where some methods are merely employed to provide general background information to findings derived from other methods without any closer integration between them for the purpose of validation.

<sup>1</sup> 'Naïve' realism and empirical realism are here used interchangeably to denote a position grounded in a view of reality as an objective entity independent of human cognition but, at least in principle, easily accessible and verifiable through adequate crafting of research instruments and methods (cf. Niiniluoto, 1999).

<sup>2</sup> Such integration can take place within or across paradigms. However, integration of methods across paradigms differs from various forms of *meta-triangulation* where the purpose is to preserve the integrity of (and to some extent also the tensions between) paradigms while contrasting findings at an ontological and epistemological level (see Lewis and Grimes, 1999; Wolfram Cox and Hassard, 2005).

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