Received 26 February 2006
Revised November 2006
Accepted 15 March 2007

Calculating customer intimacy: accounting numbers in a sales and marketing department

Suresh Cuganesan
Macquarie Graduate School of Management, Macquarie University, North Ryde, Australia

Abstract

Purpose – The purpose of this research is to examine the role of accounting numbers in one organisation's attempts to enact and calculate customer intimacy, given renewed interest in organisation-customer relationships.

Design/methodology/approach – The paper utilises actor-network theory in conducting an ethnography at a wholesale financial services firm pursuing a strategy of customer intimacy. The main empirical site was the sales and marketing department, where actors were attempting to further their knowledge of customer needs in the present and anticipate them into the future.

Findings – The paper finds heterogeneous enactments of "customer intimacy" through a "numeric calculation network" and a "sales calculation network". The former sought to use accounting numbers to calculate how customer intimacy was enacted and impose upon a sales-force periphery a regime of performance measurement. The latter eventually destabilised the proposed performance measures by promoting their own basis for calculating customers. These were more diverse and "implicit", comprising talk and communication through co-location and proximity with customers.

Originality/value – The paper provides a number of insights into the role of accounting as a calculative practice. The observed emergence of novel means of producing accounting numbers outside the domain of the accounting function and within the sales and marketing department has important implications for the practice and study of accounting. In addition, potential limits to the use of accounting in enabling "action at a distance" are identified through the observed contest between "hard" accounting' numbers and softer modes of calculation.

Keywords Accounting, Customers, Customer relations, Customer orientation

Paper type Research paper

1. Introduction

Normative prescriptions to "know your customer" have experienced renewed interest (Naumann, 1995; Peters and Waterman, 1982). Organisations specifically need to know their customers' long-term strategies and intentions in order to anticipate future product and service needs (Macdonald, 1995; Slater and Narver, 1998). As a result, the label "customer intimacy" has become entrenched in mainstream management discourse as one competitive logic for organisations to pursue (Kaplan and Norton, 2000; 2004; Treacy and Wiersema, 1997). Consequently, how to enact customer intimacy and organise the processes that enable firms to do so have become important and complex issues for organisations to consider[1].

Prima facie, the possibilities for accounting in knowing customers and pursuing customer intimacy are significant. As part of the contemporary pre-occupation with "managing by numbers" (Johnson, 1994; Miller, 1992), accounting not only features in

Accounting, Auditing &
Accountability Journal
Vol. 21 No. 1, 2008
pp. 78-103

0951-3574
DOI 10.1108/09513570810842331

many arenas of social and economic life but accounting calculation also reshapes the domain of the economic (Hopwood, 1992; Miller, 1994). Indeed, accounting has been observed as a formalised measurement regime of customer orientation and performance (Mouritsen, 1997; Ogden, 1997; Ogden and Clarke, 2005; Vaivio, 1999).

However, questions have been raised about the intersection of accounting and other more diverse and "tacit" means of organisational knowledge. Adding to observations of accounting's absence (Jones and Dugdale, 2001; Munro, 1995) are arguments that accounting plays only a limited part in the "new commercial agenda" (Munro and Hatherly, 1993) and the "new organisation" governed by face-to-face communication (Mouritsen, 1997). While accounting is implicated in organisational activity through "accounting talk" in interactive and dynamic ways (Ahrens, 1997), it may encounter resistance when faced with alternative organisational knowledges (Mouritsen, 1999; Vaivio, 1999). Limited roles for accounting may result due to the limits of quantification (Vaivio, 1999) and the extension of numeric calculation beyond its boundaries (Gorz, 1989).

Given such diverse possibilities, the paper's objective is to examine the role of accounting numbers in one organisation's attempts to enact and calculate customer intimacy. The term "calculation" is used here to refer to the process by which an entity is rendered knowable for the purposes of action upon that entity (or others). It is not to be conflated with quantitative modes of representation (Power, 1992) as other more "implicit" or "tacit" forms of calculation also exist (Munro, 1995). Thus, it is proposed that accounting calculations of customers and customer intimacy are better understood when located within a broader calculative framework that also comprises other (non-accounting) modes of knowing about customers.

The reasons for the paper's objective are two-fold. First, the studies that have examined the role of accounting in calculating customers are few (see Jeacle and Walsh, 2002; Mouritsen, 1997; Ogden, 1997; Vaivio, 1999), and are yet to adequately investigate the role of accounting numbers in situations where anticipating customers' needs and knowing their interests are important. This is despite widespread prescriptions on organisations to enact such customer intimate approaches. Thus, the paper investigates possibilities for accounting in a context that is both significant and insufficiently examined.

Secondly, the interaction between accounting and other more implicit calculative modes, and the properties of accounting that influence these interactions, remains an under-researched issue. Notwithstanding that accounting numbers do not exist in isolation from accounting talk or accounting narrative, the intersection of accounting numbers inscribed in paper form with alternative and potentially competing modes of calculating customers has been insufficiently examined, especially in the context of how customers might be anticipated and customer intimacy enacted[2]. Interesting and unanswered questions include: what is it about accounting numbers that either silences or engenders other competing knowledges? Does the process of accounting constrain it in any way? And, are there limits to the potentialities for accounting as a calculative practice? As others have noted, "although accounting inscriptions such as budgets, performance measures, periodic reports, memos, etc. are widely deployed…the particular attributes they have and their power effects as forms of writing per se, remain to be researched adequately" (Ezzamel *et al.*, 2004, pp. 783-4). More broadly, there exists a "a need for future researchers to more generally question, and potentially divest the privilege ascribed to accounting knowledges and processes in studies of organisational functioning" (McNamara *et al.*, 2004).

The paper presents an ethnography of events within FinCo, a wholesale financial services firm pursuing a strategy of customer intimacy and attempting to further its knowledge of customer needs in the present and anticipate them into the future[3]. The main empirical site was FinCo's sales and marketing department. While conventional "accountants" did not feature, accounting numbers in paper form were involved in the pursuit of customer intimacy at FinCo. There were those that did "accounting", implementing new non-financial performance measures designed to anticipate customers and calculate how customer intimacy was being enacted. Thus, the paper is also part of a broader move to address the neglect of the "world of consumption" within accounting research (Walsh and Jeacle, 2003).

The paper is organised as follows. Section Two presents an overview of the literature that seeks to understand how accounting calculations of the customer might be enacted and the effects of doing so. Section Three presents the theoretical framework utilised in informing the ethnographic analysis, namely actor-network theory. The research method utilised is discussed in Section Four, while the empirical evidence obtained from the FinCo research site is presented in Section Five. Section Six concludes the paper with a synthesis of its findings and contributions.

2. Accounting calculation and customers

The literature that has empirically investigated accounting as a calculative practice highlights its centrality within organisations. The use of standard costing and budgeting is described as enabling the construction of "the governable person" (Miller and O'Leary, 1987), the individualisation of the shopfloor (Knights and Collinson, 1987) and the "homogenisation of labour" (Hopper and Armstrong, 1991). Performance measurement has enabled the segmentation of work organisation and the ability to compare across space and time (Carmona *et al.*, 1997; Walsh and Stewart, 1993). More recently, case-mix accounting practices (Chua, 1995; Lowe and Doolin, 1999) and the production of intellectual capital statements (Mouritsen *et al.*, 2001) have rendered new organisational spaces visible for the purposes of action.

In this, accounting's centrality is inextricably linked to its numeric mode of representation and calculation. Accounting's numeric orientation expedites intervention upon calculated spaces by promulgating perceptions of objectivity (Chua, 1996; Porter, 1992), reducing heterogeneity, complexity and ambiguity (Miller, 1992, 1994; Robson, 1992), and facilitating "action at a distance" (Robson, 1992). Consequently, "much academic literature [has] presented accounting as a highly powerful, often dominant, force in organizations" (Jones and Dugdale, 2001, p. 36).

Only a limited number of studies has examined the role of accounting in calculating customers (see Jeacle and Walsh, 2002; Mouritsen, 1997; Ogden, 1997; Vaivio, 1999). These describe customer-related performance measures that both quantify the customer and/or are used to act against functional groups within organisations. Of these, Vaivio (1999) is of most relevance here and is reviewed in some detail below.

Vaivio (1999) provides an account of the implementation of customer focused non-financial performance measures relating to product quality, delivery levels and sizes, field engineering service levels, invoicing accuracy, customer complaints and the number of new business opportunities (measured by received business enquiries).

These accounting measures were used to create a new calculable space within the organisation, labelled "The Quantified Customer". In response to the attempts by management to penetrate the affairs of functional specialists, Vaivio (1999) observes the mobilisation of a rival construction of the customer by sales managers which emphasised local interpretation and individual complexity. Describing how sales managers argued that "The Quantified Customer" was too aggregated and overlooked important individual detail, Vaivio (1999) details how "The Sales Customer" prevailed, partly because it reinforced prevailing relations of power and autonomy.

