Examining "The Quantified Customer"

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Abstract

Accounting has not escaped The Customer's influence in contemporary organizations. Calls have been made for a quantitative knowledge that installs a new calculable space in the name of The Customer. In an organizational setting, a UK sudsidiary of Unilever, the paper traces first the introduction of this quantitative knowledge. The paper examines the order of "The Quantified Customer", its effects on organizational action, and its disciplinary implications. But this enquiry also uncovers a rival knowledge of The Customer. The resistant local knowledge is mobilized against the new calculable space—changing the trajectory of events. © 1999 Elsevier Science Ltd. All rights reserved.

1. Introduction

What is a Customer? The question was unearthed in bold print on an internal manual of Lever Industrial, United Kingdom, the empirical context of this study. For this company, the official answers appeared clear-cut:

A Customer is the most important person ever in this office—in person, by mail, or by telephone.

A Customer is not an outsider to our business—she is a part of it.

A Customer is not dependent on us—we are dependent on her.

These textual observations illustrate what magnitude the imperative of The Customer has gained in contemporary organizations. Embodied into programs of industrial efficiency and market orientation (Kohli & Javorski, 1990; Maskell, 1989), and sustained by commercial agendas such as Total Quality Management, The Customer now plays a critical role in "the new economic citizenship" (Miller & O'Leary, 1993, 1994). In the name of The Customer's demands, strategies are reshaped and production processes are reordered (Schonberger, 1990; Whiteley, 1991). Governance structures and managerial technologies are designed to perpetuate The Customer inside organizations. Clearly, substantial efforts are being made for coupling The Customer more tightly into the enterprise (Miller & O'Leary, 1987, 1993; Munro & Hatherly, 1993).

Accounting has not escaped The Customer's growing influence. Demands are being made for the production of a quantified knowledge that transforms The Customer into a novel, highly flexible calculable space inside the enterprise (Miller, 1994; Miller & O'Leary, 1994). It has been suggested that conventional management accounting techniques should be reinforced by

calculative routines that link The Customer directly with the innermost organizational activities (see Mouritsen, 1997, pp. 5–6; 1994). As articulated in proposals for more comprehensive "scorecards" and company "dashboards" (Eccles, 1991; Kaplan, 1995; Kaplan & Norton, 1992, 1993, 1996; see also Ezzamel, 1994a and Lebas, 1994), management accounting is taking a progressive leap beyond monetary measurement as non-financial, "Customer-focused" measures become a part of the modernized management accounting apparatus. In this enquiry, the alignment of accounting's "new hard numbers" with The Customer will be discussed in terms of "The Quantified Customer."

Transforming The Customer into a calculable space seems at first like the latest mutation of "governing" and "managing" by numbers (Ezzamel, 1994a; Ezzamel, Hoskin & Macve, 1990; Hoskin & Macve, 1994; Miller, 1994) or "management by accounting" (McSweeney, 1994, 1996). However, this study takes the perspective that the construction of The Customer's calculable space and the creation of new quantified entities, in general, merit thorough consideration. The purposeful quantification of organizational life, management that builds upon new calculable entities, and the problematics which are associated with these calculable spaces are not marginal phenomena. Calculable spaces—designed in the name of normative ideals and assertions like The Customer—play a central part in the changes that a large number of enterprises are undergoing. Instead of being a trivial technical improvement, The Quantified Customer encompasses fundamental organizational issues. This needs to be examined in earnest.

With quantification, The Customer is reinscribed in arguably more objective terms (Robson, 1992), symbolizing commitment to rational conduct (Brunsson, 1989; Meyer & Rowan, 1977). But the calculable space of The Customer especially opens up new visibility across segments. And it reallocates attention by altering institutionalized scripts (Scapens, 1994; Scapens, Burns & Ezzamel, 1996)—imposing new preferences into everyday choices. It reconstitutes organizational order (Hopwood, 1983, 1987). Moreover, within this calculable space, activities are rationalized, new dependencies are established, and new forms of management are applied (Miller, 1994). Ultimately, important modes of organizational action become affected. Hence, because more should be known about the emergence and the real purposes of these powerful "new" quantified entities in organizational contexts, the paper first addresses the events which lead to the quantification of The Customer in a specific locale, Lever Industrial, United Kingdom. It then proceeds into an investigation of how this particular knowledge actually operates in aligning organizational order with the discourse of The Customer. The process of this alignment will be exposed in detail.

But this study also points out that The Customer's calculable space sustains particular disciplinary practices. The new formal knowledge "by numbers" is implicated with the organization's underlying structures of power. The Quantified Customer can be seen as an expression of power/knowledge (Foucault, 1977, 1980; Hoskin & Macve, 1986), having both enabling and constraining effects. The quantitative knowledge of The Customer penetrates into protected organizational niches, regulating practices, forging new routines and consolidating the interests of expertise. In these instances relations of power are inevitably located (Clegg, 1989, 1994; Deetz, 1992). The Quantified Customer is far from a neutral instrument that avoids the interconnections between power, discipline and certain practices of knowledge. This could also be observed at Lever Industrial, United Kingdom. Therefore, because a new order suggests new organizational dependencies, the paper seeks an understanding of the mechanism which relates disciplinary aspects and subtle elements of power with The Quantified Customer.

However, this study is particularly concerned with approaching the creation of quantified entities in organizations uncritically. Hence, the introduction of The Quantified Customer should not be accepted as an unchallenged, consensual process. The organization should be recognized as a turbulent arena in which different knowledges are embedded. Encounters with other organizational knowledges of The Customer take place

(Ahrens, 1997) and collisions often occur between competing forms of knowledge. In contrast to normative claims, transforming The Customer into a calculable space can become a controversial exercise. Instead of meeting passive relays, resistance to new knowledge can suddenly develop. As the examination of Lever Industrial, United Kingdom suggested, a rival knowledge of The Customer rises against The Quantified Customer, contesting accounting's expansionist attempt to fix The Customer's meaning.

The study focuses in detail on the organizational resistance to The Quantified Customer, investigating the knowledge-base of this resistance, as well as its articulation (Armstrong, 1994; Clegg, 1989, pp. 207–208; Ezzamel, 1994b, p. 220; Knights & Collinson, 1987; Scapens & Roberts, 1993). The study is illustrative of how a rival knowledge and resistant counter-discourse meet the advance of The Quantified Customer. The foundations and the specific forms of a locally grounded knowledge of The Customer—producing other disciplinary implications and containing an alternative logic of action—will be investigated and analyzed. The implications of this resistance in what concerns the creation of a "Customer-focused" calculable space will be uncovered.

The paper combines observations from an explorative case study at Lever Industrial, United Kingdom with a theoretically informed interpretation of events. It traces The Quantified Customer in a briefly sketched industrial environment where a number of pressures have appeared for a prompt quantification of The Customer. The original data were collected during a period of almost six months in 1992–1993. This empirical material included 42 field interviews, amounting to more than 48 full interview hours on several organizational levels at Lever Industrial (see Appendix C). The interviews were not tape recorded to minimize respondent bias, but notes were taken by hand and were immediately transcribed after the interviews. A triangulation of the interview observations was attempted by engaging into participant observation of several management meetings that concerned The Quantified Customer in this specific locale, and by studying numerous documentary sources, like budget reports, internal manuals and memos, as well as official corporate plans (McKinnon, 1988; Vaivio, 1995, p. 36). Numerous informal conversations with informants provided invaluable clues as to how the interview observations and documentary data should be viewed and interpreted. Whilst penetrating deep into the investigated organizational reality, the study tried by multiple means to avoid the "Veranda Model" of field research (see Scapens, 1990).[1]

In the following, the paper explains the complex conditions that prevailed on the explored organizational site. It then traces the introduction of The Quantified Customer in this setting and examines its de facto functioning. Next, the mobilization and articulation of a rival knowledge, a challenging organizational discourse of The Customer is investigated, leading to the final act of this detailed narrative. The paper concludes with a discussion of the main findings.

2. Tracing "The Quantified Customer" at Lever Industrial, UK

2.1. Coping with complexity

At first glance, Lever Industrial, United Kingdom (LI-UK) failed to capture any particular research interest. In 1991 it stood as a rather unimpressive part of the industrial detergents business of the multinational Unilever PLC, producing a variety of chemicals and some accompanying cleaning equipment. With two factories it had a turnover of £70 million and employed about 750 people, not large figures on the Unilever scale. Nor was there anything unusual about the technology it applied. Mixing primary chemicals was not a demanding task. Also, in the floorcare machines business of the company, assembling rotaries and vacuum-cleaners happened without

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[1] The "Veranda Model" is introduced by Burgess (1984) as a model of anthropological fieldwork where Victorian researchers viewed, often with some detached contempt, the studied natives from the verandas of their colonial residencies (see Scapens, 1990, p. 278).

robotics or JIT-ideals—this was "low tech", the Technical Director explained. Moreover, LI-UK's experiments with Total Quality Management were not very original either. The company had embraced the Total Quality discourse and had started to discover the importance of "The Customer". But one should guard against first appearances.

