Mobilizing Local Knowledge with 'Provocative' Non-financial Measures

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ABSTRACT Knowledge and organizational learning are central concerns of contemporary organizations. Local knowledge is stored in the detailed operational practices, professional routines and grassroots ways of thinking in specific situations, which different agents employ in their organizational segments and niches. These sources of field insight are relevant in producing new competitive initiatives and in the creation of new strategy. This empirically grounded paper illustrates how focused non-financial management accounting measurement brings the controller closer to operational detail, stimulates horizontal debate, and leads to expert resistance. It suggests that non-financial measurement, as an intrusive and controversial management accounting technology, can be perceived as being 'provocative'. Organizational actors react strongly to this focused measurement. However, 'provocative' non-financial measurement assists the articulation of intriguing local knowledge in organizational discourse, providing new possibilities for the controller in locally situated processes of learning.

1. Introduction

Knowledge is promoted as a central issue of contemporary organizations and is emphasized as a resource that builds core competence and offers sustainable competitive advantage, promising economic rents (Spender and Grant, 1996; Campbell and Alexander, 1997; Teece, 1998; Brown and Duguid, 1998). Hence, much is currently being said in the name of knowledge management, organizational learning and intellectual capital (Edvinsson and Malone, 1997; Sveiby, 1997; Davenport et al., 1998; Senge, 1990). This paper approaches knowledge from a management accounting point of view. It also recognizes the local character of organizational knowledge (Jönsson and Grönlund, 1988;
Jönsson, 1992). More specifically, it explores the connections between operationally embedded local knowledge and non-financial management accounting measurement in particular, a widely promoted and discussed management accounting technology (Kaplan and Norton, 1996a, 1996b, 1996c; Fisher, 1992; Ittner and Larcker, 1998). The paper puts forth a previously neglected aspect of non-financial measurement: in an organizational context, it illustrates how provocative non-financial measurement can assist the articulation of local knowledge.

The paper's starting point lies in research evidence, which portrays non-financial management accounting measures as being controversial and intrusive in nature (Vaivio, 1999a, 1999b; Kasurinen, 2002). When non-financial measures focus deep into specific organizational activities, they are not passively received by docile actors. They can have provocative features: organizational actors react strongly to this kind of management accounting measurement. Non-financial measures can be mounted to trace the very substance of everyday organizational life. They open new visibility and problematize deeply rooted local practices. These penetrating, highly focused numbers are then discussed and debated at the local level – from different vantage points and operational perspectives. They stimulate explicit responses. Hence, this paper suggests that provocative non-financial measures, as a deep-probing medium of a change-agent controller, can be employed in the mobilization of local knowledge within the organization (Granlund and Lukka, 1997, 1998). With provocative non-financial measurement, tension and controversy are deliberately maintained at the local level. This provocative measurement contributes, however, to organizational learning by triggering the articulation of local grassroots insight.

Thus, on the basis of an empirical illustration, the paper argues that instead of merely monitoring learning capabilities, non-financial measurement plays a more influential and active role in processes of learning – in those organizational instances where new knowledge emerges at the local level. Non-financial measurement becomes a medium for relating local knowledge with the management accounting domain: with provocative non-financial measurement, the competence and professional profile of the controller becomes extended towards learning-related concerns, a currently influential management agenda. By taking decentralized initiatives locally deep within the organization, the controller can participate in this agenda and contribute towards the generation of new insights in organizational discourse.

The paper's argument about the potential of non-financial measurement is examined against an empirical background, the case of Lever Industrial (United Kingdom) (LI-UK). This knowledge-oriented interpretation of the events that took place at LI-UK complements two other reports, offering a final act in the 'LI-UK trilogy'. The earlier papers have focused on the logic of this management accounting change and especially on the organizational aspects of non-financial measurement. In Vaivio (1999a), the unilinear logic of the events
that introduced non-financial measurement into this organizational setting was laid out, and the actual workings of non-financial measurements were examined in detail. The considerable focus potential of non-financial measurement, its capability to penetrate into the fundament of organizational reality, became illustrated. Non-financial measures went beyond the mere monitoring of operational activities. They involved management into the intricacies of everyday action and into the debate that followed the practical concerns that were highlighted by non-financial measurements. A second report, Vaivio (1999b), taking a 'naturalistic' orientation within the tradition of alternative management accounting research, investigates non-financial measures further, in their ‘everyday’ organizational context (see Baxter and Chua, 2003). It describes the emergence of a new calculable space of ‘the customer’, depicting how non-financial measurement also establishes a new disciplinary order and destabilizes established power relations, eventually triggering resistance. Within this resistance, local operational understanding became overtly mobilized by organizational agents as a discursive medium.

Consequently, this third paper relies on these findings as a source of inspiration, but carries them further, with a knowledge-oriented research purpose. It offers a distinct theoretical perspective on the initial empirical base, but also displays some new pieces of field evidence on different operational issues at LI-UK, not reported earlier. Building on a rich stock of empirical data from multiple organizational sources in the case company, the paper develops the interpretation of the events at LI-UK, finally producing yet another set of theoretical implications. The theory of organizational knowledge creation and learning (Nonaka, 1994; Nooteboom, 2000), as well as the literature on local knowledge and local information systems (Jönsson, 1992, 1996; Jönsson and Grönlund, 1988; Argyris, 1977), serve as a new conceptual framework, which allows a re-examination of these events. This framework leaves sufficient room for new interpretations of data, producing a set of emerging knowledge-related theoretical insights that stem from the case of LI-UK (Ahrens and Dent, 1998).

The paper is organized as follows. First, it discusses the concept of local knowledge in more depth, relating it to relevant bodies of literature. Second, the paper raises concerns about traditional financially oriented management accounting practices, pointing out that non-financial measurement as a new management accounting technology may hold more potential from the perspective of discovering relevant local knowledge. In Section 4, the potential of non-financial measurement in the mobilization of local knowledge is illustrated on the basis of field evidence from Lever Industrial (UK), a British chemicals company. Section 5 introduces the notion of ‘provocative’ non-financial measures, which could expose niches of local knowledge deep within the organization. The concluding section discusses the study’s most important theoretical implications, especially vis-à-vis the controller’s role in organizational learning efforts.
2. Local Knowledge in Organizations

The concept of local knowledge suggests operational understanding that originates from organizational agents’ involvement in certain practices, routines and events in their specific functional niches. It suggests that important knowledge is stored in field experience, scripts of action and habitual routines, which are developed by agents in their local, often very specific, working environments (see Nooteboom, 2000, pp. 125–131). Local knowledge is based on individual interpretations of reality, giving sense to a professional micro-world (Choo, 1998). Hence, local knowledge is a provider of necessary structure and meaning in the rich texture of organizational life (Giddens, 1984). It should further be emphasized, that within organizations that increasingly rely on professional specialization, local knowledge often develops within a recognized expertise. Locally generated expertise that contains intrinsic knowledge-elements tends to become identified as the agent’s front-line competence, special working skill or know-how.