Despite the important insights generated by Vaivio (1999) further work is required. At the organisational site examined by Vaivio (1999) (and in other accounting studies of how organisations calculate their customers), accounting is primarily used to make visible and calculate what can be labelled "consequences of past economic exchanges" with customers. Typically these calculations measure some effect of providing products or services to customers: for example, quality, delivery accuracy, invoicing accuracy, payment history and/or customer satisfaction with the provision of goods or services or some other downstream activity such as post-sales service. While the role of accounting in constructing the customer is described, the primary focus is on how accounting numbers make visible the economic exchange and consequent activities.

In contrast, how accounting might be used in environments that emphasise knowing about customers to generate new sales of products and services remains inadequately investigated[4]. This is despite the numerous calls for organisations to anticipate their customers' emerging product or service needs by knowing their longer-term goals and action plans, and secure future economic exchanges through forward-looking innovation and proactive sales approaches (Macdonald, 1995; Simonsen, 1993; Slater and Narver, 1998). Arguably, the processes and organisational participants that enable customers' long-term strategies to be understood, their future product and service needs to be anticipated, and successful innovation and proactive sales activities to occur become important to organise and control. Yet little is known about accounting's role (if any) in calculating these antecedent activities. Hence, the first motivation for this paper, which examines role of accounting in calculating "antecedents to new economic exchanges" and shaping new future-oriented visibilities over customers.

Vaivio (1999) also ignores the specific ways in which accounting as a particular (numeric) mode of calculating customers influences its eventual fate. While the study emphasises the (social) contests between sales managers and commercial management, this is to the detriment of understanding how both the (technical) process that produced the "The Quantified Customer" and the attributes of these quantified performance measures influenced the outcomes observed. The non-financial accounting measures of performance, despite being important actors in proceedings, are rendered passive and silent in the author's account, with their fate ultimately decided by the actions of sales managers in mobilising alternative forms of knowing the customer:

> By the force of The Sales Customer's discursively powerful logic, The Quantified Customer became portrayed as something quite different than what Commercial management had intended. It became a backward-oriented, "historical" entity instead of a space that could be better managed here and now (Vaivio, 1999, p. 707)

Thus, important questions are left unanswered. For example, what attributes about the accounting calculations resulted in its displacement? And what was it about the "Sales

Customer" and its underlying mode of calculating customers that made it potentially strong? Examining these issues is timely given the small but increasing number of studies that have begun to dispute accounting's centrality within organisations (Jones and Dugdale, 2001; Munro, 1995; Munro and Hatherly, 1993). Hence, the second motivation for this paper, which examines how accounting intersects with alternative modes of calculating customers, and how their relative attributes act as conditions of possibility in shaping organisational action.

Investigating the role of accounting numbers *vis-à-vis* other forms of calculating customers and customer intimacy requires casting into relief the form and attributes assigned to the process of accounting itself. It requires giving equal voice to both the social and the technical. To this end, the empirical observations are analysed and interpreted through a theoretical lens known as actor-network theory (ANT). As outlined in the next section of the paper, ANT's focus, inter alia, on how socio-technical networks might perpetuate across space and time make it particularly relevant to the paper's objective.

3. Actor-network theory: inscriptions and action at a distance

Calculating customers and their interests is a problem of overcoming space-time. Spatially, information about ostensibly distant customers, their activities and their interests has to be collected in some way, brought back to within the organisation and acted upon. Temporally, environments may change and customers and their interests may shift. Calculating customer interests thus involves long-distance control; in other words, gaining visibility over potentially remote and dynamic customers from within organisations and mobilising resources against them in some way. ANT is utilised here to inform the subsequent empirical inquiry into these issues.

ANT concerns itself with the spread of networks comprising translations of diverse socio-technical elements linked in a simultaneously purposeful but precarious manner (Callon, 1987; Law, 1987, 1992). Key network activities involve persuading and enrolling allies to join the network, thereby helping it to expand across space and perpetuate across time, and controlling the behaviour of network elements such that their behaviour is predictable and in accordance with the network's purpose (Latour, 1987). Originally employed in the sociology of scientific knowledge literature, ANT has been widely used to make sense of accounting technologies and their fate (see, for example Briers and Chua, 2001; Chua, 1995; Lowe, 2000, 2001; Skaerbaek and Melander, 2004).

To understand how actor-networks traverse time and space, ANT offers insights into the "action at a distance" dilemma; namely, how to ensure that diverse and dispersed elements remain part of the network and act in accordance with its purpose. One means of doing so described by Latour (1987; 1999a; 1999b) and other ANT writers is to gain knowledge over these remote elements through the fabrication of "inscriptions" that are immutable, combinable and mobile (for example, maps, symbols and forms of writing). Significantly, these inscriptions are also important network elements in their own right, with a number of relational effects within the network occurring through their use.

Firstly, the collection of inscriptions by particular points allows them greater ability to act over distant others, giving rise to what Latour (1987) refers to as "centres of calculation". Within these centres, inscriptions of different traces are accumulated and used to act on a distant periphery. Hence, in centres of calculation, "we become superior to that which is greater than us and we are able to gather together synoptically all the actions that occurred over many days and that we have since forgotten" (Latour, 1999b, p. 65).

However, centres of calculation also have difficulty in managing the many information traces brought back. One means of doing so involves "cascading inscriptions", where masses of inscriptions are combined and translated into higher-order and more aggregated degrees of inscription through totals, averages and classification frameworks (Latour, 1987). This then leads to a second effect of inscriptions, namely, reduction and amplification (Latour, 1999b). Reduction refers to the gradual loss of locality and particularity through successive stages of cascading. Concurrently, amplification occurs where the claim or "fact" that the inscription represents is "disconnected" from its conditions of possibility and becomes universal in application across time and space. Through reduction and amplification centres of calculation are able to act at a distance over multiple points on the periphery (Latour, 1999b).

In the context of customer measurement, management and accounting, those involved in calculating customers through paper-based inscriptions such as accounting numbers (Robson, 1992) are not necessarily weak, despite being far removed from interaction with customers. Rather, they are arguably stronger because using numbers on paper to represent customers and customer performance enables various traces of customers to be brought back to revolve around those doing the accounting, allowing them to act as the centre of calculation. Through inscribing the customer, these centres can make comparisons across different customers, calculate trends over time, and evaluate how others directly interacting with customers are performing in terms of satisfying these customers. Perhaps for these reasons, accounting numbers have been seen as featuring heavily in the management of customer relationships (Ogden, 1997).

However, to the extent that the recognition of heterogeneity and individuality is considered important, the standardising and quantifying consequences of accounting may truncate its possibilities, providing grounds for "trials of strength" (Latour, 1987) and contests by other types of knowledge situated in the local and the particular (Mouritsen, 1999; Vaivio, 1999). Inscriptions and centres of calculation thus form useful explanatory devices for examining the calculation of customers and interests through accounting. These concepts in particular and a broader framework of socio-technical network construction are used to inform the subsequent empirical analysis.

4. Research site and method

The research was carried out in "FinCo"[5]. FinCo is an Australian wholesale financial services company that sells a variety of products and services, including loans, transactional accounts, financial markets instruments and advisory services to corporate and institutional organisations with annual revenues of at least AUD75 million. It has approximately 1,000 employees and an operating income of about AUD900 million, with operations in multiple countries. However, both its headquarters and the majority of its business are located within Australia.

At FinCo, concerns about the enactment and calculation of customer intimacy were most evident in its sales and marketing department. Within this department, each customer is allocated a relationship manager (RM), and both customers and their RMs are segmented into industry groups that are managed by an Industry Head (who is also a RM). The sales and marketing department is co-led by the General Manager of Corporate Relationships (who is in charge of those industry groups that manage corporate customers) and the General Manager of Institutional Relationships (who is in charge of those industry groups that manage both financial and government institutions). Both General Managers report directly to the Head of FinCo.

Also located within the department is the Customer Research Unit (CRU), a group created by the Head of FinCo in the pursuit of customer intimacy. Indeed, RMs and their Industry Heads on the one hand, and the CRU on the other, were to become the main protagonists in the calculation of customers and the measurement of efforts to be "customer intimate". Other actors involved were the executive management of FinCo, comprising the Head of FinCo, the General Managers of the various FinCo departments and the Head of Strategy. Table I provides a summary of the main actors and their role in the following empirical account.