What was, in closer examination, impressive about LI-UK was the intricacy of its operations. The company's products, often intended for very specific uses, were numbered in the hundreds and were of a perplexing variety—liquids for dishwashers, laundry detergents, conditioners, soaps, kitchen degreasers, polishers, sanitizers and scourers, to name a few. And the company had a heterogenous customer base, ranging from large food producers and catering operations to modest hotels and canteens. To complicate matters, LI-UK was not only offering its multiple customers the above mentioned physical products. It supplied most of them with high value added bundles of physical products and specialized services— with "Total Hygiene Systems". These individually tailored packages, differentiating the company against its rivals, consisted of physical products, "hygiene consulting" services, technical equipment and effective field engineering assistance. Hence, the multiplicity of product/service combinations which were offered to such a diversity of customers entailed substantial complexity at LI-UK. One of the company's Sales Managers, for instance, commented:

> LI-U.K. has so much diversity. The complexity of the business is really our Achilles heel.

But the company tried to cope with this inherent complexity by serving clearly identified market segments—each requiring particular products, specific equipment, certain types of services, and peculiar distribution channels. Separate profit responsible business units were a necessity (see Appendix A).

The largest unit, Industrial and Leisure, served cleaning companies, hotel chains and caterers. Another important unit, Food and Beverage Hygiene, provided comprehensive systems for these industries. Public and institutional customers, like schools, were served by the Contracts segment. The smallest customers, pubs and farms for instance, were usually addressed through cash and carries by the Promotional/Agri unit. Finally, Healthcare specialized in the problems of hospitals. All of these customer groups were providing LI-UK with widely differing challenges. In Food and Beverage Hygiene, LI-UK had to be familiar with food producers' complex processes. The company elaborated "hygiene plans", introduced special products, trained customer staff and provided an uninterrupted flow of chemicals and field engineering service. Customer intelligence, technical know-how and specialized marketing efforts were all required. By contrast, serving minor customers was based on the reputation of brand products, like the "Domestos" cleaning liquid.

It should be stressed that individual customer preferences could vary and were often highly idiosyncratic also, inside these market segments. Some industrial customers, for instance, would appreciate elaborate technical solutions and a comprehensive range of special products. With a number of buyers, physical product quality would be crucial. Others would see prompt delivery of a few bulk products as critical; a manager joked that LI-UK would make headlines if it failed to deliver its dish-washer soaps to Heathrow airport's catering, a big customer.

Clearly, thorough market expertise was essential in this complex environment. In the company's rather traditional functional organization the managers of the five business units, thus, held a position of relative strength. Profit responsible "Sales Managers", as they were addressed, were acknowledged specialists of their respective market segments. They remained deeply involved with their customers' intricacies. Moreover, the Sales Managers held a firm grip on substantive parts of the company's productive chain. The other "functional units"—technical production, quality control, delivery, as well as the important field engineering and Customer Services functions— remained tightly coupled to the Sales Managers' operational guidance. Through unofficial but well-established horizontal channels and often direct

personal links of influence, the Sales Managers would relate with the functional units on an ongoing basis. This pervasive lateral management and co-ordination of operational action was not recognized in the company's official functional structure, however.

As the inquiry proceeded, an unusual feature in LI-UK's structure drew attention. The company had a Deputy Chairman and "Commercial Director" who was in fact LI-UK's Controller. He was head of the accounting department and served as a link to LI-UK's international mother company, Lever Industrial International. But the Commercial Director's position, which is often emphasized in Unilever organizations, had become even more central through a recent, rather unorthodox organizational arrangement. Following the turmoil caused by a major acquisition, several important service functions were subordinated under his authority. Distribution and the internally co-ordinating "Customer Services" entity, as well as the critical field engineering unit, now had to report directly to the influential Controller/Commercial Director.

2.2. Enter The Quantified Customer

From the beginning of 1991 something occurred at LI-UK which captures attention and stands as the focal point of this investigation. The "Customer Service Summary", hereafter referred to as the CSS, was introduced. In technical terms this was a monthly management report which complemented financial measurements by regularly monitoring an array of activities and functions that were deemed critical areas of this locale in terms of The Customer's satisfaction. With the CSS the company was "..trying to build an approach to monitoring Customer Service that is valuable to our Customer and therefore to ourselves", an internal memo stated. A dozen non-financial measures—such as total customer complaints and quality complaints in particular, the number of deliveries out of specifications, uncompleted field engineering jobs, stock availability, invoicing complaints and received business enquiries—would become the numerical texture which was now to portray The Customer's wants within the company. The Quantified Customer was born.

Some developments which preceded the emergence of The Quantified Customer should briefly be noted. First of all, its ancestor, The Customer, had already been deployed onto the studied scene. Through acquisitions, the rhetoric of The Customer was transplanted into LI-UK, as the acquired units embraced various "Total Quality" agendas. These units served as solid reference points and ready models of advanced practice (DiMaggio & Powell, 1991, p. 69), standing as illustrative terrains that The Customer had successfully conquered. "The Customer was put in the middle", a manager observed. LI-UK's top management was especially influenced by the performance of Solan, an acquired specialist of hygiene solutions for the food industry. Solan emphasized "Customer orientation" and could, for instance, promise The Customer order-day delivery. A manager recalled these early events and the example set by Solan: "We started asking what The Customer really means." But another company which had also given The Customer consideration was Jeyes Hygiene, a larger floorcare company that merged with LI-UK in 1989. Jeyes Hygiene, as LI-UK's Customer Info manager pointed out, had been seeking "improvement" in the eyes of The Customer with an internal, Total Quality-inspired efficiency program called "Our Service at Your's".

Second, it should be stressed that within other Unilever companies a coercive pressure concerning The Customer was gathering strength (DiMaggio & Powell, 1991, pp. 67–68), as can be documented in a quote from Unilever's Total Quality manual, "The Delighted Customer":

> Without measurements, we are unable to monitor progress effectively and thus refine the improvement effort…To create appropriate measures, we need to look again at our customer's needs and devise standards which most closely represent her.

As could be directly observed by attending an internal Unilever Total Quality meeting, units such as Elida Gibbs in personal products had proceeded far into quantitative measures of The Customer.

Furthermore, The Customer appeared to ask for recognition as a quantified subject. The company's customers had established quantitative "scoring systems" for monitoring the "quality" and reliability of their suppliers, often looking forward to certified production standards such as the ISO 9001. As the company's Customer Services Manager noted, LI-UK was for instance given a precise temporal "window of arrival" in some deliveries. This was tightly monitored. Physical delivery of LI-UK's products was to take place strictly, for example, between 1.30 and 3.00 pm every Monday. Such demands by The Customer were recognized in a budget review as follows:

> Customers are increasingly requiring formal statements concerning service targets, quality standards, and health and safety practices. These are seen to be basic requirements before contracts can be entered into.

Finally, competition had suddenly increased in LI-UK's principal markets. Also, major problems, such as delivery delays and incorrect invoicing, had recently appeared in customer relations, partly as a reflection of the restructuring which followed the recent acquisitions. A Sales Manager observed:

> Competition in LI-U.K.'s business intensified because the market place shrunk as a result of the U.K. recession.

Another manager recalled the merger with Jeyes Hygiene and the problems with The Customer:

> The merger created a lot of problems and dissatisfied Customers, so something had to be done about Customer satisfaction.

2.3. Assembling The Quantified Customer: numbers instead of "ad hocracy"

But apart from this background, the organizational incidents and the very argument which introduced The Quantified Customer need to be explored in yet another short backtrack. Here LI-

UK's Commercial management, and the Commercial Director especially, should be given central stage. For the quantification of The Customer seemed to be very much a Commercial initiative, as several accounts suggested. The CSS was regarded as the "brainchild" of the Controller/Commercial Director. He was considered the report's organizational "owner". In the words of an informant from the company's accounting function, "there was an overall Commercial responsibility over the CSS". Thus, with the Commercial Director chairing, a somewhat unbalanced "cross-functional" design team was formed around the concept of The Customer. The team involved a dozen functional managers from such "critical" functions as distribution, field engineering, logistics and quality control, but did not include any representatives from Sales, however.

Once within the team, The Customer was drawn into the focus of rapidly moving events. The Customer's "dissatisfaction" with LI-UK was first dramatized. A detailed re-examination of the company's "business processes" from The Customer's vantage point followed. As a result, the team's efforts exposed a picture of the poorly performing areas that disappointed The Customer. Six organizational areas were identified as "failures" vis-à-vis The Customer. These "failures" were visualized in a "fishbone-chart", showing the roots of "Customer dissatisfaction": missed deliveries and out of stocks, disappointing product performance, incorrect invoicing, unresolved complaints, poor field service and failures in responding to The Customer's enquiries. Then the team set out to find, as a member loosely described, "something realistic, acceptable and meaningful" which was to produce lasting results in the unraveled causes of The Customer's discontent.

What emerged next from the team's considerations was, in retrospect, much more fundamental. With the Controller/Commercial Director holding the initiative, a consensus was formed on how the company should move beyond "ad hoc approaches" in its overall relationship with The Customer. With this concept the team sought to problematize persistent modes of operational action which prevailed at LI-UK (see Miller, 1991, pp. 737–738). "Ad hocs" were unaligned, unsystematic

management initiatives along LI-UK's productive chain. They were sporadic efforts for better physical quality in one of the multiple products, for a tighter delivery time with a particular buyer, or for better field engineering service in a couple of the many sales areas. All these managerial moves were, it seemed, taken for the benefit of The Customer. But they suffered from wrong priorities, poor preparation, lack of consistency and minimal internal co-ordination. They were now regarded as unplanned and often hastily executed individual initiatives which were dispersed around the organization. As a team member recalled, The Customer was suffering because of this disorganized activity: "We were a bit of a mess; not giving Customers the sort of service they wanted." "Some sort of co-ordination, harmonization and standardization was needed", the company's Quality Manager added. Moreover, for the Commercial Director in particular, it seemed as if these "ad hocs" could not achieve sufficient "improvement" or any permanent results vis-à-vis The Customer. The team soon agreed that things would change. A fundamentally different solution than piecemeal "ad hoc approaches" was sought to the problem of The Customer's quite obvious "dissatisfaction".