Local knowledge remains, however, usually hidden in the background. It does not become widely articulated. It may remain unverbalized or take tacit forms (Nonaka, 1994; Nonaka and Takeuchi, 1995). Organizational agents may not realize that their locally embedded insight can have value-creating potential across organizational boundaries. The sales representative does not understand the importance of work-related, somewhat unorganized, observations of customer discontent. The lorry driver in the delivery function never considers the logistic value that his understanding about loading procedures contain. The product line technician ignores the wider applicability of a seemingly trivial local maintenance practice. Hence, a critical question in knowledge creation and organizational learning concerns the discovery and active mobilization of local knowledge. How can the organization uncover its most relevant forms – which could then gain broader currency, perhaps leading to more comprehensive improvement or new competitive initiatives, which are based on local insight?

In the management accounting research tradition, local knowledge can be connected with the work of the Gothenburg school (Jönsson, 1992, 1996; Hedberg and Jönsson, 1978; Jönsson and Grönlund, 1988; Jönsson and Solli, 1993). Jönsson’s seminal work fleshes out the bureaucratic and centralized nature of traditional management accounting systems – portraying them as designs, which are based on the machine metaphor of the organization. With organizations striving towards flexibility in an increasingly dynamic, more knowledge-intensive context, the centralized mode of control that relies on the machine analogy gradually gives room for the organism metaphor, emphasizing local authority, local control and the value of local experience (see, e.g., Jönsson, 1992, pp. 101–103). The emphasis in organizational learning moves from centralized conceptions towards the local level.

Addressing local learning processes, local information systems and the problems of local and central modes of control, Jönsson and Grönlund state that,
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causal knowledge about the processes in which organizations engage is to a large extent sedimented in operating procedures’ (1988, p. 520). They further point out that central management control often uses ‘hard data’ for control purposes, whereas local operations managers will rely on unformalized ‘soft’ data in the forms of causal knowledge, experience, skills, visions of the perfect operation, and perceptions of the current situation in the offensive development of new procedures and processes’ (Jönsson and Grönlund, 1988, p. 521). A large part of organizational learning is experiential, as individual agents transform their experience into active experimentation through reflective observation and abstract conceptualization (Kolb, 1984), and learning thus materializes at the local level, in operational processes: ‘Learning takes place in concrete episodes of heightened attention and will to solve a problem’ (Jönsson, 1992, p. 105). But an important precondition for taking wider advantage of this local knowledge and improvement, which are important especially for the competitive advantage of more mature industries, is that good vertical communication occurs within the larger organization (Jönsson, 1996, p. 64). It should also be noted that achievements of local learning are not automatically stored, but can be forgotten in processes of organizational forgetting (see Carmona and Perez-Casanova, 1993).

The concept of local knowledge also stands in alignment with the now classic notion of local management information systems (MIS), discussed by Argyris (1977). These local systems have the following characteristics: they tend to include concrete descriptions of unique situations in the field, representations of actual operational processes, implicitly rational logics which are private, and tacit elements of knowledge (see Nonaka, 1994; Nonaka and Takeuchi, 1995; Ambrosini and Bowman, 2001). As Argyris underlines, these subjective and intuitive systems cannot easily be transported from one setting to other settings. And they are often unusable by other agents than the creators of the local system, since the system is not easily convertible, scalable and comparable with other systems (Argyris, 1977, p. 115). Hence, specific knowledge in the shape of micro-level MIS usually remains in the service of immediate, local management needs.

It is, however, possible that local knowledge becomes more widely shared within the organization, supporting broader, generative learning needs (Kloot, 1997). Through interactive social processes of reflection, argumentation and communication, local knowledge-elements can be brought into the explicit dimension. In the articulation of local experiences and insights in social contexts, local knowledge becomes mobilized in organizational discourse, thus emerging as potentially interesting new knowledge that can be elaborated further into new ventures. Organizational agents verbalize their idiosyncratic experience and their behavioural repertoires in social interaction. They engage in interpretive processes, drawing upon locally employed cognitive maps and self-imposed, habitual operating routines. They select cues that matter most in the stream of local everyday events (Weick, 1995). They punctuate their professional practices
and the common operational uncertainties they encounter with concepts, analogies or stories – which encapsulate experience and can be shared by others (see Jönsson and Solli, 1993, p. 316).

Despite its theoretical and pragmatic appeal, local knowledge is nevertheless also a problematic notion. First, the agent holding local understanding may be unwilling to share it. Locally held representations of reality may appear uninteresting, ambiguous or overly speculative to become publicly verbalized. Also, the agent may equate the sharing of personal competence with a competitive spillover or voluntary deskilling (Nooteboom, 2000, pp. 159–162). Second, it is not evident that all forms of local knowledge should become exposed. It is possible that ‘what is personal should remain personal’. An agent’s field observations or subjective frames of reference can represent individual prejudice, which is too disruptive to the organization. Third, local knowledge is an extensive phenomenon. It awaits discovery ‘everywhere’, in the organization’s multiple professional practices. All forms of local knowledge are not, however, commercially relevant – only the financially promising sources of local knowledge, fitting into an organization’s broader strategic objectives and the boundaries that constrain its initiatives, should be found. Fourth, it is possible that the most intriguing local knowledge is not directly at hand and easily accessible. An organization’s core operations are not the self-evident source of interesting insight. Strategically critical local knowledge may reside in more peripheral areas – perhaps in neglected enclaves of the value chain. Niches that now appear marginal can be the locus of emergent innovation. These could, at the extreme, eventually suggest a radical shift in strategy, implying more than incremental strategic adjustment (Mintzberg, 1978, 1990; Mintzberg et al., 1998, pp. 175–231).

Hence, this paper takes the following perspective on local knowledge: local knowledge is a critical organizational resource that should become uncovered. Moreover, formal management mechanisms may assist the emergence of local knowledge in the organization, systematically inducing agents to articulate their context-specific insights. However, only the most intriguing sources of local insight can become addressed in detail: as local knowledge remains a widespread, elusive phenomenon, all forms of local insight cannot be meaningfully exploited. It is essential that the emergence of local knowledge takes place in focused areas and niches, in such forms of local experience and activity, which appear most promising with regard to the organization’s strategic aspirations and constraints.