The research for this paper commenced in mid 1999 and ended in July 2001. Throughout this period, a wide spectrum of data sources was utilised, including formal and informal interviews, attendance at meetings, observations of actors "in-situ" and the collection of documentation. Using different data sources to obtain the perceptions and views of participants was essential in assessing the extent to which the actors' constructions of "reality" were stabilised and shared by others. Table II presents an overview of the data collection process.

Main actor(s)	Overview of role
Head of FinCo and executive management	A group responsible for strategy formulation at FinCo and the selection of its "customer intimacy" strategy A key actor in this group was the Head of FinCo, who created the CRU to focus on translating market research information into knowledge and calculations about the customer and how FinCo was enacting customer intimacy Another key actor involved the Head of Strategy, who was representative of a group of actors that sought "a total-view" of customers not just a "FinCo-view" The General Manager of Corporate Relationships and the General Manager of Institutional Relationships also participated in the executive management group
FinCo industry heads and RMs	RMs are assigned to managing customers on the basis of industry groups that are, in turn, managed by Industry Heads (note: Industry Heads are also RMs). RMs are considered to be responsible for coordinating all interaction between FinCo and its customers The main role of RMs is perceived as identifying how FinCo can sell financial services to its customers and enacting this. They also manage the day-to-day operational needs of customers
FinCo CRU and its head	Responsible for managing and utilising external market research to produce quantified calculations of the customer and FinCo's enactment of customer intimacy Over time, this group sought to act as a centre of calculation over the periphery of RM-customer relationships, utilising accounting numbers and performance measures to instil "more disciplined customer focussed approaches/systems and processes which can be readily measured and monitored" (CRU Head)

Table I.
Main (human) actors/actor groups and role overview

Data source	Details
Formal interviews[a]	11
Informal interviews[a]	19
Meetings/presentations attended[b]	22
In-situ observation (days)[c]	70
Documents collected[d]	40

Notes: [a] Semi-structured interviews were held with General Managers of Corporate and Institutional Relationships, the CRU Head and its analysts, and Industry Heads and Relationship Managers. These were of two types. Formal interviews were tape-recorded and transcribed and were of 1.5 hours duration. Informal interviews were shorter and not tape-recorded. These were used to clarify understandings and follow-up on themes identified either through formal interviews, the attendance of meetings and/or in-situ observations; [b] Meetings attended included: general FinCo meetings where strategic themes were discussed along with quarterly performance; FinCo Sales and Marketing meetings where General Managers of Corporate and Institutional Relationships and Industry Heads/RMs presented on customer-oriented issues; meetings within the CRU where the calculation of customers was discussed; and, meetings between the CRU and Industry Heads/RMs where customer calculations was contested; [c] Refers only to days where data was collected. Some of the time spent at FinCo was devoted to critical reflection and data analysis; [d] Includes group e-mails, minutes of meetings, internal papers, project documentation, market research and other presentations

Table II.
Data collection overview

Throughout the data collection period, those actor-networks that appeared to be involved in calculating customers and enacting customer intimacy were followed. The data obtained was analysed in a manner well described by Lowe (2001) and Irvine and Gaffikin (2006). Iterative and continuous recourse from theory to data and back again throughout the data collection and analysis phase allowed the selection, application and refinement of analytical concepts from ANT (described in the previous section of the paper), the identification of relationships between those concepts that appeared relevant to organisational life at FinCo, and the relegation of others that seemed less applicable. The result of this process is described next.

5. Customer intimacy at FinCo

5.1 The need for customer intimacy

In the mid to late 1990s, FinCo was an organisation concerned about new competitive threats. On the one hand, larger and better resourced global financial institutions were expanding their Australian operations (Kent and Debelle, 1999), and their product sophistication and innovation were generally considered (both in the market place and within FinCo) to be superior. On the other, new domestic competitors were undercutting prices to achieve market share growth and, according to FinCo's executive management, this was difficult to respond to without unduly impacting profitability. Caught "in the middle", FinCo's executive management called for "a sense of urgency in addressing declining market share and customer satisfaction, and forecasts of falling shareholder value" (FinCo Strategic Communication Briefing). Eschewing competition on either product sophistication or price on grounds that they were unable to, FinCo's executive management focused on its long-term customer relationships with Australia's larger corporates and institutions, eventually deciding to build on this in competing on the ability to know its customers[6].

In late 1998, FinCo's executive management announced a strategy to pursue "customer intimacy" as a means of differentiating itself from competitors. Customer intimacy was constructed as knowing about the customers' own strategic issues and challenges within their industry and anticipating customer responses to potential service offerings by FinCo. As such, it comprised much more than just information about customers' current product and service requirements. A strategic document summarised this notion of customer intimacy:

> Customer relationships are integral to the successful execution of FinCo's customer intimacy strategy and our vision . . . customer intimacy means knowing: where the customer fits in their industry, customer needs and whether and how customers respond to product offerings (solutions).

According to FinCo's executive management, customer intimacy would allow the anticipation of customers' financial needs and the making of sales pitches that pre-empted competitive tendering. In turn, competition over product sophistication or price would be avoided. As the FinCo Head of Strategy explained:

> The idea is to get to the left hand side of the customers' decision-process, show we know their business and provide a solution [to their needs] before they tender. This way, we avoid going up against the globals [financial institutions] and can hopefully keep some margin. Of course, it also means we get business we might not have got!

Customer intimacy would "increase the depth and value of [customer] relationships", and was "the right response to sustain long term returns from our franchise in the prevailing environment" (FinCo Strategy Communication Document).

Customer intimacy had thus become a significant actor at FinCo. Tied as it was to profitability and competition, the strategy was strong and difficult to oppose. Discourse about customer intimacy constructed it in particular ways and gave it particular contours; it required a proximity to customers, for customer needs were to be known in the present and anticipated into the future. However, the specific manner in which customer intimacy was to be enacted was left open. As such, it was to be mobilised in diverse ways by different actor-networks. At FinCo, these translations were to have opposing effects in terms of how customers and customer intimacy were calculated.

5.2 Translating customer intimacy and the calculative effects

A devolved approach to knowing and managing customers had been in place at FinCo for a number of years. Each customer had been allocated a RM within the relevant industry group who acted as their exclusive point of contact. Consequently, it was left to individual salespersons to know their assigned customers, respond to customer enquiries and identify which products and services could be sold, with their performance measured by revenues generated from customer transactions[7].

Against this backdrop, the launch of customer intimacy was used to exemplify certain RM behaviours. Internal communications from the General Managers of Corporate and Institutional Relationships highlighted specific customer transactions where FinCo RMs had made "successful" pre-emptive sales pitches. These sales pitches were often made to senior customer representatives and involved the RMs stating their understanding of the customer's goals, such as international expansion, divestments or mergers. In doing so, the RMs anticipated an as yet un-manifested or unannounced need by the customer for financial services that would facilitate the achievement of these goals, and presented details on "solutions" that would meet these needs. Those sales pitches that resulted in additional business for FinCo were referred to by the General Managers as "best practice" to be "embedded across all business processes", largely because they avoided competitive tender situations and the associated higher possibilities of reduced profit margins or failure to win the customers' business. One Industry Head explained:

> That's what customer intimacy really is. Being able to walk into a customer and anticipate [them]. That's what [FinCo Industry Head] did. She was able to present a financing solution for an acquisition that the customer had not even announced! We got the advisory mandate as well as the financing because of that.

As translated by senior sales management, customer intimacy required RMs to calculate customers and their interests in particular ways. During monthly sales and marketing department meetings there were retellings of "best practice" where the RM and Industry Head would explain how customer visits and other discussions with customer representatives, information collected from media and other sources, and discussions with other FinCo sales employees had culminated in a successful sales pitch. Calculating customers to enact customer intimacy was thus a process that mobilised talk and written narrative from a variety of sources and which utilised the co-location of both RMs (as gatekeepers to FinCo) and their customers on the periphery of the organisation. Left open to individual RMs to carry out, it was a "hands-on practice" (Mouritsen, 1999).

The customer intimacy imperative was to also have other calculative consequences. At FinCo, there was dissatisfaction with the existing formal (accounting) calculations of customers. Information about customers was largely "historical", measuring consequences of economic exchange such as revenue and profitability. The lack of other information on customers and the invisibility of customers to those who were not RMs were considered problematic. The Head of Strategy was one organisational participant who evidenced these sentiments:

> We are highly reliant on the people like RMs who supply us with the data. [But] no one is using the systems and there is no meaningful information . . .I can't believe it's so difficult to get a "share of wallet" metric. That's what we really need, that and other drivers of differences [in customer profitability].