For the team, systematic measurement seemed to provide an answer. A progressive calculative practice was needed for regaining The Customer's goodwill. Once represented with a handful of well-pondered measures The Customer would, it was hoped, become a formalized, stable and more authoritative entity at LI-UK. The Customer would become something firmer and more predictable than an elusive concept which remained trapped into "ad hocracy". The Customer would become more than a matter of arbitrary interest and impulsive individual initiatives. Measures would ensure that vagueness was replaced by precision. And these measures that represented The Customer would finally systematize the frantic but ineffective "ad hoc" actions—they would serve as a co-ordinating and stabilizing medium. Also, they would become deeply embedded into the organization, instituting a permanent concern for The Customer. Instead of a disorderly and subjective "ad hocracy", a coherent and objective system would become established—one which would steer the company in the right strategic direction. The Customer Services Manager, a team member, explained:

> Measurement is essential in the long run. You have to build in measurements into the business, otherwise you don't cope with change...Without measurements you can be happily going on and not be concerned.

The measures would, however, also have other powers which became acknowledged within the team. Quantification would create a formalized organizational memory. It would introduce a documented dimension of internal comparability in space and time. With the backing of The Customer, unambiguous norms of accomplishment could be articulated for certain key activities. An element of standardization could be imposed upon the organization's most critical achievements which were related to The Customer. And better performance would naturally be required, since otherwise the company's future would be put in jeopardy. "Improvement was important", the Commercial Director emphasized. The Quantified Customer would be mobilized as a permanent "exercise in discomfort" which was to drive out complacency, as the Commercial Director observed whilst further explaining the CSS's design. "You wanted to see an improving trend", the Logistics Manager added.

Building on the above steps, the team's remaining task was to agree on the cluster of measures that would, in concrete terms, delineate The Quantified Customer. To speed up matters, there was little dwelling on what sort of technology and what type of numbers would here be useful. Within the company's Commercial function "non-financial measures" were held in high esteem. In the Commercial Director's opinion the introduction of non-financial measures was highly important, since "that is how the company should be run", he observed. LI-UK's Chief Accountant commented for his part:

> Non-financials are the things we ought to manage. Traditional accounting has been a good cover-up for many people. It has been convenient to manage pounds.

As a consequence, it was agreed that the suitable measures for crafting The Quantified Customer were to be non-monetary in nature. These were perceived as the most modern and most tangible figures that should represent The Customer—showing "how the Customers would judge us", as a manager recalled. The Commercial Director went even further on this point. "The measures came from Customers", he maintained.

A pool of various non-financial numbers which already existed at LI-UK was of considerable value to the design team. Some of these existing measures were "local" operational figures and had a long history at LI-UK. Delivery's performance, as well as stock levels, had always been measured by their respective managers. A manager recalled these measurements, which dated from the company's early days in the 1970's, and which were now remobilized in the CSS:

> People kept sometimes an eye on things like speed of delivery and split orders, but it was not systematic assessment and following.

For his part, LI-UK's Managing Director commented further on the rediscovery of these now valuable "local" measures:

> The CSS contains some local information that generations of managers have been keeping. The information has been there. The difference is that previously it was not considered as important. And it was not collected in a systematic way. Now we say 'Hey, this is actually important!'.

Other existing measures which were also rediscovered dated from earlier, more modest Total Quality experiments which had, however, been aborted. In these TQ-efforts, the previous Managing Director of LI-UK, a TQ-enthusiast, had required some corresponding non-financial measurements that supported the TQ program. In these somewhat unsystematic attempts of non-financial calculus, LI-UK "..started to tackle black holes by internal measurements", as a service manager recalled. For example, non-financial measurements on field engineering's performance had been reported to the previous Managing Director. Most of these "old" but unorganized and dispersed TQ-measures were still available. Another source of non-financial data thus became identified.

For the CSS, field engineering would now be monitored by "uncompleted engineering contracts" and by "the percentage of breakdown response within time specifications". And the amount of "customer complaints", also an "old" TQ-measure, was now revitalized. A more focused measure, complaints concerning product quality in the chemicals in particular, was refined from this existing stream of quantitative data. Yet another measure, "new business opportunities" was further elaborated from the existing information source. "We also wanted to measure something positive", the Commercial Director explained.

Some new measurements were also needed for The Customer's full quantification. Product quality in the manufactured cleaning equipment was to be monitored with a surrogate measure, "the proportion of delivered machines requiring service". An engineer from the machines department observed: "It was really a stab in the dark for getting a measure of how things were looking. It was an entirely new concept for us". Finally, a recently installed "query management system" supplied data about The Customer's invoice queries—the result of an invoicing "failure". Hence, the CSS would include measures of "received and resolved invoice queries".

Most of these non-financial measurements could be further analyzed to a certain degree and were broken into "sub measures", showing especially "performance by sales operation". For instance, "customer complaints" graphics showed whether the complaints were due to "stock", "distribution", "processing" or "other" problems. Complaints could also be further analyzed by selling operations. Thus, with this elaborate metrics once compressed into the CSS's compact reporting format, The Quantified Customer took its final shape. (See Appendix D for the CSS measures.)

2.4. Living with The Quantified Customer: "Customer Service meetings"

What The Quantified Customer now needed was an appropriate organizational arena where it

would be introduced and where it would operate. This was created and declared the "Customer Service meeting". These regular monthly gatherings were instituted and were meant to become cross-functional in character, bringing together key functional managers, all Sales Managers and some expert staff. They were chaired by the Commercial Director. "The Customer Service meetings were very much commercially led meetings. It was the commercial people trying to raise quality," a manager noted.

Within these meetings The Quantified Customer became embedded in the necessary social platform where its true potential would be discovered. In the context of these rituals, the select "critical" organizational agents would first listen to the Commercial Director displaying the compiled quantitative data of the summary. It should be emphasized that the participants would then proceed by discussing the so called "key issues" which The Quantified Customer was most forcefully pointing at. Emerging foremost from the month's fresh quantitative material—and constituting the agenda of the meetings—these central themes were selected by the Commercial Director. By highlighting a few "key issues", the Commercial Director would guide the course of the CS meetings.

2.5. Establishing "improvement"

As intended, "improvement" became a preoccupation of The Quantified Customer. A moral recalibration of the organization appeared to be underway—The Quantified Customer had successfully penetrated the selected locales at LI-UK, rendering these calculable and remaining tightly linked to them. The Field Engineering Manager, for instance, emphasized:

I never discard my measurements. They are highly important. They don't always address the specific, but they show you trends. Looking at trends, often over the years, reveals interesting developments which otherwise would be forgotten in day-to-day fire fighting.

The new standard measurements—publicized and celebrated within the company—were

"..effective in bolting down some spirit and important ideals", the company's Chairman explained. Encouraging hard numerical facts about "improvement" were exhibited in graphical format, some of them being elevated to "key issues" such as illustrated below:

Service response for company improved further to 96% (Field Eng. sect., March 1992).

Delivery sizes improved particularly in Contracts and Food & Beverage Hygiene. (Delivery of Orders section, April 1991.)

Service levels of 1.7 days average process time is the best this year. (Delivery of Orders section, September 1991.)

By building a record of achieved "improvement", which allowed for comparisons in time and also between various functional units, The Quantified Customer would, of course, not focus solely on the positive. The "trends" of the measurements, as they were called, could manifest such negative developments within the company as in the "key issues" that follow:

Quality complaints highest this year, mainly in Industrial & Leisure. (Product Quality section, September 1992.)

Damage complaints are increasing. (Customer complaints section, November 1991.)

Very quiet overall compared to previous months." (New Business Opportunities section, November 1992.)

Deviations from the normalizing targets and standards, articulated with the specificity of quantitative expression, would be revealed. Moreover, they would become shared and widely publicized within the organization. A new form of knowledge based on numerical clarity was fixing the expected organizational virtues in the monitored areas of "performance." As a consequence, a certain amount of self-surveillance appeared in the followed activities at LI-UK. Because of The Quantified Customer's

persistent tracking it seems that "improvement" became internalized as a serious concern in many functional locales. A manager from the engineering design department, for instance, observed:

> With measurement we have an objective way of looking at things. You cannot sweep hard results under the carpet if you see the graph slowly rising.

Much evidence suggested that the vocabulary and the formal calculations of "improvement", as well as the less pleasing technology of "trends", were quite well received in the functional niches where The Quantified Customer became attached. After further investigation, it appeared that a practical defensive potential had been discovered in The Customer's quantification. Because of the argumentative power of the formal measurements, they were readily embraced by LI-UK's functional managers. To them the measures constituted insulating and much needed defensive formations against negative rumors and attacks—which often emanated from the Sales domain. A Design Engineer explained this further:

> The measurements have helped us to squash rumors—for example about vacuum cleaners. Rumors breed and magnified stories go round. If one machine breaks, by the time it has gone round the company, it's suddenly twenty machines that went down. Now we can ask which serial number it was and beat a rumor by showing how many actually failed.