This paper follows Mintzberg (1978, 1987, 1990) and Simons (1990, 1991) concerning the interplay of intended and emergent strategies. Management considers the organization’s resources, its competitive positioning and its critical areas of strategic uncertainty (Simons, 1990, 1991; Porter, 1985; Gaddis, 1997) – establishing some guidelines and priorities in the search of local knowledge. Especially in contexts of strategic discontinuity, where the need of a frame-breaking strategic reorientation has been recognized, local knowledge can be a fundamental element in reforming an organization’s strategic mission and in re-
evaluating its competitive position (see, e.g., de Wit and Meyer, 1998, pp. 238–240). Setting some strategic boundaries, management seeks to identify the potentially most interesting locales in terms of emergent insight, which could serve strategic renewal and the revision of existing patterns of action: these niches become explored in depth. Hence, decentralized efforts for discovering local knowledge in specific areas of the organization, instead of unfocused random expeditions, can assist the emergence of operationally rooted knowledge in prioritized locales. Dialogue and debate, a kind of creative tension in the field, becomes selectively stimulated in strategically relevant, knowledge-intensive niches. At this point, management accounting technology – offering a formal management mechanism for gaining visibility into organizational activities – becomes connected to organizational learning (see Kloot, 1997). In the following, the relations between local knowledge and management accounting are examined further.

3. Traditional Management Accounting Practices, Non-financial Measurement and Local Knowledge

Being more oriented towards the exploitation of existing formal information sources than towards the exploration of detail in informal operational practices, traditional management accounting technology faces a challenge in terms of discovering local knowledge. In many contexts management accounting remains a distant, centralized staff function – concentrating mainly on financial monitoring (Granlund and Lukka, 1998). It operates from the premises of hierarchy, centralized control and efficient administration, as pointed out by several critics (see, e.g., Johnson and Kaplan, 1987).

Management accounting routines can become entrenched institutionalized practices (Scapens, 1994; Burns and Scapens, 2000). Their role is to stabilize the organization, suggesting a repertoire of conventional responses (Hedberg and Jönsson, 1978). Common management accounting practices can sustain inflexible ways of monitoring historical outcomes, serving a financial accounting mentality, instead of casting much light into the local activities producing the financial results. Within the more specific causal structure of these operational processes local knowledge is, however, fundamentally rooted.

The financial orientation of management accounting limits its capability to penetrate into the underlying processes where local knowledge is being stored. The purpose of monetary aggregation is to provide an abstracted panorama upon the multitude of business phenomena. Financial aggregation produces clarity by filtering out unique instances. It standardizes reality and provides a compressed layout of organizational phenomena, a kind of economic shadow in which qualitative operational detail become unimportant (see Jönsson, 1992, p. 113). Financial facts, comparable in time and space, must be stripped of their idiosyncratic aspects to become reported in a compact format. Intriguing local knowledge-elements may reside, however, beyond this financial
surface. Context-specific, operational, technical and functional insight is to be found in the operational discourses of everyday performance that concerns organizational agents. Local knowledge can be stocked in the instances that relate to personal output, in the distinctions that surface in the flow of events, or in the lateral conflicts that occasionally erupt between local agents – which become stifled under aggregated financial categories.

Also, the structural entities containing critical pieces of local knowledge are not necessarily recognized within traditional management accounting systems. The conventional units being addressed include established cost centres, functional segments, departmental units, sales areas and profit centres (see, e.g., Drury and Tayles, 1995; Bhimani, 1996; Chenhall and Langfield-Smith, 1998a). Formalization and effective control are associated with these administrative structures. These financial entities may not, however, correspond with the shifting, often temporary locations, which could generate new professional insight. Especially, conventional management accounting falls short in measuring the real achievements and the concrete performance of more informal cross-functional working groups that characterize process-oriented management. Traditional management accounting is not paying sufficient attention to interfunctional activities and corresponding local expertise. Hence, it provides only a restricted visibility over intriguing, often informal, knowledge-intensive formations.

Furthermore, traditional management accounting systems are often used as diagnostic control systems (Simons, 1991, 1995). Organizations are kept on track by monitoring financial outcomes against standards. Management-by-exception is installed for realizing intended strategies. The diagnostic use of management accounting systems does not, however, stimulate sufficient debate about the validity of the measurements. Diagnostic control tends to filter away inconsistency, leaving little room for reflection or the expression of divergent views (see Dent, 1990, pp. 18–19). It can discourage experimentation, controversy and ambiguous proposals – which could stimulate generative learning and contain the knowledge-elements of an emergent strategy (Mintzberg, 1990; Kloot, 1997, pp. 57–58). It does not seem to invite the interactive processes, which would produce discussion and debate, offering radical reinterpretations and alternative solutions. Management accounting control can remain insensitive to emergent local knowledge, merely consolidating the efficient exploitation of existing resources.

Finally, as professionals management accountants often take the roles of ‘bean counters’, ‘watchdogs’ and ‘cost cutters’ (Granlund and Lukka, 1998; Bougen, 1994; Kaplan, 1995; Cooper, 1996a, 1996b, 1996c). In doing so, management accountants choose to pay less attention to communications skills, concentrating on financial monitoring. Especially in large decentralized organizations, effective control is associated with analytic detachment and functional separation (Ahrens, 1997). Management accounting professionals often avoid a close engagement with organizational action, shunning technical questions and the twists of local
controversy. The detail of operational action is usually considered as the arena of different management expertise. Remaining at an arm’s-length reporting distance from mundane day-to-day events and problems, traditional management accounting can, however, become isolated from the real instances where critical local knowledge could be discovered.

In recent years an important argument has been advanced, however, that offers new prospects for management accounting in the mobilization of local knowledge. A large body of prescriptive literature now suggests that also non-financial measures should be integrated into management accounting systems (Kaplan and Norton, 1992, 1993, 1996a, 1996b, 1996c; Silk, 1998). Furthermore, a growing body of empirical survey- and field-evidence suggests that this is indeed taking place (see, e.g., Chenhall, 1997; Ittner and Larcker, 1998; Chenhall and Langfield-Smith, 1998a, 1998b; Malmi, 2001; Kasurinen, 2002), complementing more anecdotal impressions on management accounting practices being extended to include non-financial measures alongside traditional financial measurements. The initial argument for non-financial measurement, it should be noted, has a normative orientation, claiming foremost that better strategic performance can be achieved by complementing short-term financial indicators with more forward-looking, non-financial strategic control measures (e.g., Nanni et al., 1990; Goold, 1991; Lynch and Cross, 1994). Different management agendas, like TQM, world-class manufacturing, customer satisfaction and ABC, have also promoted non-financial measurement (see Ittner and Larcker, 1998; Maskell, 1989; Ostrenga, 1990; Eccles, 1991; Fisher, 1992). Non-financial measures, the arguments tell, probe deeper into the organization than conventional financial measurement. These new measures address the more fundamental drivers of performance that stand behind financial achievement. In ongoing organizational life, these measures expose more concrete dimensions of performance.