There was also a perception that a fuller calculation of customers was needed. The Head of FinCo and Head of Strategy were interested in evaluating how FinCo performed in enacting customer intimacy relative to its competitors, and potentially making representations on these "facts" to interested actors inside and outside FinCo, including its Board, shareholders, analysts and the general media. However, other than the "anecdotes" of RMs, there was little "formal" information on how FinCo performed in enacting customer intimacy relative to its competitors. Accounting calculations of customers such as revenue and profitability were regarded as insufficient as they only provided a "FinCo-view of customers and not a total view" (FinCo Strategy Manager).

In the search for alternative more "factual" and fuller ways of knowing the customer, the Head of FinCo created a "Customer Research Unit" (CRU). According to the Head of FinCo, the CRU was to utilise market research information to consider how FinCo could be better aligned to customers and improve FinCo's competitive position:

> Driving a coordinated approach to the design, collection and implementation of customer research will ensure that we create better linkages and alignment between our customers and [our] strategies. This will be done through the utilisation of customer satisfaction questionnaires and external market research.

With customer intimacy translated as requiring more formal and fuller customer knowledges, what was to become an influential group of organisational actors had been created. In time, the CRU and its Head would shape new concerns of how to calculate customers and customer intimacy, relying upon accounting numbers in attempting to achieve these ends.

5.3 Calculating customers through strong numbers

In many ways, the CRU Head as an individual actor is important to the story about changes in customer calculation. Her vision for the CRU was much broader than that initially expressed (the coordination of market research). She saw the CRU acting as a spokesperson for and on customers, enabling anticipations of the customer in terms of the future sales of new products and services:

> The role of Customer Research will be to…enable FinCo to identify customer needs and preferences to provide the basis for estimating sales potential and application of new products and services, and facilitate the evaluation of FinCo's competitive position.

The CRU Head viewed her unit as doing more than merely supporting RMs. It would "know the customer" on behalf of FinCo and its executive management. When asked to describe the CRU's role at FinCo, she explained:

> I want the Customer Research Unit to be the eyes and ears to the customer so that, if they [executive management] say "We want to do this strategy", we say "Here are the trends in terms of customers' needs and preferences, and here is the validation – and these are the things you should think about".

All within FinCo would thus have to detour via the CRU if they wanted to know about customers, their interests and needs. As a result, the CRU and its Head would come to occupy a privileged position in the pursuit of customer intimacy. However, in speaking for customers the CRU faced a problem. FinCo's customers were located on the periphery of the organisation and interacted primarily with RMs as the gatekeepers to FinCo. To overcome this problem of space and familiarity the CRU turned to the providers of external market research.

The CRU began to commission two providers of bespoke market research in the wholesale financial services industry. Lists of FinCo customers (organisational details and key personnel contacts) were provided by the CRU to the market research providers, who would then randomly select and directly approach key customer personnel for an interview. Those who agreed to do so would then be independently interviewed (a structured questionnaire was to be completed) by a representative from the market research provider for one-and-a-half hours approximately, with results collated and reported directly back to the CRU. While individual responses were not made available, the CRU was able to request detailed analysis (for example, by customer size or by industry group) as long as the respondent group size comprised eight customers or more.

The external market research results were largely quantitative, containing average ratings of importance (measured on a five-point scale ranging from "1 very important" to "5 unimportant") or satisfaction (ranging from "1 very satisfied" to "5 very dissatisfied"). In addition, the market research presented quantified information that indicated customers' evaluations of the importance of various financial products and services, their satisfaction levels with financial service providers, additional purchases being contemplated and other important influences in their selection of financial service providers. For these non-scale questions, the percentage of respondents that selected particular alternatives was reported. Although individual responses were not provided to protect respondent confidentiality, the research providers would segment the results further at the request of their subscribers. An extract from the interview questionnaire used is reproduced in Figure 1.

The market research reports at FinCo performed the function of an inscription, bringing traces of its many and distant customers back to the CRU. Specifically, the external market research reports were a second-order inscription, aggregating individual customer feedback obtained in the customer interviews and reporting segment level statistics. In paper form, the research reports rendered these traces mobile and apparently stable. Furthermore, expressed quantitatively, the information

For the following selected financial instruments and services can you please first show how frequently you utilise them, secondly how important they are to you, thirdly which institutions you primarily source each from, and finally how satisfied you are with each, using the rating scales described below:

1	2	3	4	5
Frequently				Negligible
1	2	3	4	5
Very important				Unimportant
1	2	3	4	5
Very satisfied				Very dissatisfied

Instrument	Use	Importance	Principal Supplier	Satisfaction
Call Money Market				
Commercial Paper				
Corporate Advisory				
Mergers and Acquisition Advice				
Equity Raising				
.				
.				
.				

What particular services are you currently planning to use that are not already being utilised by your organisation?

Are you currently considering any changes in your present financial service provider relationship?

What key buying criteria do you use in making decisions about which financial service provider to do business with?

Figure 1.
Extract from external market research questionnaire

contained within was combinable. The conditions required of inscriptions (Latour, 1987) appeared to be satisfied.

To this, the CRU added a third-order inscription. CRU analysts extracted what they considered to be "the important numbers" from the market research report, adding observations of trends, comparing across industry groups and identifying any resultant "opportunities and threats". Calculations contained in CRU analyses comprised quantifications of:

- FinCo's share of its customer base relative to its competitors;
- customer perceptions on how well FinCo and its competitors understood their business, presented solutions to their needs, provided after sales service and priced services appropriately;
- key buying criteria that influenced the customer's choice of financial service provider; and
- new products and services, as well as service provider changes that the customer was considering.

In performing the above calculations, the CRU made visible the consequences of economic exchanges with customers. These comprised measurements of customer satisfaction with the delivery of goods and services, price and after-sales services as well as FinCo's market share performance. In addition, the CRU also calculated FinCo's ability to be customer intimate through measuring those processes and actors that were precursors or antecedents to the generation of new economic exchanges with customers. These comprised measurements of how well FinCo understood its customers' business and presented solutions proactively. In relation to customer intimacy and economic exchange antecedents, comments such as the following were typical CRU calculations[8]:

> FinCo is no longer regarded as best of breed. [Overall] customer satisfaction has fallen from 82 per cent to 78 per cent in the last year. Key considerations have been the ability to understand customers' business and deliver innovative and tailored solutions.

And:

> FinCo is ranked 3rd on understanding customers' business and 4th on innovative solutions. These issues need to be addressed if we are to execute on our customer intimacy strategy.

In addition, through the market research the CRU was able to calculate the customer's interests relating to possible new sales. The information on new products and service that the customer was contemplating was translated into expectations for industry groups as the following illustrates:

> In Industry X, 20 per cent of customers are considering new financial markets products. . .presenting significant opportunities for FinCo to cross-sell these.

And 12 months later used to evaluate RMs performance in enacting customer intimacy:

> Cross-sell opportunities that presented 12 months earlier [for Industry X] have not been realised, with share of financial markets stable at 17 per cent.

Overall, both antecedent activities (and the role of RMs in these) and consequences of FinCo's economic exchanges with its customers were calculated by the CRU and inscribed in paper form. This was done in six-monthly intervals in line with the frequency of the market research programs. In this way, the CRU acted as a centre of calculation, analysing, comparing and evaluating the many and distant customer relationships arrayed on the periphery, albeit at a segment level, and measuring FinCo's performance in enacting customer intimacy.

Within the CRU analyses, numbers dominated. Although meaning and interpretation was given through narrative, it was the numeric form of the calculation that shaped possible interpretations of what customers were interested in and how customer intimate FinCo was. Furthermore, the numeric emphasis of the CRU calculations enhanced the transportability of their claims about customers and customer intimacy within FinCo. As such, they were an alternative to RM anecdotes about their customers, accessible to those at FinCo that were not proximate to customers.

Evidencing the spread of the network through which these numeric calculations travelled, there were numerous allies within FinCo that took up the CRU inscriptions. The Head of FinCo was one actor enrolled in the CRU network. He had been interested in reporting FinCo's customer performance *vis-à-vis* competitors to external constituents, with this being a main reason for the creation of the CRU. As such, the mobile and "objective" inscriptions of FinCo's customers and its customer intimacy that were previously unavailable were useful, and he often asked for CRU information about FinCo's customer intimacy performance to be incorporated into internal and external board reports and presentations. The CRU Head was also requested to give regular presentations at meetings between the Head of FinCo and the remainder of FinCo's executive management. Thus, the Head of FinCo acted as a formidable ally in taking up the CRU inscriptions of the customer. Furthermore, in reporting the claims made within these to external constituents, the Head of FinCo added to perceptions of its credibility.