The Sales Managers, in a functional manager's words, often "got emotional about problems that happened yesterday", in their frequent "direct" connections with the functional units. These instances caused considerable resentment. The novel measurements, it seemed, now provided the rigorous facts for fending off such unwarranted criticism (see Earl & Hopwood, 1980, pp. 9–10). The measurements protected established functional privacies. They reduced the functional dependency from the Sales-led business units. The documented and accurate quantitative knowledge would have the upper hand on the often vaguely articulated and perhaps more emotionally charged claims of the Sales Managers. For instance the Quality Manager further clarified:

> Some people say that 'We are having a problem with quality' and put the blame on Quality people...When somebody exaggerates and says 'We are having dozens of quality problems', you can grab the CSS and say 'No—we didn't have dozens but only two last month'.

2.6. Diagnosing the urgent

However, The Quantified Customer also became implicated with other, perhaps finally more important mechanisms. These dealt with the alleged "ad hocracy" at LI-UK. This investigation was initially introduced to these issues, and to other related questions which were soon to unfold, by recurring comments from several interviewees that stressed the "diagnostic" role of the CSS measures. The company's Quality Manager, for instance, characterized the measurements as "information for identifying, in a diagnostic sense, where a particular problem lies." He was echoed by another manager, who described the measures as "focusing attention to key areas by bringing them under the light". And for his part, the Distribution and Customer Services Manager observed bluntly: "The measures made your mistakes appear."

Hence, what gradually emerged was a deeper understanding of The Customer as a calculable space. The new measurements probed deep into the workings of the studied organization, creating an unprecedented urgency within it. In the monthly Customer Service Meetings, more of The Quantified Customer's potential became realized. Abrupt turns or large variances in the measured variables would be crying for explanation. Fortunately, measures could breed some new measures, amplifying the effect of the original calculus. In the company's jargon "submeasures" were at times derived from the original figures. Factors "standing behind" deviations of particular measures were

analyzed, dramatized and then discussed. "Root causes" were identified and held for examination. The Commercial Director explained: "If we found important root causes they then became urgent issues in the meetings". The company's Field Engineering Manager, recalling these purposes of the meetings, also admitted: "Some people felt they were being put under the microscope".

For instance in the practices of field engineering, a "key issue" that dominated the agenda of the CS meeting in March 1991 concerned the company's performance in responding to The Customer's service calls. This was highlighted in the CSS in the following terms:

> Service response (breakdown calls) down to 78% this month. Work in hand to identify causes. (Field engineering section, March 1991.)

In the same meeting, also invoice queries and customer complaints had been identified as objects of attention. The new measurements indicated clearly that The Customer was not satisfied with LI-UK's inaccurate invoicing routines. Incorrect prices were being charged. And too many of the company's products seemed to be out of stock when The Customer needed them most. These acute problems became exposed in the "key issues" as follows:

> Queries have continued at an average rate of 75 per day, adding to the backlog. (Invoice queries section, March 1991.)

> Stock outs improved at the start of the month but fell away again towards the end. (Customer complaints section, March 1991.)

During 1991, invoice queries, field engineering's response to The Customer's technical problems and The Customer's explicit complaints about distribution and product quality continued to be urgent problem areas. A "diagnostic" study of these problems was pursued further at LI-UK, as illustrated in the acknowledged "key issues" below:

> 56% of queries in July relate to price discrepancies in Contracts, Industrial & Leisure, and Promotional areas. (Invoice Queries section, July 1991.)

> Response to breakdowns fell below our target of 90% for Food and Beverage Hygiene and Industrial & Leisure. (Field engineering section, July 1991.)

> Distribution and product quality complaints increased during October. (Customer Complaints section, October 1991.)

But especially the systematic quantification of delivery's performance in The Customer's eyes caused further alarm within the company in 1991; some improvement was, however, registered towards the end of the year. These operational frictions became recognized and categorized as "key issues" in the following terms:

> Delivery performance continues to be significantly affected by stock shortages, although all sectors except agricultural showed small improvements. (Delivery of orders section, June 1991.)

> Average delivery size declined particularly in Industrial and Leisure as a result of the high number of splits [split orders]. (Delivery of orders section, October 1991.)

> Best delivery performance achieved this year. (Delivery of orders section, November 1991.)

During 1992, the diagnostic investigation of the urgent that concerned The Customer was pursued with the same intensity at LI-UK. For example, The Customer's continuing expressions of discontent were again a central topic in the March 1992 meeting. The "key issue" documented the hard facts:

> Complaints overall increased by 59 over February—stock shortages and damaged goods predominate. Complaints for March represented 6.9% of orders received. (Customer complaints section, March 1992.)

And in August 1992, for instance, product quality in the manufactured equipment became focused. The applied measures indicated that a particular product category required six times more service than other types of machines. The "key issue" was fixed on the problem with these words:

> Scrubber Driers under guarantee continue to show a much higher percentage of breakdown than other groups of machines. (Product quality section, August 1992.)

Moreover, in October 1992 the invoice queries of The Customer would again become recognized as a serious, acute problem-area. A "root cause" analysis yielded the following "key issue":

> Damages & Pricing form the highest proportion of invoice queries. (Invoice queries section, October 1992.)

Nevertheless, by the year's end not much had changed in The Customer's negative reactions towards LI-UK, as presented in the CSS:

> Areas of concern are short deliveries and machine complaints. (Customer complaints section, December 1992.)

Hence, because of The Customer's quantification, such "urgent issues" as illustrated in the examples above dominated the agenda of the CS meetings. The urgent operational problems became elevated into official "key issues" by the Commercial Director—on the basis of the evidence of the novel calculus that had been installed in the name of The Customer.

2.7. The making of a new order

With The Quantified Customer's "diagnostic" knowledge, a restructured organizational order could be introduced—an order which would replace the prevailing, incoherent "ad hocracy" around The Customer (Hopwood, 1986, pp. 17–18). A new way of selecting which cues matter and a new way of constructing the problematic

became established at LI-UK (Weick, 1995). What were the most acute operational problems which cried out for management attention? Which urgent functional issues predominated and demanded instant recognition? What organizational initiatives were needed in specific activities? In the monthly meetings, the quantitative knowledge of the CSS was used for "seeing what was going on in the business", as an informant observed. The Quantified Customer now constituted the systematic and "objective" assessment of the urgently important. It would point out the burning "problems"—the very "key issues" which were to be acknowledged and acted upon at LI-UK. And what the latest "Customer Service" measures focused on would naturally be endowed with much organizational relevance. Consequently, the measurements of LI-UK's "failures" in The Customer's eyes would give prominence to certain types of operationally significant matters.

In the operational management process a new order emerged. Because The Quantified Customer was fundamentally a Commercial initiative at LI-UK, this knowledge embodied the values and assumptions which emanated from accounting's expert judgement. The Quantified Customer was an extension of accounting's arguably "rational" analysis—an analysis that maintains a distance to its objects. This quantitative knowledge reinforced formal ways of seeing and reasoning (see Meyer, 1986). Hence, by following The Quantified Customer's guidance, the objects of organizational attention had to fit into the summarized, standardized, and numerically documented format of the CSS.

The operationally problematic became defined with specific patterns of calculus. And within the calculable categories of the CSS operational reality was constructed from computable units. With The Customer's calculable space a more general order would be established, overshadowing the minutiae of concrete particularities. Reflecting on this, the company's Customer Information Manager, who regularly assisted the Commercial Director in preparing the necessary quantitative knowledge for the Customer Service Meetings, noted the following:

You cannot rely on an emotional response. You should quantify, try to be objective and set realistic targets. You should measure.

Quite a number of objects which were not calculable became, of course, marginalized. Or they would not be included in The Quantified Customer's calculable model of LI-UK's acute reality in the first place (Robson, 1992, p. 688). Many operationally meaningful but elusive issues were not captured by the quantifications of the CSS. Also, the fixed categories of The Quantified Customer, the identified "failures" vis-à-vis The Customer, would often not conform with the exceptions and individual "cases" of day-to-day business. Those odd instances and more irregular "failures" which had a qualitative, unique character, would not become visible in The Customer's quantification. The idiosyncrasies of The Customer, as will later be shown, would go unnoticed.

However, the complexities of operational management were reduced. A more rigorous view of necessary organizational actions—based on the calculative fundament—was replacing the myopic hunches and arbitrary gut feelings, the hallmarks of "ad hocracy". A much needed simplification of the company's ambiguous world was underway. With The Quantified Customer, the heterogenous elements of the environment and the irregularities of the operations finally became neatly structured into a more manageable space.

2.8. Reshaping action

It would, however, be hasty to assert that The Quantified Customer was only a matter of tranquilizing management consciousness, for much more was at stake. In a short time The Quantified Customer reforged concrete organizational action. With the CSS measurements pointing out the few operationally critical problems, remedial "actions" were elaborated and finally initiated in the CS meetings. Whilst chairing these meetings, several accounts suggested that the Commercial Director's role was central in the consideration of these "actions". The "actions" were subsequently discussed in the meetings and became then assigned to concerned managers or other functional experts

for execution. "About three hundred actions, of which about twelve could be called major initiatives, were undertaken in 1991," for instance the company's Customer Information Manager recalled the CS meetings.