An influential call for a combination of financial and non-financial measurements has been introduced in the balanced scorecard (Kaplan and Norton, 1992, 1993, 1996a, 1996b, 1996c). From the perspective of local knowledge, the balanced scorecard raises interest. First, alongside the other perspectives it takes on performance, it introduces a learning and growth perspective. This identifies the infra-structure that the organization must build to create long-term growth and improvement (Kaplan and Norton, 1996b, p. 63) and employs non-financial measures to monitor this dimension. Second, Kaplan and Norton also discuss the overall scorecard as a system of double-loop learning (Argyris, 1977) – suggesting that, as a whole, its measurements provide ‘strategic feedback’ which facilitates a ‘strategy review’ (Kaplan and Norton, 1996a, pp. 84–85). The authors thus recognize that important local knowledge – innovative ideas and insights that may suggest a new strategy – can arise at lower echelons in the organization (see Norreklit, 2000, p. 78). The notion of the balanced scorecard does not, however, address explicitly the question of how local knowledge can be reached or the mechanism of this learning process. How
the prescribed non-financial measurement actually contributes to the discovery of new strategic insight is not discussed in detail. It appears as if also the popular notion of the balanced scorecard would benefit from empirical work addressing the learning potential of non-financial measurement in real organizational contexts.

Taken together, the argument for non-financial measurement suggests, however, that these indicators of performance could play an active role in the organizational efforts that focus on local knowledge. It claims that non-financial measures open a direct new visibility deep into the organization’s operational processes. In contrast to aggregated financial measurement, non-financial measurement could capture those incidents, those dimensions of individual performance and those everyday conflicts that contain valuable local insights.


How non-financial measures serve the organization’s learning needs by provoking the mobilization of local knowledge in organizational discourse can be illustrated by incidents that surfaced in an explorative field study of Lever Industrial (United Kingdom), a British chemicals company (Scapens, 1990; Spicer, 1992). This field evidence, which provided a necessary contextual richness for theoretically oriented interpretations, comprised 42 interviews amounting to 48 hours on several organizational levels and in different functional areas, as well as triangulating documentary analysis and participant observation (McKinnon, 1988; Eisenhart, 1989; Ferreira and Merchant, 1992; Laughlin, 1995; see also Appendix A). In brief, the case of Lever Industrial (United Kingdom) is suggestive of how non-financial measurement provokes the articulation of local, operationally embedded knowledge by probing into operational detail, by maintaining cross-functional debate and by triggering resistance in a key expert agency.

Lever Industrial (UK) (LI-UK) produced hundreds of cleaning products – detergents, sanitizers, soaps and conditioners, to name a few. It combined these with hygiene consulting, field engineering know-how and technical accessories (like rotary cleaners, dosage pumps and automatic dispensers), to form differentiated packages of products for different market segments. It served mainly industrial and public sector customers – like food producers, catering firms, schools and prisons. As a profitable, small part of the worldwide Unilever PLC, LI-UK had a turnover of £70 million, employed 750 people, was running two fairly ‘low-tech’ factories and was organized along a functional structure (see Appendix B).

The explored events at LI-UK can be summarized as follows: a dozen non-financial measures were introduced as an initiative of the controller, who also acted in the capacity of the unit’s deputy chairman, and became traced in a monthly review, the ‘customer service summary’ (CSS) – which complemented
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traditional budgeting and financial reporting. Different operationally critical dimensions – like product quality, delivery, invoicing, field engineering services, as well as customer complaints and business opportunities – became regularly monitored with non-financial indicators (see Appendix D for the details of the measures). The non-financial measurements – which were soon to reveal their provocative potential at LI-UK – were then examined and openly debated in cross-functional 'customer service meetings', chaired by the controller. On the basis of these novel measurements, remedial actions were then assigned to organizational agents for urgent execution. However, a key group of managers at LI-UK, the company's sales managers, overtly resisted the non-financial measurements soon after they had been introduced – with arguments that originated from their professional expertise. This changed the course of events around the installed non-financial measurement.

Focusing on 'Key Issues' with Non-financial Measures

From the perspective of the organization's learning needs, an essential field observation at LI-UK was that the introduced non-financial measures of the CSS reflected more directly than financial indicators what in fact took place within the organization's everyday action. The measures captured in concrete, material terms what different agents in this rather complex business understood with daily performance at the operational level. The applied non-financial measures were direct monitors of local effort and output. By contrast to financial monitors, which were more abstract and remote from local needs, these novel measures addressed imminent functional and operational concerns. They reflected closely the practical essence of organizational tasks – what really mattered to local agents in the daily work they had become identified with.

As an agent at LI-UK explained, the company's non-financial measures were used 'in seeing what was going on in the business'. Whereas financial measures generalized above the particular in the conventional financial reporting system, in the monthly 'performance review' in LI-UK's terminology, non-financial measurement decomposed the general overview. It cast light on the business's concrete detail in critical parts of the service-oriented value chain. The company's chief accountant, for instance, emphasized the importance of non-financial measurements in operational management, and pointed at the obsolescence of traditional financial figures in this respect.

With the introduced non-financial measurement organizational tension increased at LI-UK. The novel measures distorted the organization's static view of what could be formally monitored in formalized, quantitative terms. The non-financial measurement also probed deep into the company's sometimes hectic daily reality – even to the level of the single individual. It was not surprising that 'some people felt they were being put under the microscope', as the field engineering manager noted. The rather intrusive non-financial measurement made the particular within the organization more
transparent and, consequently, more manageable. Local inefficiencies that
previously had not been so overtly recognized, as well as clearly sub-standard
outcomes in specific activities, suddenly became exposed. This produced
ambiguity and anxiety in the organization. Failure was now more obvious.
New sub-parts of the productive process were publicly problematized with
reference to hard data that stood for the all-powerful customer’s requirements.
This disturbed many functional niches, as the measurement seemed to
legitimize direct management intervention into them. But new organizational
performers in certain local niches of LI-UK, which had escaped attention
within traditional financial monitoring, were also identified. By contrast, they
were pleased to become celebrated with the assistance of the employed
‘positive’ non-financial measures.

As has been reported earlier more extensively (Vaivio, 1999a, pp. 424–427),
the non-financial measures at LI-UK were used to focus organizational attention
selectively into specific ‘key issues’ in the company’s value chain. In an
illustrative comment, a manager described the non-financial measurements as
‘focusing attention to key areas by bringing them under the light’. In a similar
tone, another manager emphasized that the measurements made visible specific
operational targets. In his words, the non-financial measures provided
‘information for identifying, in a diagnostic sense, where a particular problem
lies’. As yet another manager commented somewhat anxiously, ‘the measures
made your mistakes appear’. In a revealing statement, a marketing manager also
recalled the initial organizational reaction: ‘[the non-financial measures] put
people on the spot and created a monitoring track’.