The actions of the General Managers of Corporate and Institutional Relationships also indicated their acceptance of the CRU inscriptions and a level of enrolment in the CRU network. They would often ask the CRU Head to debrief them privately on the results of CRU analyses and would invite him/her to address the Industry Heads, particularly if the results indicated that FinCo was performing poorly. In one meeting between the General Manager of Institutional Relationships and his Industry Heads, a level of acceptance of the CRU calculations was indicated by the former:

> In the past, if the [market research] results were bad, we said "They aren't talking to our customers". If the results were good, we said "That's us". But the CRU Head's role for me is to find out what the customer thinks. We can really use the CRU Head to direct what we do.

Events at FinCo thus pointed to the spread of the network through which paper inscriptions and numeric calculations of customers travelled. Two further aspects of this network are worthy of comment.

Firstly, whilst the external market research enabled cascaded inscriptions of FinCo's customers, it simultaneously constrained the production of the CRU analysis. The structured survey format limited the collection of information to the questions asked and, consequently, restricted the CRU's calculations of customers and customer intimacy. Similarly, the protection of respondent anonymity meant that results were always segment-level and difficult to attribute to individual customers. Consequently, in constructing the numeric calculations of FinCo's customers, the CRU had to homogenise individual customers (Boyce, 2000; Mouritsen, 1997). The network of relations through which the CRU-inscribed calculations travelled was thus simultaneously shaped by the CRU Head and the CRU as well as the technical process by which the inscriptions were fabricated and cascaded. The mode of calculation, the form of inscription and the process of inscribing were all important actors in their own right, influencing their eventual fate at FinCo in time.

Secondly, the use of accounting numbers to enhance the mobility of CRU calculations revealed ironies in the "quantification of organisational life" (Vaivio, 1999). The mobility of the CRU inscriptions meant that many parts of FinCo knew its customers through the numbers that the CRU had calculated. Accounting numbers had objectified and made "visible" FinCo's customers, especially for those distanced from what was the domain of Industry Heads and RMs. However, as described, constraints on the production of the CRU inscriptions resulted in an aggregated, homogenised and depersonalised construction of customers. Thus, accounting had paradoxical consequences: more customer intimacy was sought through less intimate measures and representations of the customer.

Both of the above network attributes were to become problematic when the CRU attempted to expand its calculative domain at FinCo and control more directly the enactment of customer intimacy.

5.4 Controlling customer intimacy and the limits of quantification

Faced with rival calculations of customers and customer intimacy, RMs and Industry Heads resisted the spread of the network through which the CRU inscriptions travelled. Recall that the particular translation of customer intimacy that had been mobilised amongst salespeople called for a focus on individual customers and "deeper knowledges" of the customer's interests. This appeared to result in the unwillingness or inability of RMs to accept the reduction of heterogeneity and particularity contained in the CRU inscription. As one CRU analyst complained:

> The problem when you take back the customer research to the RMs is that they talk about this customer, and this customer, and this customer and they can't see it as a group.

Unlike the Head of FinCo and General Managers of Corporate and Institutional Relationships, RMs and Industry Heads did not merely "go along". Instead, they questioned the CRU analyses, often dismissing the results on the basis that the list of customers interviewed did not correspond with their customers. Amplifying this was a broadcast e-mail by one Industry Head expressing concern over the customers that had been categorised by the CRU as belonging to his industry group and the resultant calculations:

> If these [CRU] reports are going to be relevant the inputs need to be fairly accurate. Out of 71 names [allocated to the industry group] I think that there are at least 12 names that should not be there. Other customer names perhaps should be there and included. I am reluctant to spend a lot of time investigating and actioning the results if the info is wrong.

In the face of RM resistance, the CRU was unable to act at a distance on the RM-customer relationships. Instead of becoming enrolled in the CRU network and accepting the CRU calculations, RMs and Industry Heads questioned its conditions of production. In so doing, they avoided the need to enact customer intimacy differently as suggested by CRU analyses.

For the CRU Head RM resistance was problematic. Rather than influencing action, CRU analyses would simply be dismissed as "info [that] is wrong". In response, she called for the introduction of performance measures and accountabilities that would enable greater "discipline" in FinCo's customer approach. In a presentation to FinCo's executive management, she noted:

> Issues exist in terms of the way customer information is currently managed, measured and recorded across FinCo. Third party survey data is presented as information only. . .There is a general need for more disciplined customer focussed approaches/systems and processes which can be readily measured and monitored.

Gina also asked for executive management support for the development of customer-related performance measures by the CRU:

> What I need from you? Assistance in addressing the issues which may inhibit our ability to focus on the customer, active support for customer research initiatives, agreement as to the appropriate measures for the customer.

Shortly thereafter, the Head of FinCo approved the CRU Head's request. Enrolled in the CRU network and reporting its calculations to external parties, he was interested in emphasising and increasing their role internally within the organisation. Rather than simply producing "information only", RMs would now be accountable for their enactment of customer intimacy as calculated by the CRU.

The Head of FinCo and the rest of FinCo's executive management also agreed to the establishment of customer objectives and performance measures for them as developed and recommended by the CRU Head. The particular measures that were agreed upon included an aggregate customer satisfaction measure and a market penetration measure, both of which would be used for bonus calculation purposes. In contrast, the customer objectives and measures that the CRU Head developed for RMs were more detailed. These are presented in Figure 2.

From Figure 2, the first and fourth objectives were to calculate RMs in terms of consequences of past economic exchanges, with the first measuring market share and the fourth measuring customer satisfaction with post-sales service levels. Both of these measures were to be provided by the market research and, as such, would reinforce the attempts by the CRU Head and the CRU to act as a centre of calculation.

Customer Objectives and Measures

1. Improve FinCo's position in the chosen markets relative to peer group according to relevant segment/industry and/or geography.

   Measure: Market share
2. Develop, align and articulate customer strategies in response to customer research initiatives in a way that improves FinCo's position relative to our peer group, shareholder value and our financial position.

   Measure: Alignment of strategy to research
3. Demonstrate understanding of the customer's business and value proposition through innovation and anticipation.

   Measure: Customer needs/importance
4. Meet or improve after-sales service in terms of what the customer values.

   Measure: Customer satisfaction

Figure 2.
Customer objectives and measures

The third objective for RMs was to demonstrate their understanding of the customer's business and their anticipation of customers' needs. This was to be determined by customer satisfaction with these activities as well as the customer importance ratings assigned to the various products and services contained in the external market research. Objective three was thus focused on calculating how RMs enacted antecedents to new economic exchanges. Finally, the second customer objective noted in Figure 2 required the development of customer strategies that were consistent with CRU analyses. Although no further detail was provided on how this was to be qualitatively assessed, through this objective RMs would be "calculated" in terms of whether the CRU inscriptions remained "information only" or whether they resulted in action by the RMs. In this way, RMs were to be enveloped in, and made accountable for, CRU calculations of their customer intimacy.

Perhaps unsurprisingly, the RMs sought to destabilise the CRU's proposed performance measurement regime and attempts to control at a distance through paper-based inscriptions and accounting numbers (Mouritsen, 1999; Robson, 1992). Industry Heads maintained that the CRU inscriptions of customers did not allow the prediction of customer needs into the future. In doing so, they were questioning the capacity of the CRU inscriptions to enable customer anticipations. One Industry Head claimed:

> They [the CRU Head's recommended measures] aren't actionable. How do they help me identify opportunities and generate additional business?

Meetings chaired by the General Managers of Corporate and Institutional Relationships and attended by Industry Heads and the CRU Head were held to finalise the customer objectives and measures that were to be implemented. At these, Industry Heads asked the CRU Head to provide examples of how the CRU calculations of customers would allow proactive sales pitches and the generation of new economic exchanges with FinCo customers. Constrained by segment level and quantified knowledges of the customer, the CRU Head was unable to explain how her accounting numbers would allow RMs to display an understanding of the customer's business (strategies and interests) and explain why customers should buy particular products and services (anticipation of needs and the proactive selling of "solutions"). In this "trial of strength", the "competencies" of the quantified calculations to shape specific and particular antecedents to new economic exchanges had been found wanting. The CRU Head complained afterwards:

> Oh the meeting wasn't good. People just don't want to be accountable. They've said "these [survey measures] weren't the drivers of value", "it isn't reflective of what we do". They've gone along so far and earned huge bonuses and now its like "whoa, we are going to be accountable for this, this is going to affect how much we earn".

Commenting later, the General Manager of Corporate Relationships (who had co-chaired the meeting) reflected on the success of the Industry Heads in promulgating their network of interests:

> We didn't have any external survey measures as key performance indicators for Industry Heads. We steered clear of that for a variety of reasons. The Industry Heads felt that they couldn't influence the measures. They were too abstract. It was unfair and inequitable to adopt them. What the Industry Heads felt was that they had to generate additional business,

> and we focused on the behaviours that were required to do this. And, over three to five years, the numbers should improve.