What took shape was a rationale for reorganizing the most acute tasks. In the operational "management of the urgent", The Customer's quantification imposed a new discipline. The measurements changed the organization's responses to incidents that traditionally had belonged to the dubious realm of the "ad hoc". A realignment was underway, especially in how the company's functional activities were responding to the often abrupt turns and urgent demands of The Customer. A more formal script was now to be followed in how the company's day-to-day processes of operational action were arranged; in how the most urgent organizational initiatives were acknowledged, prioritized, and eventually launched. The company's Customer Information Manager, for instance, described the procedure of the CS meeting along these lines:

> The meetings went through in an orderly fashion. We always started the discussion from the measures, went through them, asked questions and decided over the action part.

Whilst interpreting the pieces of evidence concerning the Customer Service meetings, it appeared as if "hard" quantitative data sustained "cross-functional" analysis of the company's operational moves. Following the schedule of the meetings, different action alternatives were formulated with the assistance of the quantitative knowledge. These options and their consequences were then evaluated in the context of the CS meetings. Well-focused and synchronized actions were considered and sometimes fiercely debated; "There was a lot of emotion in the meetings", the Commercial Director admitted. Internally consistent efforts were sought and different opinions on these were respected. Finally, an agreement was usually reached. Co-ordinated actions were launched for tackling the urgent and for removing frictions in the now calculable areas of the productive chain. Clearly assigned individual

responsibilities were imposed. The CS measures finally "put people on the spot and created a monitoring track", as a manager observed. The diverse "ad hoc" actions, it seems, yielded ground for these more rationally managed efforts.

For example, the previously illustrated "key issues" in field engineering and invoice queries of March 1991 resulted in specific "actions" that were documented in the CSS as follows:

Evelyn D. to analyze breakdown response." (Field Engineering section, March 1991.)

Implement short term measures to overcome the backlog and reduce the outstanding queries. Invite Rob O. [Chief Accountant] to next meeting to discuss the effect of the high query level on cash flow. (Invoice queries section, March 1991.)

In 1991 for instance the following actions were also implemented, as a consequence to some of the "key issues" discussed earlier:

Organize pricing training. Present the next meeting with reasons for the continued pricing errors. (Invoice queries section, July 1991.)

Martin H. to be asked if the '60 duplicate codes for Food and Beverage Hygiene equipment can be changed at the next opportunity. (Field Engineering section, July 1991.)

Compare order activity against complaints in each Sales Operation. (Customer complaints section, October 1991.)

Define core products for Industrial and Leisure with G.W. (Delivery of orders section, October 1991.)

And as a response to some problematized "key issues" in 1992, for instance these "actions" below were to be immediately executed:

Returned Persil damages to be inspected at Lever Industrial Development Center. (Customer Complaints section, March 1992.)

Clarify marketing policy to replacement of machines under guarantee. (Product quality section, August 1992.)

Investigate why it takes 5 days to process a Food & Beverage 3rd party order from order receipt to despatch. (Delivery of orders section, September 1992.)

Review the marketing protocol that alerts the pricing administrators of changes in packs. (Invoice queries section, October 1992.)

Because the new calculable space suggested novel forms of action, central parts of the organization now concentrated on finding concrete answers to the particular problems which had become highlighted by The Quantified Customer. Since organizational attention had become redirected towards the "key issues", organizational effort was forced into the much narrower alleys of the proposed "actions". Instead of addressing other, perhaps equally pressing concerns, the most urgent action was reallocated to meet the problematized and officially acknowledged "key issues"—which were backed by the "more objective" numerical data. Many rules of operational practice, in functional areas like field engineering and the company's invoicing routines, were reshaped by this formal knowledge. The widely practiced "ad hoc approaches" for managing the organization's dealings with The Customer had to make room for a more disciplined and much more centralized organizational endeavor.

2.9. The power in The Quantified Customer

Because of these developments important dependencies were rearranged. Also, the new knowledge of The Customer exposed its intimate links with power (Armstrong, 1994; Clegg, 1989; Ezzamel, 1994b; Foucault, 1980; Hoskin, 1994; Markus & Pfeffer, 1983). With The Quantified Customer, relative influence in the organization's operational affairs was about to be concentrated to Commercial management. The accounting logic of approaching operations and Commercial management's tendency of acting on the advice of numbers could

now be extended into the innermost affairs of the functional units. The Quantified Customer enabled Commercial intervention into an array of activities. With the CS measurements the Commercial domain could influence organizational incidents deep inside the functional units. Commenting on the Commercial Director's central role in the CS meetings and his management style, the company's Logistics Manager, for instance, observed:

It was a numbers-person [The Commercial Director] driving a basically qualitative activity with an obvious quantitative bias.

Another manager had this to say:

The Customer Service meetings were very much commercially led meetings. It was the commercial people trying to raise quality.

A new and much stronger dependency between Commercial management and the functional units was becoming established—at the expense of the Sales domain. With the removal of what had been termed "ad hocracy", Sales management's established influence over the functional units was challenged. With the new calculative practice—extending commercial influence and providing functional management with "defenses" against Sales—an uncoupling of unofficial horizontal relays between Sales and the functional units was about to take place. A Sales Manager commented, with considerable reserve:

The meetings were very much the commercial people doing their own thing…we were wondering what was going on.

2.10. The emergence of The Sales Customer

But in this particular setting the quantification of The Customer would not take place in a linear fashion and without a contest. It can be argued, of course, that organizations are locales where different knowledges emerge and co-exist in relative harmony. However, it also seems that organizations are terrains where knowledges collide and

where resistance against a particular knowledge can occur. Hence, what this investigation further uncovered was the mobilization of a challenging knowledge of The Customer. This knowledge was not formalized in any way. It remained outside the "official" edifice of management systems and was lacking in analytic sophistication. By contrast, this competing knowledge was more practically rooted and was articulated in other than quantitative terms. The rival knowledge would have its own particular ways to undermine The Quantified Customer. It would become the basis for the resistance against The Customer's calculability, setting a new trajectory for events.

The rise of the rival knowledge, its discursive forms, as well as its disciplinary implications are here discussed as the emergence of The Sales Customer. The notion of The Sales Customer serves as a useful abstraction and poses a contrast. For The Sales Customer was "owned" by the company's Sales Managers. This local interpretation of The Customer was a central pilar of Sales' expertise. It contained the subtle codes of manoeuvre for the dynamic interplay between LI-UK's key functional activities and the sudden jumps of the market. Trying to understand the studied events, one cannot avoid the picture of The Sales Customer as comprising something tacit and mundane. In comparison with the programmatic rhetoric behind The Quantified Customer, The Sales Customer was built upon "little" and, prima facie, uninteresting local knowledge.

This "little", practical knowledge of The Customer came from the niches of the Sales organization. In Sales the notion of The Customer was based on a myriad of minor business practices, on intrinsic market conventions, and on the needs of a "common" and perhaps less glorious trade. Instead of an arguably "hard" calculative basis, the roots of The Sales Customer were elsewhere. The Sales Customer had been made during the countless days that Sales Managers had spent "out" in the field. From an apprehension of the detailed "hygiene problems", from being familiar with the peculiar productive environments where The Customer operated, and from the bonds to the individuals that regularly dealt with LI-UK, a detailed local knowledge of The Customer had

been constructed. This seemed to go beyond analytic exercises or surface impressions of "the market". The Sales Customer represented understanding about the varying needs and the unique operating logics of all those enterprises and institutions that had some business with the company.

In Sales, The Customer was constructed from practical know-how—from an unformalized, "qualitative" base material. The "little" knowledge of The Sales Customer was an almost prosaic part of the investigated context. It was, for example, detailed knowledge of how the dosage pumps of a food manufacturer should be calibrated for liquid washers. It was knowledge about the delivery problems to The Customer that could be avoided if a reorder was soon issued to High Wycombe. It was knowledge about when The Customer in north London was finally having enough about damaged soap packages or stock outs in critical products.

Having been ignored in The Quantified Customer's introduction and having to face its rapid implementation, The Sales Customer took a different role. Instead of remaining an ordinary building block in the Sales' claims of expertise, it stood up on the organizational scene as a discursive entity. It became externalized and articulated by the Sales Managers (Nonaka & Konno, 1998, pp. 43–44). It started to influence the organizational debate through a number of discursive elements. The knowledge components of The Sales Customer were identified and were knitted into a vocabulary. This critical vocabulary gradually took the shape of an organizational discourse, widely disseminated throughout the organization by the Sales Managers. The Sales Customer, another local form of power/knowledge within the explored context, would oppose The Quantified Customer's commercially-led expansion (Clegg, 1989; see Ezzamel, 1994b, pp. 219–220; Foucault, 1980).

Whilst examining the Sales Managers' reactions and their often harsh judgements on The Quantified Customer's advance, something central to The Sales Customer's discourse surfaced. These are revelations about the substance in this rival knowledge. They concern the alternative order which was maintained by it. And they shed light on the Sales domain's logic of action—how the

Sales Managers handled the operationally urgent in terms of "ad hocracy". Naturally, these judgements should also be attached to the prevailing organizational power arrangements and the discipline that were sustained by The Sales Customer's knowledge.