Hence, non-financial measures that went beyond summarized financial
projections provided the management technology which regularly problematized
novel operational matters, which had captured the controller’s interest. In the
words of interviewed agents, ‘sub-measures’ – showing for instance field
engineering performance regarding a particular business operation or tracing
customer complaints to a specific function – were often used to locate even more
depth-probing ‘root causes’ behind the prime non-financial indicators. This
brought under critical re-examination local key issues of significant functional,
logistic and technical detail, as shown below:

Complaints are down overall but stock availability complaints are up. (Customer
complaints, June 1992)

Invoice queries level static at 22% of invoices. (Invoice queries, March 1992)

Food and beverage hygiene deliveries in specifications at 71% continue to be well
below our target of 90%. (Delivery performance/products, February 1992)

The problematization of certain operationally urgent issues at the local level was
not, however, the sole purpose of the non-financial measurement. At LI-UK non-
financial measurement could also be focused on more positive key issues: ‘The
CSS was a way of flagging up trends’, the quality manager proudly observed.
These positive trends resulted in a public, regular organizational examination and celebration of ‘improvement’ in a number of operational areas, which obviously had scored in terms of the new non-financial measures:

Best service level performance ever, with average under three days including transit. (Delivery of orders/machines and equipment, February 1992)

Significant fall in number of breakdown calls in contracts and industrial and leisure. (Field engineering performance, August 1992)

Continued improvement during July in chemical stock availability. (Stock availability, July 1992)

Consequently, the non-financial measurement reduced the distance between the controller and certain prioritized organizational segments and niches. With the measurement central management redefined its relationship with the local. At the controller’s own initiative, the measures involved him much more closely into the minutiae of the organization’s inner workings. New activities and tasks in the field could now be highlighted, especially in the company’s critical service functions. Hence, the key issues inevitably produced tension between the controller and the local level of operations: they opened a structured dialogue between the controller and specific points of interest – along predefined conduits. Regulated interaction was established on the basis of quantified hard facts. It followed the pathways of the key issues that had been unilaterally defined by the controller. Thorough explanations concerning interesting operational detail were sought on the basis of a public quantitative record. Other potential issues that could have been on the operational agenda – but were less urgent from the controller’s perspective – were unobtrusively derailed.

Most noteworthy was, however, that in the context of the customer service meetings, always chaired by the controller, field experience and practical operational understanding was selectively called upon. Local logics of action and situational operating procedures offered explanations for the specific shortcomings and ‘failures’ which had now been documented by non-financial hard facts. The monthly measurements produced new, often disturbing, questions, which could no longer be denied. The controller awaited detailed answers from those functional managers or local experts who could be held accountable in particular operational segments. A manager recalled the situational context where the measurements became enacted at LI-UK, explaining how discussion in the meetings was ordered: it was always prompted by the measurements, proceeded into reflection and questioning, and closed with concrete decisions concerning the corrective action to be taken.

For instance, the functional managers in delivery would explain in detail to the controller the reasons why delivery failed to reach major customers in the food and beverage sector in time: ‘Delivery performance is held back in food and beverage hygiene by out of stocks’, as this became noted in the CSS (February 1992). Consequently, the close joint examination of physical delivery revealed causal links within the delivery logistics at LI-UK. Important local insight was
verbalized. Those responsible for delivery would call upon their practical knowledge concerning co-ordination between delivery and other functional areas, in this case warehouse management and a number of production lines. The essential operational factors that disturbed parts of the productive and logistic chain were identified. Deficiencies in these processes became traced and verbalized in the customer service meetings.

In a similar way, the local working habits and the professional competence of the invoicing function became visited. Invoicing routines were closely scrutinized as a consequence of the measurements that pointed at many customer complaints being invoice-related. Those responsible for invoicing offered an explicit layout of the different pricing procedures. They re-evaluated them overtly with the controller, locating gradually the causes for the incorrect invoices that had recently resulted in substantial customer discontent. Alternative procedures were considered. ‘System to review pricing accuracy before invoice run’, the CSS confirmed.

Moreover, in a shared celebration of ‘improvement’, the field engineering manager would, for example, articulate in detail his locally grounded technical expertise. The particular technical solutions in automatic dispensers, which actually reduced breakdown calls in the important customer segment of catering kitchens, were discussed. Refined, customer-specific technical understanding and skill would become overtly reflected upon and shared. Hence, in this empirical setting, sharply focused and systematized non-financial measurements provoked a dialogue between central and local management levels about detailed, operational and technical insights – mobilizing the local managers’ front-line knowledge within the discourse that took shape in the customer service meetings.

Conflicting Views, Heated Arguments: The Debate within the ‘Customer Service Meeting’

Besides involving the controller in concrete terms with a discourse that addressed operational detail, the non-financial measures had other potential at LI-UK. They were used in bringing together managers and local experts from different functional areas. Hence, non-financial measurement stood as an obtrusive but flexible management technology, which went further than narrowing the distance between central and local management levels. It installed an organizational discourse based on hard facts that also spanned horizontally between traditional functional demarcation lines. As a manager at LI-UK recalled the non-financial measurements, ‘the customer service summary was a flexible instrument. You could try things with it’. And the report’s principal architect, the controller, introduced the flexible non-financial measures in an internal memo along these lines:

The summary should be a living document and should be changed and tuned to reflect market trends and the needs of the business.
At LI-UK 'the customer' was used as a reference in the creation of the customer service summary and the corresponding organizational ritual of the customer service meeting (see Vaivio, 1999b). 'The customer’s' critical requirements vis-à-vis the company’s value chain was guiding the introduction of the non-financial measures, as the tone of an internal memo illustrates: it explained that with this non-financial report LI-UK was ‘trying to build an approach to monitoring customer service that is valuable to our customer and therefore to ourselves’. Consequently, critical areas of customer ‘dissatisfaction’ were identified in the organization. ‘Failures’ were then pointed out in the company’s operations, becoming the objects of non-financial measurement. As a result, different terrains of operational expertise were rapidly brought together, interacting within a new organizational exchange: physical production, quality control, warehouse management, delivery, technical field services and invoicing routines - as well as the individual agents that represented respective expertise - became more tightly interconnected in the regular customer service meeting (see Vaivio, 1999b, pp. 693–696).

This organizational ritual was not, however, just a medium for the controller to become immersed with operational detail, as has been described. It also served as a medium of collective interaction and debate between different local competencies. It became a platform for speaking out conflicting local views about the problematized operational issues. In the meetings, different functional managers and expert staff would discuss and openly argue over the key issues that had become visible with the non-financial measurements. Remedial ‘actions’, as shown below, were collectively negotiated. Being finally agreed upon, they became assigned to individual agents:

Ensure authorization of price changes procedure is followed. Continue to track invoices below £250.

Report to the next meeting service and distribution arrangements for Heathrow airport.

Review launch procedures for technical and engineering services with PB and AW.