Indeed, the finalised performance measures aimed at anticipating customers' needs into the future and delivering against their needs in the present suggested a victory for RMs and their individual calculations of customers based upon talk and co-location with customers. Against an objective of "understanding the industry/customer", the performance measures of RMs privileged individual calculations. Furthermore, these measures focused on access to and communication with customers and, unlike the CRU Head's measures, were mostly qualitative in nature:

> Review industry reports, direct access to customers at appropriate level — minimum levels of visits per annum (to be set) per customer; full understanding of customer needs; develop customer plans as appropriate; and, minimum number of calls to Key Decision Makers (to be set).

Access, visits, calls to customers and a "full understanding of customer needs" all emphasised the RM as an individual site of calculation and a potential anticipator of customers. In relation to the delivery against current needs, "customer satisfaction" objectives or measures were absent. Instead, a measure of "problem resolution within agreed timeframe (to be set)" was included against a "customer service" objective.

Hence, in the establishment of performance measures for RMs, Industry Heads had enrolled the General Managers of Corporate and Institutional Relationships in a network that suggested individualised and flexible calculations through talk and co-location. In contrast, the CRU calculations of customers and customer intimacy had been shown to be insufficient. While doubts had been raised about their ability to measure consequences of past economic exchanges, the CRU regime of customer objectives and measures had also been disconnected from something important; customer intimacy and the ability to shape specific antecedents to new economic exchanges. Here, the process of inscribing the customer through accounting numbers constrained their possibilities, and were one influence in their eventual abandonment. At least for the time being, the network through which the RMs' translation of customer intimacy had prevailed.

6. Discussion and conclusions

Concerns with the role of accounting *vis-à-vis* alternative modes of calculation in anticipatory customer regimes motivate this paper. Against this backdrop, this paper presents a micro-account of how actors in one organisation sought to reconfigure customer relations in the pursuit of "customer intimacy". At FinCo, "customer intimacy" meant both knowing and delivering customer needs in the present, and being able to anticipate these needs into the future through an understanding of customer interests. Enactments of this, however, were heterogeneous, with different modes of calculating customers and attributes of customer relationships engendered through alternative actor-networks. Figure 3 describes these, labelled the "sales calculation network" and the "numeric calculation network", respectively.

The paper's narrative details the production of non-financial performance measures designed to calculate how customer intimacy was being enacted, the contests between the CRU that sought to use these and salespeople that employed alternative means of calculating customers and enacting customer intimacy, and the eventual triumph of the latter. In so doing, a number of insights for practice and theory are offered.

	The 'Sales Calculation Network'	The 'Numeric Calculation Network'
Main actors[a]	• Customer intimacy • General Managers of Corporate and Institutional Relationships • Industry Heads • RMs	• Customer intimacy • Head of FinCo • Head of Strategy • Head of CRU • CRU
Translation of customer intimacy	• Successful pre-emptive sales pitches, emphasising the production of knowledges about the customers interests	• 'Fuller' and more objective perspective on customers, emphasising the development of 'lead indicators'
Calculation of customers and their interests	• Through diverse means including communication between RMs and customers enabled through co-location	• Through numbers. Specifically, the production of performance measures based on market research of the customer
Mobility within the Organisation	• Low – Difficult to reproduce and unstable away from the periphery	• High – Numberised statements about customers could be transferred into different reports and made to travel throughout FinCo
Anticipation of the Customer	• Eventually prevailed on the grounds that its flexible calculative mode emphasising co-location was aligned with anticipations and 'pre-emptive' sales pitches	• Eventually constructed as low, due to inability to shape specific and particular antecedents to new economic exchanges
Control of Customer Intimacy	• Devolved, left predominantly to RMs to enact	• CRU attempts to act as a 'centre of calculation' in calculating customer intimacy and acting at a distance on RM-customer relationships

Note: [a]This presentation of discrete groups of actors only provides the main aspects of the various networks and overlooks much of the complexity at FinCo; namely, the many other technical resources that were mobilised and the fact that some elements participated simultaneously in both networks (for example, the General Manager – Corporate and Institutional Relationships)

Figure 3.
Main actor-networks and their relational attributes

For practitioners involved in customer management and accounting, the paper reveals complexities in "customer intimacy" strategies (Treacy and Wiersema, 1997) that are often overlooked or ignored. Specifically, how it is to be implemented and managed (via a CRU-type organisational centre, left open to individual salespeople or a combination) and how customer performance measurements (if any) are to be configured are choices that must be made. Furthermore, each of these choices have particular implications for the functional specialists that might be involved and the forms of information that might be relied upon, as indicated by events at FinCo. In addition, accountants and other developing customer performance measurements are likely to face issues and resistances similar to those that manifested at FinCo, especially as these encroach upon the privileged domain of the salesperson and attempt to shape and govern the specifics of their activities.

In relation to the paper's objective, which was to examine the role of accounting numbers in the enactment and calculation of customer intimacy, the paper contributes to extant understandings of how accounting might operate in such contexts and contemporary organisations more broadly. These relate to the production of accounting numbers using novel information sets, the domain of accounting and specifically its subsuming by other functional areas, and potential limits to accounting as a mode of calculation that shapes organisational action. Each of these is detailed in turn below.

6.1 Novel productions of accounting numbers

Interests in the creation of new future-oriented visibilities over customers and the calculation of antecedents to new economic exchanges at FinCo resulted in the emergence of novel means of producing accounting numbers. Specifically, the accounting calculations and the envisaged performance measures were not generated through the more conventional means of cost accounting systems or internally collected sets of non-financial performance data. Rather, the task of inscribing traces of customers and customer performance was delegated to participants outside the organisation.

Importantly, the use of market research to produce accounting calculations shaped the latter's possibilities and eventual fate. In some parts of the organisation, the accounting calculations were strong because they revealed new visibilities about the customer and about FinCo's customer intimacy relative to its competitors. Here, however, the use of accounting was paradoxical, as "customer intimacy" was sought through less intimate numbers. In other areas of the organisation, however, the accounting calculations could not be translated into a regime of accountability. Restricted to providing segment-level and standardised customer knowledges through the market research process, the novel accounting numbers were constrained and inflexible in how they could be constructed. Ultimately, the manner of production was an important influence in the curtailment of accounting calculation.

While specific to FinCo, the observed events reflect more enduring trends. Increasingly, organisations are attempting to shift their knowledge of customers beyond the consequences of customer interaction to encompass antecedents to new economic exchanges. These trends have important implications for the potential of accounting and how it might be enacted. While the use of benchmarking projects and industry databases to produce accounting performance measures might result in externally-oriented calculations, they may also be constructed as insufficient due to a lack of visibility and control over their conditions of production. Indeed, one possibility for these new forms of accounting numbers is to remain "information only" as the CRU Head feared. Given this possibility, future research needs to consider how these new methods of producing accounting impact upon and influence their use in organisations and the calculative consequences that ensue.

6.2 The domain of accounting

Presenting a departure point from prior literature, the narrative about accounting and performance measures presented here did not involve accountants or "commercially-focused personnel" (see, for example Briers and Chua, 2001; Chua, 1995; Dent, 1991). Rather, contests and debates about accounting performance measures were located solely within the sample organisation's sales and marketing department. While this might speak to the integration of accounting with other functional disciplines and the blurring of boundaries between them, the findings are also suggestive of a sidelining of the accounting function. While profits and revenues were not unimportant at FinCo, the accounting function was not seen as relevant in the construction of performance measures that focused on customers and customer intimacy, issues that featured prominently in the organisation.

At FinCo, the development of performance measures was largely initiated by the CRU Head, whose background did not involve accounting, while alternative performance measures were eventually decided upon by RMs and Industry Heads in conjunction with both General Managers of Corporate and Institutional Relationships. Indeed, a different fate for accounting might have been observed had the "disciplinary knowledge" of accountants been mobilised in the network of numeric calculation (Cuganesan, 2006; Seal *et al.*, 2004). Similarly, a move to "business-oriented" accountants (Lukka, 1998) that provide advice and expertise to the business was not observed at FinCo. Given recent observations that "management accounting now moves beyond the constraints of financial analysis and the passive monitoring of economic aggregates" (Vaivio, 1999, p. 710), the sidelining of accountants and the subsuming of accounting into other disciplines is of significance to those working within, as well as researching, the discipline. Specific questions thus remain about the domain of accounting and the role of accountants *vis-à-vis* other functional specialists in so-called "new organisations" (Mouritsen, 1997).