2.11. Mobilizing complexity and "the specifics"

The core in the Sales Customer's knowledge could be traced to LI-U.K.'s complexity. Because the Sales Managers soon discovered the discursive value of this complexity, they underlined how the company had to operate in multiple market segments, in a heterogenous and dynamic environment. The Customer was not a clear-cut matter, but was covered in ambiguity. As the Sales Managers emphasized, The Customer was not one but many. And The Customer was rarely a predictable and stable entity. The Customer had shifting preferences, odd tastes and sudden whims. In this light, the standardization and systematization of The Customer's variable profile seemed a futile effort. The Sales Customer remained embedded in the complexity of the business. In a representative comment on the quantification of The Customer, a Sales Manager maintained:

> Measurement, in this business, is extremely difficult because of the complexity. Customer needs are all different…When you make a plastic bottle it is easy to measure. But our product is complex—not simple at all. It is difficult to measure for example your service quality. What does it really mean to some specific customers?

By first dramatizing LI-UK's complexity, the Sales Managers regained the organizational initiative. They refocused attention on "the specifics" that mattered to The Sales Customer. "The specifics" would, henceforth, appear as a discursive category. In the Sales jargon, "the specifics" implied critical knowledge of all the relevant details and practices concerning The Customer. Moreover, "the specifics" contained the rules for coupling The Customer's wants to internal processes at LI-UK with precision. An

understanding of The Sales Customer's most recent problems and often idiosyncratic needs was hardly possible without professional experience of "the specifics". This practical knowledge of "the specifics", it was claimed, was always up-to-date. And this knowledge would of course combine with the Sales Managers' know-how on how to mix the company's products and services into comprehensive "Total Hygiene Systems". Thus, "the specifics" now gained a new significance within the debate around The Quantified Customer.

The practical knowledge of "the specifics" was often built upon tacit individual understandings (Leonard & Sensiper, 1998; Polanyi, 1966). In the organization's everyday speech it would sometimes be verbalized as idiosyncratic "touches", "hunches" and "rules of thumb". This knowledge represented the intellectual capital of the Sales Managers—the gain from field exposure. It contained fragmented pieces of detail and cues of what mattered in the field—maintaining cognitive models on how to make sense of The Customer's problems (Weick, 1995). It sustained codes of conduct on how to match The Customer's exigencies with the relevant functional processes. The knowledge of "the specifics" was a binding element in the daily routines of the business. Just what would be the safest remedy for the contamination problems that had appeared in the Northampton fast-food outlet? Or how is one to deliver all of the 54 different goods on time to the Lancashire brewery which had altered its normal purchasing schedule? And what should be done about the hotel chain that once again complained about damaged packages of Persil?

But the mundane knowledge of "the specifics" that provided the answers to such questions was not to be calculated. It was not to be compressed into quantified categories. As a combination of individually gathered "soft" facts and professional intuition, the Sales Managers' knowledge of "the specifics" would now stand against the attempt to inject "hard numbers" into the organization in The Customer's name. A Sales Manager, for instance, criticized The Quantified Customer along these lines:

What I always wanted was the analysis that would show us the specific. Which complaints

were from which customers and so on. We ought to have picked select areas that were problems to us.

Another Sales Manager added:

I want to know specifics about why one of our customers is not, for example, receiving a product. This information was not helping me much.

The calculable space of The Customer came under assault. Instead of being welcomed as "objective" pieces of knowledge, the numbers that represented The Customer became dubious proxies for something more subtle that could not meaningfully be quantified. And furthermore, The Quantified Customer's knowledge could be attacked by the Sales Managers as being too monolithic. The CSS measures, it was claimed, were too aggregated. The "new" measurements were devoid of critical detail. At their worst, they overshadowed the relevant "specifics" behind summarized calculus. Crucial distinctions could not be captured by The Quantified Customer's formalizations. With misplaced measurements one would "loose sight of individual customers", the Sales Customer's discourse warned. In a representative comment, the company's Sales and Marketing Director bluntly observed:

Details were lost in the total mix. The meetings never brought to the surface the individual items. If you measure too much things get lost.

Another Marketing Manager, for his part, recalled events in these terms:

It wasn't focused enough for the Sales Managers. People were trying to get into the nitty-gritty, but the detail wasn't there.

2.12. The order of "real problems"

The order of The Sales Customer was a contrast to what The Customer's quantification suggested. In the Sales vocabulary that became a central

object of this investigation, this order revolved around "real problems". These "real problems" were now introduced by the Sales Managers as the relevant issues that the organization should focus on in day-to-day operations. From practical knowledge of "the specifics", the "real problems" concerning The Customer would be extracted, reflecting the Sales Managers' experience and tacit sense of the de facto operational priorities in the market. "Real problems" were directly connected with The Customer's operations—with the specific needs where LI-UK's products and services yielded benefits and, finally, economic value for The Customer.

As a result of the Sales' delicate "touch" of what was going on with The Customer, "real problems" would stand out from the flow of acute phenomena. "Real problems" were the critical cues which constituted "the urgent" (Weick, 1995). As an informant recounted, the Sales Managers "want to know what they are doing today—not what happened yesterday". They concentrate on their personal sense of the most imminent and financially important. The emerging "real problems" are the building blocks that bring order into their hectic, at times chaotic professional worlds. In their experience of everyday business various "problems" appear in abundance. But it seemed that The Sales Managers' perception of the most pressing problems, their sense of the "real problems", constructs the Sales organization's view of the operationally urgent. The "real problems"—arising from the flux of "the specifics"—are the ones that matter in Sales. And what is acknowledged as a "real problem" gets full recognition, crying loudest for a solution. A "real problem" stands out as something which is coupled with rapid action. One of the Sales Managers, for instance, assured in a typical comment:

> We are interested in real problems that we have with customers and cost us a lot of money.

The Sales Managers would now claim that The Quantified Customer discarded the "real problems", producing operational inertia. In more diplomatic terms, a Sales Manager observed: "Of course you may need some measures, but the key

thing is to solve the problem." The calculative mechanism for fixing the urgently relevant with "new" non-financial monitors was criticized. The aggregated CSS measurements highlighted decontextualized and irrelevant "key issues", which would lead the organization astray. With The Sales' expert knowledge of The Customer, the organization would instead concentrate on the "real problems". These would not emanate from calculable sources but would be suggested by the Sales Managers' judgement. The formal analysis of numerical data or "diagnostic" studies of abstract measurements and "statistics", as expressed in the Sales vocabulary, were not the way for capturing the urgently relevant. This organizational exercise in quantifying The Customer, the Sales' discourse emphasized, had done enough damage by confusing priorities. For instance one of the Sales Managers maintained:

> Some customer complaints are more important than others, but this does not show in the statistics.

Other typical reactions, critical of the CSS measurements, went on as follows:

> I attended as few Customer Service Meetings as possible. Most of the time was spent showing and analyzing these wonderful charts. (Sales Manager.)

> The concept of the Customer Service Meetings was good, but we got too hung up with the statistics. (Sales Manager.)

2.13. The logic of "ad hoc" action

The Sales Customer's knowledge also suggested an alternative logic of organizational action. Also, the Sales Managers would now argue for this competing logic, as nothing less than the everyday management of the company was under dispute. How would the operationally urgent be dealt with? The Sales Customer's logic of producing action vis-à-vis The Customer was something different than what the "Customer focused" measurements were initiating.

Facing The Customer as a calculable space, the Sales Managers would stress their intricate knowledge of the market and their ability to identify the "real problems". And the Sales Managers would stress their competence to proceed immediately into flexible "ad hoc" operational action, a superior code of conduct in the fragmented and heterogenous market. "Ah hoc" action—so harshly treated in The Customer's quantification—would follow unofficial lateral linkages between the Sales Managers and the concerned functional agents. This form of action, it was maintained by the Sales Managers, would connect without friction functional expertise with those "real problems" which caused The Customer's dissatisfaction. The Sales managers stressed, for instance, how direct contacts to the delivery function had been established. If problems appeared "you just communicate with them on a daily basis", a Sales Manager explained. Another Sales Manager added in a critical tone: "I prefer to address Customer Service problems in specific meetings with the relevant people involved. Direct contacts are often more useful [than CS meetings]."

"Ad hoc" action remained in place as informal horizontal management, giving de facto operational initiative into the hands of the Sales Managers. As a mode of operating, it seemed to reflect LI-UK's complexity and the pace of its markets. It was inevitably unsystematic and was not based on any "hard" data. The Sales Customer's operational knowledge showed little respect for formal analysis, bypassing wider organizational discussion in formal management meetings. It avoided time-consuming decision processes. The Sales Customer's vocabulary could produce an image of unbureaucratic, focused action—firmly led by the Sales Managers. Within Sales, it seemed, rational processes of decision-making were deemed too cumbersome for tackling the unpredictable operational situations that Sales Managers had to face. The Sales Customer's resistance to The Customer's quantification can thus be interpreted as originating in the "irrational"management processes that prevailed in the Sales territory (Brunsson, 1982, 1990).

During the incidents that soon followed the introduction of the CSS measurements, The Sales Customer's competing logic of action would resist The Quantified Customer. A critical discourse would circulate again and again within the organization. It would underline the advantages of The Sales Customer's flexible responses to the urgent. At the same time, much emphasis was given to the weaknesses of the new calculus that turned The Customer into a calculable space. In the widely circulating Sales jargon, the CSS measures appeared as "too historical for the sharp line of the business", as a Sales Manager explained. And the gloomy consequences of the quantitative analysis were emphasized, as reflected in a comment by a Sales Manager:

> They spent too much time analyzing the situation to death. It produced paralysis by analysis.

Another Sales Manager added his opinion on the "new monitors":

> We can become obsessed by monitoring, but in the end of the day you must show how it helps the business.