However, before these actions were agreed upon, the agents sharing the customer service meeting had spontaneously expressed their informed opinions on the problematized topics and the displayed non-financial measurements. Contradictory views and even heated arguments about the highlighted operational frictions surfaced. The participants would not accept the measurements at their face value. Conflicting interpretations concerning the latest figures were presented, which produced ambiguity. From different expert points of view, the shared key issues became often fiercely debated in these instances. Functional coordination and the working relationships between different activities were studied and re-evaluated, from several functional perspectives. Different local logics of reacting to situations collided. New needs to communicate, synchronize routines or revise the execution of tasks were identified and discussed. Relevant
operational information about practical problems, and the functional procedures
that were connected to the urgently problematic in different locales, became
contrasted. Changes were often suggested to the ways in which certain key
activities, such as the ‘customer service function’, were organized.

For instance, the quality manager would explain the problem of leaking
‘Domestos’ bottles, which had been identified via rising quality complaints and
were ‘particularly hazardous in the promotional market’ (the CSS, August 1992).
Exposed by the non-financial indicators, he would elaborate a solution with the
assistance of marketing and technical production staff. In a second representative
incident, the delivery manager would be under fire for ‘out of specifications’ late
deliveries in the food and beverage segment. After intense arguments and
counter-points about what was cause and what was effect, stock-outs would be
accepted as explaining the underperformance. The warehouse manager would
offer his professional view, promising to investigate better the local procedures
for tracking held for stock products (the CSS, February 1992). In yet another
instance, detailed market intelligence about the customer in the catering industry
would collide with idiosyncratic technical know-how about the correct
calibration of electronic dosage pumps. The images and models of behaviour
that guided the ways in which ‘things were done’ in the field, practical rules that
agents trusted in their daily work, and locally nested hunches about business
conditions would surface in the discourse that now encompassed different
professional perspectives. Local knowledge became mobilized in the collective
debate (Vaivio, 1999a, p. 426).

It has to be emphasized that the eruption of this local understanding was related
to the fact that the non-financial measurements could easily be loaded as
argumentative ammunition. As the chairing controller admitted, ‘there was a lot
of emotion in the meetings’. The senior technical manager had a similar view,
speaking of the meetings as ‘quite confrontational’. The non-financial
measurements created facts which were used in attacks against some functional
areas, as an engineer’s comment illustrates:

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.

The senior technical manager continued about how the focused non-financial
measurements could be used in allocating new forms of blame with pinpoint
accuracy in the meetings:

Lots of blame was being laid at somebody’s door.

Another manager emphasized, however, the other side of the argumentative
power of the new hard facts. The non-financial measurements were often also
used by functional managers as defences in the debates that raged in the meetings,
and often concerned local achievements:

Defensive arguments used to flare in the meetings. Somebody would defend himself
by saying ‘I’m actually inside specifications!’ [the performance target of a non-
Mobilizing Local Knowledge with ‘Provocative’ Non-financial Measures

Hence, at LI-UK non-financial measurement created a cross-functional platform where different professional perspectives on urgent everyday matters merged and collided. The shared measurement was not objective or neutral to any party; the hard facts suggested different readings. Subjective, often emotive, reactions and a sense of ambiguity followed. Locally embedded interpretations were given to the measurements, and the consequences of the measurements were debated in a politically laden context. But the most essential conclusion surfacing from these events was that the non-financial measurements provoked organizational agents into an ongoing organizational debate where local responses to problems, informal pieces of professional understanding, and often subtle scripts of expert conduct in specific situations became explicitly mobilized in the discourse of the customer service meetings. In this continuous debate local knowledge that concerned the problematized key issues became verbalized.

Moving into the ‘Specifics’: The Emergence of the Sales Managers’ Resistance

Further evidence on the events at LI-UK appeared, however, suggesting that non-financial measurement inevitably concentrated initiative and relative influence in operational management to the company’s controller. The focusing of detail, as well as the dominance of the customer service meeting, shifted relative organizational power to the controller – allowing his intervention deep into organizational activities. A new dependency between the controller and certain key functional areas was about to be established. This happened, however, at the expense of another organizational agency, the company’s sales managers, who traditionally had influenced these functional areas through direct horizontal relays. Established patterns of organizational initiative were disrupted by the measurements. Conflict was inevitable, as the sales managers feared a loss of de facto influence vis-à-vis key operations, such as delivery and production. The relationship between the controller and the sales domain became strained, as a ‘numbers person’ was now intervening in the detail of operational management with a new hard medium: the non-financial measurement soon faced resistance from the sales managers. In the discursive forms of this resistance important local knowledge-elements were mobilized, as the field evidence illustrates.

The sales managers overtly criticized the purposes of the non-financial measurement. For managing urgent operational affairs the CSS was, in their opinion, not relevant. It was ‘too historical for the sharp line of the business’, a sales manager argued. Another sales manager doubted the standards that had been set for the measures: ‘The target levels are highly questionable’. Of foremost importance, however, was that in their resistance to the controller’s non-financial measurement and the power-shift which was about
to take place in operational management, the sales managers mobilized a local body of practical field knowledge, 'the sales customer' (see Vaivio, 1999b, pp. 703–705).

The sales managers’ professional frames of reference about the customer’s hygiene problems, about the market’s complex logic and about the intricate ways of connecting LI-UK’s operational performance with the customer’s unique preferences became verbalized. These local representations and implicit frameworks were practically rooted and concerned, in the sales jargon, ‘the specifics’ of the business. They were based on the sales managers’ long field exposure and on their accumulated understanding of the intricate operating routines, which connected ‘the sales customer’ to the functional activities of the company. They contained mundane experience of common frictions as well as subtle scripts of reactive conduct: how, for instance, could delivery problems be avoided at the last minute by diverting a lorry to another destination. ‘The specifics’ was about the refined insight that sales managers held about the complexity of the business and ‘the customer’s’ unique needs and patterns of behaviour. As a result of the events at LI-UK, ‘the specifics’ became reflected upon and overtly discussed. It was dramatized. And it became raised against non-financial measurement, as a sales manager’s comment below illustrates:

I want to know specifics about why one of our customers is not, for example, receiving a product. This information [the non-financial measures] was not helping me much.

The resistant counter-discourse of ‘the sales customer’ should, however, be decomposed further. A critical element in the vocabulary of the sales managers needs to be emphasized: in their often harsh criticism of the non-financial measures, the sales managers repeatedly underlined their front-line understanding of local ‘real problems’ (see Vaivio, 1999b, pp. 705–706). To the sales managers ‘real problems’ were key antecedents of action. They took ‘real problems’ seriously. ‘Real problems’ created a sense of urgency, held other concerns in the background and sparked action. From an understanding of ‘the specifics’ in the local context, the sales managers extracted the relevant cues in the day-to-day flow of events that cried for an immediate solution. The most acute cues were prioritized in the judgement of the sales managers; these became ‘real problems’. Now the sales managers would claim that the non-financial measurement was not capturing them – leading the company astray. ‘Real problems’ became selectively mobilized.