6.3 Accounting calculations and modes of control

In following alternative modes of calculation of customers and their interests at FinCo, symmetry was accorded to the various networks of calculation and the heterogeneous elements they comprised including the calculations themselves. Here, the concept of "calculation" was not restricted to purely numeric or economic modes but interpreted broadly, comprising both accounting and other more "implicit" or "tacit" forms of calculation. As such, differences in the manner in which alternative calculations were constructed and stabilised at FinCo were revealed. Specifically, calculations of customers that differed along dimensions of quantitative-qualitative, "hard"-"soft", standardised-flexible and aggregate-individual, were observed.

At FinCo, the ongoing calculation of individual customer interests was considered best left to RMs to effect in a qualitative, flexible and tacit manner. This was because FinCo was an environment that favoured the "anticipation" of customers. Doing so was important if competitors were to be pre-empted and economic benefits realised. Those that were attempting to sell to FinCo's customers were frequently required to stay abreast of and, more importantly, move ahead of and predict changes to the industry and to customers' own goals, strategies and challenges. Consequently, that which was to be "known" at FinCo was arguably a dynamic and unstable entity.

Against this backdrop, accounting numbers were considered to be insufficient. The inability of CRU calculations of customers to shape specific and particular antecedents to new economic exchanges resulted in their destabilisation by RMs. In contrast, the calculative acts of RMs, comprising talk and communication with customers, engendered through their close proximity to one another, were regarded as flexible enough to facilitate the mobilisation of resources against heterogeneous and fluid customers and their interests.

Further evidence is thus added to the thesis that questions accounting's centrality within organisations (Ahrens, 1997; Jones and Dugdale, 2001; Munro, 1995; Munro and Hatherly, 1993) and insights are offered about situations where the attributes of accounting knowledge render it problematic rather than privileged, thereby addressing calls for researchers to investigate such issues (McNamara *et al.*, 2004). Specifically, as accounting becomes more strongly implicated in the sphere of operational activity (Vaivio, 1999), it has to counter situations of locality and particularity. This is where its standardising and reductionist consequences become problematic, and its role in organisational action potentially truncated.

The findings of this paper also have broader implications for the potential operation of centres of calculation and the roles that accounting inscriptions might play in controlling at a distance. A well-developed theme within ANT accounting research is that of control through a centre of calculation; that is, single-points within organisations acting upon numerous and distant others through accounting inscriptions (Chua, 1995; Mouritsen, 1999; Robson, 1992). Indeed, it is through the accumulation of mobile, combinable and stable inscriptions that centres can "dominate the world" (Latour, 1987)

However, as noted above, what was to be inscribed at FinCo (customer interests) was constructed as a dynamic and unstable entity. Here, inscribing customers was problematic given the relational qualities of that which is to be captured and solidified. This is because the act of rendering a trace of an element to be mobile, combinable and stable also renders them "fixed" in relation to that element. Indeed, "any system of representation. . .automatically freezes the flow of experience and in doing so distorts what it strives to represent" (Harvey, 1989, p. 206). Thus, at FinCo, paper inscriptions of customers "fixed" a periphery that had been constructed as heterogeneous and fluid. Eventually, this contributed to the destabilisation of the paper inscriptions.

The corollary to this is that localised sites of calculation may be better able to calculate and act upon "facts-in-flight" through being co-located or proximate to fluid spaces. As such, these individual sites of calculation may flourish as stronger sites of organisational action *vis-à-vis* single and centralised sites of control. Overall, these arguments tie into a growing strand of research concerned with investigating the "a-centred" (Quattrone and Hopper, 2001) or "de-centred" nature of organisational functioning (McNamara *et al.*, 2004) with implications for how accounting as a mode of calculating and controlling might operate. In doing so, however, it is submitted that one must pay attention to how local conditions and the relational attributes of that which is to be acted upon are constructed, as this is an important influence in the constitution and possibilities of centre-periphery relations.

The results and arguments presented here should also be considered in light of the limitations of the study. Firstly, in explicating the contests between the networks followed, the study does not trace the mobilisation of resources from sources external to FinCo, and so cannot account for constructions that were relatively stable at the time the research began. Thus, broader cosmopolitan networks of actors and actants (Briers and Chua, 2001) are not considered while perceptions of customer interests as dynamic and changing are not problematised. Secondly, although the findings presented have implications for accounting practice, the particular form of accounting calculation studied was specific. The main accounting calculations examined included performance measures and targets that were generated from market research. Thus the relations observed do not necessarily apply to settings characterised by (potentially stronger) accounting calculations that are entrenched in "black-boxes" (Latour, 1987), such as "expert" accounting systems and enterprise resource planning packages and models. Finally, the usual limitations ascribed to the single-case approach apply.

In conclusion, it is useful to consider avenues for further research. In relation to novel forms of accounting, questions about the enduring nature of these hybrids, their effectiveness (however this may be defined) and their impacts upon functional specialists within organisations remain unanswered. Future research could investigate the curtailment and reshaping of accounting calculations and the relations between different modes of organisational calculation. This may be especially relevant given current preoccupations with the adoption of "future-oriented" business strategies and programs, and concerns with contemporary environments that are arguably time-compressed, hyper-dynamic and complex (D'aveni, 1994). Finally, other areas worthy of future research include revealing the role of accounting in capturing "things in flight" and calculating fluid space for the facilitation of action, and the role of accounting centres of calculations *vis-à-vis* individual centres of alternative modes of calculation.

Notes

1. At this juncture in the paper, the notion of "customer intimacy" is not problematised. Rather, it is left to the actors empirically observed to do this, as revealed in the later parts of the paper. For now, the term is used to refer to the building of anticipatory customer regimes and deep knowledge about customers (Treacy and Wiersema, 1997).
2. Accounting in paper-form is focused upon because this is how accounting numbers manifested at the organisation empirically investigated.
3. FinCo is a fictitious name and is used to preserve the anonymity of the organisation in question.
4. Although Ogden (1997) uses the term "customer interests", these "interests" are measured by outcomes rather than antecedents to interaction with customers.
5. Access to FinCo was opportunistic. The organisation was selected on the basis of the author's prior contact with the company. The author was aware of significant discourse about customers and customer intimacy and the beginnings of organisational consequences within FinCo. As a result, formal access to the company was negotiated with organisational gate-keepers.
6. While actors and events suggested that increasing competition was linked to FinCo's customer focus, it is acknowledged that this may have also been a mimetic reaction to wider rhetoric on the importance of customers to organisations. However, this does not impact the main purpose here, which is to detail the resources that were drawn upon later by the actors followed. Indeed, even "ex-post rationalisations" can become organisational "fact" over time if they remain uncontested. Thus, the "backdrop" of interests to the empirical investigation is pointed to without problematising it and, simultaneously, without according it any privileged status.
7. Situations where an RM's performance was considered "poor", or where an RM was having difficulty with a specific customer, were usually handled within the industry group and often by the Industry Head. The respective General Managers rarely became involved in these matters.
8. Actual percentages have been disguised to help protect the anonymity of FinCo.

References

Ahrens, T. (1997), "Talking accounting: an ethnography of management knowledge in British and German brewers", *Accounting, Organizations and Society*, Vol. 22 No. 7, pp. 617-37.

Boyce, G. (2000), "Valuing customers and loyalty: the rhetoric of customer focus versus the reality of alienation and exclusion of (devalued) customers", *Critical Perspectives on Accounting, Vol.*, Vol. 11, pp. 649-89.

Briers, M. and Chua, W.F. (2001), "The role of actor-networks and boundary objects in management accounting change: a field study of an implementation of activity-based costing", *Accounting, Organizations and Society*, pp. 237-69.

Callon, M. (1987), "Society in the making: the study of technology as a tool for sociological analysis", in Bijker, W.E., Hughes, T.P. and Pinch, T.J. (Eds), *The Social Construction of Technical Systems: New Directions in the Sociology and History of Technology*, MIT Press, London, pp. 83-103.

Carmona, S., Ezzamel, M. and Gutierrez, F. (1997), "Control and cost accounting practices in the Spanish Royal Tobacco Factory", *Accounting, Organizations and Society*, Vol. 22 No. 5, pp. 411-46.

Chua, W.F. (1995), "Experts, networks and inscriptions in the fabrication of accounting images: a story of the representation of three public hospitals", ,*Accounting Organizations and Society*, Vol. 20 Nos 2/3, pp. 111-45.

Chua, W.F. (1996), "Teaching and learning only the language of numbers-monolingualism in a multilingual world", *Critical Perspectives on Accounting*, Vol. 7, pp. 129-56.

Cuganesan, S. (2006), "The role of functional specialists in shaping controls within supply networks", *Accounting, Auditing & Accountability Journal*, Vol. 19 No. 4, pp. 465-92.

D'aveni, R. (1994), *Hypercompetition*, The Free Press, New York, NY.

Dent, J.F. (1991), "Accounting and organizational cultures: a field study of the emergence of a new organizational reality", *Accounting, Organizations and Society*, Vol. 16, pp. 705-32.