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. For initiating rapid operational action, it could not be relied upon. As a calculable space, The Customer appeared as a bureaucratic experiment and was reduced to an unpractical accounting ideal. The Quantified Customer was further criticized as a creation which was detached from the hectic rhythm of the business. In a typical observation, a Sales Manager maintained:

> It was not pro-active enough. The measures encouraged a too passive instead of an active attitude.

2.14. The organizational discipline in The Sales Customer

It should, of course, be emphasized that The Sales Customer's knowledge, the order it sustained,

as well as its logic of action also legitimized a part of the organizational discipline. The Sales Customer was linked with the persistent structures of power at LI-UK (Clegg, 1989, pp. 190–193), since this local knowledge held in place particular arrangements of the "proper" organizational traffic between the functional units and the Sales Managers. It regulated important operational processes. To a substantial extent, the "little" local knowledge of The Sales Customer secured the Sales Managers' relative positioning, as well as much of their de facto organizational initiative and executive power within the investigated context.

Many of the company's operational decisions and the specific forms of its day-to-day functioning depended on The Sales Customer's legitimacy and authority. This local knowledge of The Customer consolidated existing access channels—the "direct contacts" into the functional domain. It maintained the numerous relays and dependencies between the functional activities and Sales. It was in many ways entwined with the normal practices of everyday business, with the recurring "matrix-type" connections that took place between Sales and functional activities, as for instance in what concerned "real problems" in delivery and field engineering. Thus, The Sales Customer's resistant counter-discourse should be interpreted as an attempt to preserve existing organizational power formations at LI-UK. These quite sedimented micro-structures, lying behind the taken-for-granted appearance of how things were normally conducted, had been disrupted by The Quantified Customer's emergence onto the studied site.

2.15. The final act: restructuring along The Sales Customer and the performance review

By mobilizing the operational advantages of The Sales Customer discursively—and by later enhancing this locally grounded knowledge and the related discourse with further negative arguments concerning, for instance, the standards of the CSS measures as well as the uncertain relationship between the measures and traditional financial variables—the Sales Managers would prevent The Quantified Customer from reshaping the operational processes of this locale. Poignant arguments from the Sales Managers, as illustrated below, would give more strength to The Sales Customer's mobilization at LI-UK:

> You can make anything out of these statistics and feel comfortable. But we cannot aim at 95% of the target. What we need is 100%. Zero defects is what we really should aim at, like they do in Japan.

> There is of course a correlation between for example deliveries and sales. But it is a supposed thing, not a clear one.

Furthermore, the Sales Managers would also move against The Quantified Customer on a non-discursive level by rarely attending the CS meetings. "The Sales representatives were missing", for instance the Field Engineering Manager observed. This isolated the CS meeting into an effort dominated by Commercial management, undermining its organizational support and its credibility in addressing "Customer Service" matters. It should also be noted that the Sales Managers' explicit criticism and their passive resistance in what concerned the meetings were further amplified by the fact that the Customer Service measures, after some initial successes at launch, did not show a remarkably positive development. As the Commercial Director admitted, the measures "started to plateau".

As a consequence of the controversy between these rival knowledges of The Customer, Commercial management was forced to re-evaluate its position and the entire structure of the organization from the beginning of 1993. The era of The Quantified Customer had lasted for almost 2 years. The Customer Service meetings were abolished. They were replaced by five separate, minor "new style" Customer Service meetings, as they were called. These business unit-specific monthly meetings were each chaired by respective Sales Managers. The meetings involved the company's key functional managers and addressed the acute operational problems of the five business units. The CSS measures did not play a significant role in these gatherings. As it could be

observed, the most pressing operational matters would now be discussed on a more "qualitative" basis, following The Sales Customer's "little" knowledge and logic of action. "The Sales are now judge and jury", a key manager commented. The Sales and Marketing Director, for his part, observed:

> Now the meetings have a very short term focus, because they are led by the Sales people.

The Commercial Director commented on this turn of events:

> It was important for me to let go and start moving responsibility. We recognized the importance of different customer groups.

More was soon to follow, however. The company's board tackled the issue of an organizational restructuring. From July 1994 a new organization was adopted, reshuffling the company's structure and dissolving the extended influence of Commercial management vis-à-vis The Customer (see Appendix B). The Sales Managers became "Customer Sector Managers", holding under their authority the critical service resources that previously were placed under Commercial management. These resources are now managed by each business unit's "Customer Care Manager," who handles "any interface where The Customer requires a service". They accept an "ownership of The Customer", as one of these managers explained. Commenting on this, the Commercial Director admitted how essential it was that LI-UK had taken "another look at the way we were organizing".

But despite the contest between these two knowledges of The Customer and the final turn of events, The Quantified Customer would still not be buried and put to rest. It would be somewhat refined technically, becoming a more reduced calculable space which did not interfere with the processes of operational management. This served the organization's need for a diplomatic solution. In practice, a refashioned reporting system was instituted. Previously, the monthly budget report had contained only financial data. Now, a

reshaped "Performance Review" would accommodate also some of the non-financial calculus which initially had built The Quantified Customer. Hence, the more passive and unintrusive monitoring by Commercial management of "improvement", initially rather well-received by the organization, officially continued. All concerned organizational parties seemed to accept this outcome. The Quantified Customer had been granted an honorable retreat at LI-UK.

3. Conclusions and discussion

The paper has provided a detailed account of how The Customer is transformed into a quantitative knowledge. A real-life setting was explored to cast light on The Quantified Customer's introduction, de facto workings, and reception within a specific organizational site. Non-financial management accounting measures created a new calculable space within the organization. This space reshaped traditional segmentations of responsibility. It made visible new dimensions of performance. And it restructured the patterns of dependency and power between organizational agents.

The paper's interpretation of events in this particular empirical context is, of course, partial and subjective, restricted by a limited set of data, perceptual biases, and certain theoretically informed choices. As any piece of field research which is grounded in the events of one empirical site, the study does not allow for generalizations across organizations. Transforming The Customer into a calculable space remains a complex task, which is in many ways dependent on the unique organizational circumstances and other contextual factors that surround this effort. The paper's theoretical implications, however, point elsewhere than to empirical generalizations across different contexts. Although caution is needed in drawing conclusions from a single case with its own idiosyncracies, the study suggests a number of propositions concerning "new" quantified entities—such as The Quantified Customer. These propositions should serve further investigations in this important field of management accounting enquiry and will assist the conceptualization of the explored phenomena.

The events at LI-UK suggest that calculable spaces like The Quantified Customer will change conventional management accounting and the familiar tasks of the controller, bringing them much closer to the complexities of everyday management. The "new" management accounting is tightly coupled with the practical side of the organization's acute concerns. Management accounting now moves beyond the constraints of financial analysis and the passive monitoring of economic aggregates. It becomes a more active management craft, addressing directly what it deems urgent. Instead of controlling the major courses of events at a distance, the new management accounting is implicated with the day-to-day issues, decisions and actions of a business. By "owning" a flexible calculable space that probes deeply into the necessary operational details with non-financial measures, management accounting can expand its organizational influence.

It seems, however, that this "new" calculable space transforms organizational power relations and is filled with controversy. The evidence of this study suggests that the new calculable space focuses interventions sharply into "root causes" of operational instances. And in these interventions, boundaries shift between accounting and other organizational expertise—as between production specialists and controllers in cost management programs (Lukka & Granlund, 1997; Cooper, 1996). Management accounting takes more initiative and becomes involved with intricate questions that preoccupy other organizational "experts". Controllers can take a more active role in these decision making processes around specific operational issues. As between the Commercial Director and the Sales Managers at LI-UK, tensions arise. Organizational power formations are destabilized. The new calculable space can become a space for encounters between controllers and rival professional expertise.

The events at LI-UK especially illustrate how a calculable space meets resistance built upon local knowledge. As a calculable space, The Customer was opposed by practical knowledge that initially took tacit forms. But as soon as The Quantified Customer entered the territory of the rival organizational expertise, this tacit knowledge became externalized. It became mobilized as a critical vocabulary, emphasizing what could not be captured by the new numbers. This resistant knowledge and counter-discourse of "the specifics", "real problems", and "ad hoc" action, is suggestive of what forms resistance to new calculable spaces can take.

However, on a more general level this resistance at LI-UK is also suggestive of what may undermine the new quantified entities which are called for in so many normative pronouncements. Extending ever deeper into the organization's operational dimension, the new non-financial measures will probably meet the limits of what can be expected from the increasing quantification of organizational life and prevailing management practices. Systematic quantification, even with focused non-financial measurements, tends to aggregate and standardize within the spaces where it is being injected. Quantification pays little attention to the complexity of detail. But the resistance that surfaced at LI-UK suggests that in the domain of operational management detail maintains critical significance.