As could be directly observed in an internal customer service meeting (Runcorn factory, 3 March 1993), a wrongly applied label on a bottle of soap was put forth as a ‘real problem’. Brandishing a competitor’s spotless canister of liquid soap – and showing pictures of LI-UK’s badly labelled containers on the shelf of a cash and carry – a sales manager explained that the customer’s loyalty was eroding. In the absence of direct advertising channels to smaller customers, the product’s image on the shelf was of substantial importance. He asked
production managers for an explanation for the labelling problems, wanting something to be done. Moreover, a failure in physical product quality was also a 'real problem' – in case it would bring to a halt the entire production process of a big customer in the food processing industry. As a sales manager explained, the customer's downtime was very expensive. Usually, a 'real problem' had significant financial consequences. Another sales manager observed in a typical comment:

We are interested in real problems that we have with customers and cost us a lot of money…. With an important big customer a delivery error can cost us thousands of pounds.

Furthermore, the 'real problems' that became recognized were coupled to urgent action at LI-UK. As the sales managers explained, they justified and oriented informal 'ad hoc action' and intervention into critical functional areas. Hence, the non-financial measures also made the sales managers reflect on the forms of rapid, horizontal 'ad hoc action' that followed the sensed 'real problems'. The logic of appropriate 'ad hoc action' was examined. It was reflected upon, becoming conceptualized. It was raised against the non-financial measurement that had destabilized established forms of lateral operational management, granting an intrusive role for the controller. For instance, the sales managers explained the forms of their unofficial 'direct contacts' to the delivery function. If a special problem had emerged with an important customer, delivery schedules and already agreed routeings could be quickly changed. 'You just communicate with them on a daily basis', as a sales manager explained the supremacy of 'ad hoc action' at the local level of daily operations.

The incidents at LI-UK, and the reactions of the sales managers in particular, thus suggest that the tensions which are coupled to non-financial measurement can be significant in the discovery of local knowledge. Non-financial measurement 'provoked' the recognition and externalization of valuable local expert understanding in the articulation of 'the specifics', 'real problems' and 'ad hoc action' in organizational discourse. But for the future of the studied organization even more important was how the emergence of this practical understanding directly influenced the course of events.

More specifically, this local knowledge concerning the customer which was now explicitly articulated by the sales managers sparked the following line of development. First, the customer service meetings, which were dominated by the controller, were abolished. They were replaced by several 'new-style customer service meetings', chaired by respective sales managers in each separate business segment. The controller explained, acknowledging in fact that different local knowledge was coupled to the different sales territories: 'It was important for me to let go and start moving responsibility. We recognized the importance of different customer groups'. Second, this turn of events finally led to a restructuring at LI-UK, where the sales managers acquired a more influential status as 'customer sector managers', also controlling the critical
service resources and handling 'any interface where the customer requires a service', as a fresh 'customer sector manager' clarified. Their respective, distinct local insights of the customer – having surfaced as a response to 'provocative' non-financial measurement – thus became officially recognized in LI-UK's organizational structure (see Appendix C).

5. The Notion of 'Provocative' Non-financial Measurement

Within the limitations of a single contextual examination, the interpretation of the events at LI-UK is illustrative of the potential that 'provocative' non-financial measures hold in knowledge-creating organizational processes. In this particular setting, the measurements provoked the emergence of local knowledge. These local insights were not path-breaking discoveries that would fundamentally change the organization's future – but they were valuable pieces of everyday understanding that concerned important operational issues. These modest fragments of local knowledge had competitive significance. Two fundamental properties of non-financial measurement seem to make it provocative within the organization.

First, as the incidents suggested, non-financial measurement has focus potential (see Vaivio, 1999a, p. 430). It reaches beyond aggregated financial measurement, penetrating into the texture of organizational life. As the comments at LI-UK illustrated, with non-financial measurement management accounting is endowed with 'microscopic' capacity. Whereas financial measurement, such as the monitoring of budgeted costs or local profitability, reports the economic consequences of action, non-financial measurement probes into the how of ongoing action. Non-financial measurement makes visible urgent local issues – which may later become reflected and summarized in financial performance. It focuses on the substance of day-to-day activity. Focused non-financial measurement is provocative because it extends management's visibility beyond economic aggregates into the minutiae of professional practices at the local level – into the mundane everyday issues that constitute local output or performance to organizational actors.

Second, besides having focus potential, non-financial measurement creates facticity within the organization. As the case illustrated, non-financial measurement introduces a documented, formal record of quantitative data about concrete organizational action. It represents 'hard facts' for the involved actors. The measurements were accepted as being real (see Giddens, 1984, pp. 331–332). But since non-financial measures cannot be objective measures of local performance, the measurements were disputed. They were not marginalized or ignored. And they were not dismissed as parochial views or subjective impressions. Because they addressed local reality in a formal and publicly exposed way, non-financial measurements distorted established thinking patterns. Facticity provoked spontaneous concern about local interest and
about being fairly evaluated. Hence, it provoked outspoken reactions in local actors, ranging from enthusiasm to frustration.

The argument of this study thus suggests that the provocative nature of non-financial measures endows them with new significance, in terms of knowledge creation and organizational learning. Provocative non-financial measurement offers the controller a potential technology for stimulating knowledge creation at the local level, since non-financial measurement can be employed in the field and in prioritized niches of the organization – focusing learning efforts and the exploration of local insight. In the following, the notion of provocative non-financial measurement in the mobilization of local knowledge is discussed more specifically.

Approaching Local Detail with Provocative Non-financial Measures

With provocative non-financial measurement, the controller reduces distance to operational detail and walks in the field, visiting intriguing corners. As the exchanges between the controller and the functional locales at LI-UK suggested, the controller becomes an active agent who shows more interest towards local practices (see Granlund and Lukka, 1997, p. 248; 1998, p. 202). Management accounting extends deeper into the operational level, as the controller becomes involved with technical expertise and unfamiliar professional argumentation (Ahrens, 1997). But the detail of local activities becomes addressed in a disciplined way, leaving much initiative to the controller. Specific parts of the value chain – areas of strategic uncertainty or otherwise interesting knowledge-intensive locales – can selectively become addressed and problematized in non-financial terms. This introduces more rigour into a decentralized exploration of local knowledge around the organization, and guards against random ‘fishing expeditions’.

On the basis of the facticity created by the measurements, regularities in local performance are pointed at. Trends can be revealed. Deviations from standards and normalcy become publicly exposed. New comparisons to established financial monitors, as well as relations to external benchmarks, can be outlined. Moreover, improvement in certain locales can be recognized along a formal scale and become celebrated. Also, correlations with the non-financial performance of neighbouring locales may become illustrated. This breaks with established perceptions of local performance.

The controller, walking the field, can ask probing questions with reference to a documented record. Arguments concerning critical local points of interest, as the key issues illustrated at LI-UK, are nurtured. A re-examination of current operational practice is possible in formalized terms. The premises underlying local repertoires of action become shared and re-evaluated, as organizational actors offer explanations to why the provocative non-financial measurement makes local performance visible in a particular way. And they may challenge the measurement itself. In doing so, they revisit their local experiences. Descriptions,
metaphors and conceptual frames are then fitted to relevant local insight that becomes verbalized.