Ezzamel, M., Lilley, S. and Willmott, H. (2004), "Accounting representation and the road to commercial salvation", *Accounting, Organizations and Society*, Vol. 29, pp. 783-813.

Gorz, A. (1989), *Critique of Economic Reason*, Verso, London.

Harvey, D. (1989), *The Condition of Postmodernity*, Basil Blackwell, Oxford.

Hopper, T. and Armstrong, P. (1991), "Cost accounting, controlling labour and the rise of conglomerates", *Accounting, Organizations and Society*, Vol. 16 Nos 5/6, pp. 405-38.

Hopwood, A. (1992), "Accounting calculation and the shifting sphere of the economic", *European Accounting Review*, Vol. 1 No. 1, pp. 125-44.

Irvine, H. and Gaffikin, M. (2006), "Getting in, getting on and getting out: reflections on a qualitative research project", *Accounting, Auditing & Accountability Journal*, Vol. 19 No. 1, pp. 115-45.

Jeacle, I. and Walsh, E.J. (2002), "From moral evaluation to rationalization: accounting and the shifting technologies of credit", *Accounting, Organizations and Society*, Vol. 27 No. 8, pp. 737-61.

Johnson, T. (1994), "Relevance regained: total quality management and the role of management accounting", *Critical Perspectives in Accounting*, Vol. 5, pp. 259-67.

Jones, T.C. and Dugdale, D. (2001), "The concept of an accounting regime", *Critical Perspectives on Accounting*, Vol. 12, pp. 35-63.

Kaplan, R.S. and Norton, D.P. (2000), "Having trouble with your strategy? Then map it", *Harvard Business Review*, September-October, pp. 167-76.

Kaplan, R.S. and Norton, D.P. (2004), *Strategy Maps: Converting Intangible Assets into Tangible Outcomes*, Harvard Business School Press, Boston, MA.

Kent, C. and Debelle, G. (1999), "Trends in the Australian Banking System: implications for financial system stability and monetary policy – Research Discussion Paper 1999-2005", Reserve Bank of Australia, Sydney.

Knights, D. and Collinson, D. (1987), "Disciplining the shopfloor: a comparison of the disciplinary effects of managerial psychology and financial accounting", *Accounting, Organizations and Society*, Vol. 12 No. 5, pp. 457-77.

Latour, B. (1987), *Science in Action*, Harvard University Press, Cambridge, MA.

Latour, B. (1999a), "On recalling ANT", in Law, J. and Hassard, J. (Eds), *Actor Network Theory and after*, Blackwell Publishers, Oxford, pp. 15-25.

Latour, B. (1999b), *Pandora's Hope Essays on the Reality of Science Studies*, Harvard University Press, Cambridge,MA.

Law, J. (1987), "Technology and heterogeneous engineering: the case of Portuguese expansion", in Bijker, W.E., Hughes, T.P. and Pinch, T.J. (Eds), *The Social Construction of Technological Systems*, MIT Press, Cambridge,MA.

Law, J. (1992), "Notes on a theory of actor-network: ordering, strategy and heterogeneity", *Systems Practice*, Vol. 5 No. 4, pp. 379-93.

Lowe, A. (2000), "The construction of a network at Health Waikato. The towards clinical budgeting project", *Accounting, Auditing & Accountability Journal*, Vol. 13 No. 1, pp. 84-114.

Lowe, A. (2001), "After ANT. An illustrative discussion of the implications for qualitative accounting case research", *Accounting, Auditing & Accountability Journal*, Vol. 14 No. 3, pp. 327-51.

Lowe, A. and Doolin, B. (1999), "Casemix accounting systems: new spaces for action", *Management Accounting Research*, Vol. 10, pp. 181-201.

Lukka, K. (1998), "Total accounting in action: reflections on Sten Jonsson's accounting for improvement", *Accounting, Organizations and Society*, Vol. 23 No. 3, pp. 333-42.

Macdonald, S. (1995), "Too close for comfort? The strategic implications of getting close to the customer", *California Management Review*, Vol. 37 No. 4, pp. 8-27.

McNamara, C., Baxter, J. and Chua, W.F. (2004), "Making and managing organisational knowledge(s)", *Management Accounting Research*, Vol. 15, pp. 53-76.

Miller, P. (1992), "Accounting and objectivity: the invention of calculating selves and calculating spaces".

Miller, P. (1994), "Accounting as social and institutional practice: an introduction", in Hopwood, A. and Miller, P. (Eds), *Accounting as Social and Institutional Practice*, Cambridge University Press, Cambridge, MA, pp. 1-39.

Miller, P. and O'Leary, T. (1987), "Accounting and the construction of the governable person", *Accounting, Organizations and Society*, Vol. 12 No. 3, pp. 235-65.

Mouritsen, J. (1997), "Marginalizing the customer: customer orientation, quality and accounting performance", *Scandinavian Journal of Management*, Vol. 12 No. 1, pp. 5-18.

Mouritsen, J. (1999), "The flexible firm: strategies for a subcontractor's management control", *Accounting, Organizations and Society*, Vol. 24, pp. 31-55.

Mouritsen, J., Larsen, H.T. and Bukh, P.N. (2001), "Intellectual capital and the 'capable firm': narrating, visualising and numbering for managing knowledge", *Accounting, Organizations and Society, 26, pp.*, Vol. 26, pp. 735-62.

Munro, R.J. (1995), "Managing by ambiguity: an archaeology of the social in the absence of management accounting", *Critical Perspectives in Accounting*, Vol. 6, pp. 433-82.

Munro, R.J. and Hatherly, D.J. (1993), "Accountability and the commercial agenda", *Critical Perspectives on Accounting*, Vol. 4, pp. 369-95.

Naumann, E. (1995), *Creating Customer Value: The Path to Sustainable Competitive Advantage*, Thomson Executive Press, Cincinnati,OH.

Ogden, S. (1997), "Accounting for organizational performance: the construction of the customer in the privatized water industry", *Accounting, Organizations and Society*, Vol. 22 No. 6, pp. 529-56.

Ogden, S. and Clarke, J. (2005), "Customer disclosures, impression managment and the construction of legitimacy", *Accounting, Auditing & Accountability Journal*, Vol. 18 No. 3, pp. 313-45.

Peters, T. and Waterman, R. (1982), *In Search of Excellence*, Harper, New York,NY.

Porter, T. (1992), "Objectivity as standardization: the rhetoric of impersonality in measurement, statistics, and cost-benefit analysis", in Megill, A. (Ed.), *Annals of Scholarship*, Vol. 9 Nos 1-2, pp. 19-59.

Power, M. (1992), "After calculation? Reflections on critique of economic reason by Andre Gorz", *Accounting, Organizations and Society*, Vol. 17 No. 5, pp. 477-99.

Quattrone, P. and Hopper, T. (2001), "What does organizational change mean? Speculations on a taken for granted category", *Management Accounting Research*, Vol. 12, pp. 403-35.

Robson, K. (1992), "Accounting numbers as inscription: action at a distance and the development of accounting", *Accounting, Organizations and Society*, Vol. 17 No. 7, pp. 685-708.

Seal, W., Berry, A. and Cullen, J. (2004), "Disembedding the supply chain: institutionalized reflexivity and inter-firm accounting", *Accounting, Organizations and Society*, Vol. 29 No. 1, pp. 73-92.

Simonsen, I. (1993), "Get coser to your customers by understanding how they make choices", *California Management Review*, Vol. 35 No. 4, pp. 68-84.

Skaerbaek, P. and Melander, P. (2004), "The politics of the changing forms of accounting", *Accounting, Auditing & Accountability Journal*, Vol. 17 No. 1, pp. 17-40.

Slater, S. and Narver, J. (1998), "Customer-led and market-oriented: let's not confuse the two", *Strategic Management Journal*, Vol. 19, pp. 1001-6.

Treacy, M. and Wiersema, F. (1997), *The Discipline of Market Leaders*, Addision-Wesle, Reading,MA.

Vaivio, J. (1999), "Examining the quantified customer", *Accounting, Organizations and Society*, Vol. 24 No. 8, pp. 689-715.

Walsh, E.J. and Jeacle, I. (2003), "The taming of the buyer: the retail inventory method and the early twentieth century department store", *Accounting, Organizations and Society*, Vol. 28 Nos 7-8, pp. 773-91.

Walsh, E.J. and Stewart, R.E. (1993), "Accounting and the construction of institutions: the case of a factory", *Accounting, Organizations and Society*, Vol. 18 Nos 7/8, pp. 783-800.

Corresponding author
Suresh Cuganesan can be contacted at: suresh.cuganesan@mgsm.edu.au