Acknowledgements

LEVER-INDUSTRIAL UNITED KINGDOM: ORGANIZATION

CHAIRMAN & MANAGING DIRECTOR

DEPUTY CHAIRMAN/ COMMERCIAL DIRECTOR
- CHIEF ACCOUNTANT
  - COMM ACCT
    - CREDIT CTRL MGR
  - SOURCING ACCTS
  - CORPORATE ACCT
    - COMPANY ACCT
  - SEN S&M ACCTS
- DIST & CUST SERV'S MGR
  - CUST INFO MGR
  - CUST SERV MGR
  - W'HOUSE MGR (PSL)
- CO ENG SERV MGR
  - NAT SERV MGR
  - SERV ADMIN MGR
  - PROJ & DEV MGR
- BUS SYSTEMS MGR
  - SYSTEMS MGR

PERSONNEL DIRECTOR
- REG PERSONNEL MGRS
- TRAINING AND DEVELOPMENT MGR
- PERSONNEL SERV MGR
- CO H&S MGR

TECHNICAL DIRECTOR
- LOGISTICS MGR
  - PLANNING/JIT MGR
  - PLANNING/PURCHASE MGR
  - PLANNING/PURCHASE MGR
  - PLANNING/PURCHASE MGR
  - PLANNING/PURCHASE MGR
- FACTORY MGR
  - QUALITY MGR
- FACTORY MGR
  - SEN PROD ENGINEER
  - QUALITY MGR
- FACTORY MGR
  - PRODUCTION MGR

- SENIOR TECHNICAL MGR
  - WORKS CHEMIST/ ENVIRONMENTAL MGR
  - TECHNICAL MGRS
  - TECHNICAL MGR
    - PROD DEV MGR
- TECHNICAL SERVICES MGR
  - SEN DEVT MGR
  - DESIGN ENG'S
- PROJECT MGR

SALES/MARKETING DIRECTOR
- PROJECT MGR (IT)
- BUSINESS MGR AGRI/BSU'S/PROM
  - FIELD SALES MGR
  - NAT ACCTS MGR
  - SALES/MKTG MGR-AGRI
    - SALES MGR
  - HYG TECH SALES MGR
    - MICROBIOLOGIST
- BUSINESS MGR/MD IRELAND CONTRACTS
  - RSM'S
    - ACCT MGRS
  - NAT ACCTS CTRL
    - ACCT MGRS
  - GSM (IRE)
    - FIELD SALES MGR
  - COMMERCIAL MGR (IRE)

- GENERAL SALES MGR I&L
  - RSM'S
    - ACCT MGRS
  - REG ACCT MGR SCOTLAND
  - NAT ACCTS CTRL
    - NAT ACCTS MGRS
  - NAT DIST MGR

- BUSINESS MGR FBH/WATER TREATMENT
  - MARKET MGRS-FBH
  - NAT ACCTS MGR
  - EQUIPMENT SALES MGR
  - RSM'S
  - RETAIL SALES MGR
  - NAT SALES MGR WATER TREATMENT
    - MKT MGRS

- BUSINESS MGR HEALTH DIVISION
  - NAT SALES MGR
  - MARKET MGRS
  - SENIOR MARKET MGR
  - MARKET MGR
- HEAD OF CORPORATE MARKETING
  - SENIOR MARKET MGRS
    - MARKET MGRS
  - MARKET MGR
- BUSINESS MGR
  - NAT SALES MGR
    - SALES MGR

LEVER-INDUSTRIAL UNITED KINGDOM: NEW ORGANIZATION FROM JULY 1994

CHAIRMAN & MANAGING DIRECTOR

COMMERCIAL DIRECTOR

- CHIEF ACCOUNTANT
  - INFO SECURITY OFFICER
  - COMM MGR - CUST SECT
    - CUST SECT ACCTS
  - COMM MGR - SOURCING
    - SUPPLY CHAIN ACCT
    - SOURCING ACCT
  - COMPANY ACCT
  - COMM MGR - IRELAND
- PURCHASING GROUP MGR
  - BUYING MGR
- DIST & CUST SERV'S MGR
  - W'HOUSE MGR
- BUS SYSTEMS MGR
  - NETWORK MGR
  - SYSTEMS MGR
  - UNIX SYSTEMS MGR
  - INFRA & DEV SYS MGR
- SSR & OFFICE SERVICES MGR
- COMPANY PLAN MGR

PERSONNEL DIRECTOR

- REG PERSONNEL MGR
- EMPLOYEE DEV MGR
- PERSONNEL SERV MGR
- CO H & S MGR

TECHNICAL DIRECTOR

- SITE DEV MGRS
- OPERATIONS MGR
  - *RUNCORN SITE* SPECIAL PROJECT
  - *CRESSEX SITE* PROD MGR
    - PROD S'VISOR
  - *HIGH WYCOMBE SITE* PROD MGR
  - PLANNING/JIT MGR
- BUYING MGR
- MACHINE DEV MGR
  - PROD ENGINEER MGR
  - DESIGN MGR
    - DESIGN ENG
  - DEVELOPMENT MGR
  - QUALITY ASS MGR
    - RELIABILITY MGR

SENIOR TECH MGR / CO HEALTH & SAFETY

- CO Q C MGR
- TECHNICAL MGR - H & S / ENVIRO SYS (S)
- TECHNICAL MGR - H & S / N I F (N)
- TECHNICAL MGRS
- TECHNICAL MGR
  - PROD DEV MGR

CUSTOMER MANAGEMENT DIRECTOR

- CUST APPLICATION MGR
  - IT CO-ORD MGR

*C & I DIRECT ***

- CUSTOMER SECT MGR
  - CUST DEV MGR
  - BUS DEV MGR
    - BUS DEV MGR (Tech)
  - BUS DEV MGR (P Care)
  - MARKET MGR
    - MKTG PROJECTS
  - MARKET MGR
    - MKTG PROJECTS
  - CUST CARE MGR

*C & I INDIRECT ***

- CUSTOMER SECT MGR
  - CUST DEV MGR
  - BUS DEV MGR
    - BUS DEV MGRS

INDUSTRIAL

- CUSTOMER SECT MGR
  - CUST DEV MGR (FBH)
  - BUS DEV MGR (FBH)
  - BUS DEV SPECIALIST
  - BUS DEV MGR (LDRY)
  - CUST CARE MGR
  - MARKET MGR
    - MICROBIOLOGIST

TASKI

- CUSTOMER SECT MGR
  - BUS DEV MGR
  - CUST DEV MGR
  - MARKETING MGR
  - EXPORT MGR
  - CUST CARE MGR

IRELAND

- GENERAL SALES MGR

*** CATERING & INSTITUTIONAL*

Appendix C

Interviews

Person Interviewed	Date	Duration (min)
Marketing Services Manager LII	23.10.1992	140
Marketing Services Manager LII	3.11.1992	90
Marketing Services Manager LII	9.11.1992	120
Marketing Services Manager LII	18.11.1992	60
Controller LII	24.11.1992	60
Commercial Accountant LI-UK	25.11.1992	60
Chairman/Managing Director LI-UK	25.11.1992	60
Sales and Marketing Director LI-UK	27.11.1992	30
Personnel Director LI-UK	27.11.1992	70
Technical Director LI-UK	27.11.1992	45
Marketing Services Manager LII	5.1.1993	30
Customer Info Manager LI-UK	6.1.1993	100
Commercial Accountant LI-UK	14.1.1993	45
Distribution & Cust. Serv. Manager LI-UK	14.1.1993	90
Cust. Engineering Serv. Manager LI-UK	18.1.1993	100
Quality Manager LI-UK	18.1.1993	70
Commercial Director LI-UK	20.1.1993	60
Chief Accountant LI-UK	20.1.1993	45
Sales Managers 4 & 5 LI-UK	1.3.1993	75
Customer Engineering Serv. Manager LI-UK	4.3.1993	75
Sales Correspondents' Team Leader LI-UK	4.3.1993	120
Sales Manager 1 LI-UK	4.3.1993	70
Sales and Marketing Director LI-UK	9.3.1993	60
Sales Manager 2 LI-UK	10.3.1993	70
Corporate Marketing Manager LI-UK	10.3.1993	80
Logistics Manager LI-UK	10.3.1993	70
Senior Technical Manager LI-UK	11.3.1993	70
Customer Services Manager LI-UK	12.3.1993	90
Customer Info Manager LI-UK	16.3.1993	130
Sales Manager 3 LI-UK	18.3.1993	80
Credit Control Manager LI-UK	18.3.1993	60
Distribution & Cust. Serv. Manager LI-UK	18.3.1993	30
Design Engineer LI-UK	19.3.1993	75
Chairman/Managing Director LI-UK	23.3.1993	60
Chief Accountant LI-UK	23.3.1993	45
Commercial Director LI-UK	23.3.1993	70
Marketing Services Manager LII	25.3.1993	120
Technical Director LI-UK	1.4.1993	45
Controller LII	15.4.1993	45
Commercial Director LI-UK	7.7.1995	60
Marketing Services Manager LII (Telephone)	15.8.1995	30
Customer Care Manager LI-UK (Telephone)	17.8.1995	20

Appendix D

The measures of the "customer service summary"

1. *Product quality*
   Quality complaints (total and per sales operation).
   Proportion of serviced machines (total and per machine type).
2. *Delivery and stocks*
   Average drop size (total in tonnes).
   Deliveries out of specifications (% of all deliveries and per sales operation).
   Orders without stock restraint (as % of all orders—monthly snapshot).
3. *Field engineering service*
   Breakdown response in specifications (total % and % per sales operation).
   Field engineering jobs not completed (total).
4. *Invoicing*
   Recorded invoice queries (total and per sales operation).
   Resolved invoice queries (total and per sales operation).
5. *Customer complaints*
   Total customer complaints (broken into "stock", "distribution", "processing", and "other" causes).
   Customer complaints per sales operation (broken into "stock", "distribution", "processing", and "other" causes).
6. *New business opportunities*
   Recieved business enquiries (total and per sales operation).

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