Provoking Horizontal Debate

As the conflicting interpretations in the customer service meetings at LI-UK suggested, provocative non-financial measurement maintains horizontal debate in the organization, with the controller being present in these encounters. Non-financial measurement stretches over established boundaries of functional departments, production units and sales operations, as well as cost and profit centres. Hence, critical organizational processes and interlinkages can be highlighted. Logistic dependencies between local units, co-operative relays and operational connections can be inscribed with the facticity of non-financial measurement. With the constitutive potential of non-financial metrics (Hopwood, 1978, 1983) a recategorization of the organization is possible. Agents representing different local perspectives and functional interests become pooled— to interact on the basis of non-financial measurement. Regulated collision between different local expertise can be instituted.

The measurements provoke horizontal debate, since conflicting meanings can be given to the documented data. As the measurement concerns interlocking local interests, overlapping operational information relating to the measurement becomes shared. But the non-financial measurement does not produce consensually accepted neutral information. Instead, the provocative measures produce facticity that can be understood and explained in different ways.

The measurements often lead to emotive reactions, because they disturb established local practices. And they can suggest incompatible responses to local needs. Moreover, they offer a valuable political medium. The provocative measurements can encourage parochial attempts to change some parts of the organizational order. Nevertheless, they can also be mobilized in the preservation of locally favourable arrangements.

Non-financial indicators thus assist the articulation of local insight in organizational discourse. To some local actors, the measures confirm latent suspicions about inefficiency in other locales; the facticity of the formal record now demonstrates this. But the facticity of the measurement also offers justifications to local niches, as the defences at LI-UK suggested. Hence, the provocative measures serve as ammunition in organizational encounters (Earl and Hopwood, 1980). The measures become argumentative references, a source of credibility. Established local operating practices are collectively examined against a quantitative yardstick, becoming discussed in detail from a formal vantage point. Overlapping perspectives on previously hidden operational problems are taken and entrenched functional procedures or operating routines can openly be analysed and contested. Some local ways of operating are also effectively justified with the measurements. Conflicting arguments are advanced
about what should be done as a consequence of the measurement, as the elaboration of actions at LI-UK indicated.

Elements of locally stored knowledge become explicit as a consequence of the provocative measurements. In the colliding expert arguments about how the measurement should be understood and about what action should be taken, a locale’s idiosyncratic working routines, causal schemes justifying its practice, and its scripts of conduct in particular functional instances are explored. Latent ‘hunches’ about logistic connections, on-the-spot observations of market movements, suspicions concerning information flows or dismal technical solutions – otherwise considered too personal and trivial – become reflected upon. Fragmented pieces of professional experience become rearranged, take new significance and become conceptualized. The politicized interaction around non-financial measurement provokes the verbalization of this locally generated understanding.

**Provocative Non-financial Measures and Expert Resistance**

The controller – acting in the field with specific learning purposes in mind – can contribute to the mobilization of local knowledge by stimulating overt resistance in critical expert agencies with provocative non-financial measurements. The explored events at LI-UK indicate that non-financial measurement is far from an objective management technology that escapes considerations of power and discipline (Markus and Pfeffer, 1983; Clegg, 1989; Scapens and Roberts, 1993). The facticity of non-financial measurement introduces a new visibility upon local interests. Operational priorities can be reforged. As the measurements transform prevailing discipline, for a particular expert agency non-financial measurement can be synonymous with lost initiative, reduced control and loss of status. Intra-organizational power relationships between expert agencies are redefined and new organizational tensions are created, producing local resistance within affected expert territories. Hence, resistance can systematically be provoked by the controller within targeted expert agencies – which have been identified as potentially rich islands of relevant understanding. Moreover, as the events at LI-UK suggested, local expertise is being articulated within this resistance.

The reactions of the sales managers at LI-UK are illustrative of how local knowledge that belongs to a particular expert agency becomes externalized. From the outset, provocative measurements disturb the prevailing organizational order, introducing tension between functional agencies. The measurements soon meet criticism; their relevance and validity are questioned; the measurements are rejected as too mechanistic and partial. The resistant expert agency claims that the non-financial measures are not representative of the unique local context which is being addressed.

As the discourse of the ‘specifics’ at LI-UK suggested, the provoked agency examines its locally based professional knowledge. What are the epic elements of the expertise that defy formal quantification, symbolize specific
organizational competence and characterize the uniqueness of the measured phenomena? The agency searches for dramatized fragments of practical detail, as it needs illustrative actions, analogies and stories about its local contingencies, which could be mobilized against the measurement. It needs these discursive points as arguments against the quantification that colonizes its field of expertise. Whilst doing so, the expert agency transforms otherwise scattered professional experiences and perceptions of local concerns into more orderly patterns that can be communicated. Gradually these become verbalized within the emerging resistance.

The construction of local problems can also be a central element of resistance, as the ‘real problems’ at LI-UK illustrate. The agency claims that non-financial measurement fails to capture the problematic and mobilizes its own local knowledge of it. Thus, in the explicit articulation of how it defines the problematic, the resistant expert agency reveals essential professional understanding. As in the mobilization of ‘real problems’ at LI-UK, the resistant agency can unpack its expert judgement and its unique local codes of conduct. It explains those locally tested forms of action which become coupled to recognized problems. As it could be observed, the logic of ‘ad hoc action’ became a key part of the resistant discourse. The local expert agency reflected on how it biased options in order to act in the specific management situations it was facing. It made sense of its local context in a certain filtered way (Weick, 1995, p. 159). Therefore, whilst it resists provocative non-financial measurement, an expert agency can expose the professional codes that structure operational complexity in a local setting.

6. Conclusions and Discussion

The notion of provocative non-financial measures, illustrated by the events at LI-UK, develops our theoretical understanding in two ways. First, it elaborates the connections between management accounting and knowledge creation, broadening our conception of how the role of the controller becomes expanded in the organization – in terms of organizational learning that takes place in the field, in local islands of knowledge. Second, it brings the widespread phenomenon of non-financial management accounting measurement into a new light, presenting it as a controversial and powerful medium that triggers locally situated processes of learning. This notion is not, however, advanced in a definitive tone. Its spirit is to stimulate more discussion on how management accounting becomes coupled with local knowledge and the processes of grassroot learning in the field. This study thus invites other theoretical reflections and counter-points, as well as other empirical efforts in this particular field. In the following, some implications of provocative non-financial measurement for the role of the controller and for the discussion concerning non-financial measurement are briefly examined, offering avenues of further research.
Mobilizing Local Knowledge with ‘Provocative’ Non-financial Measures

As it has been suggested that the role of the controller is moving from the financially centred roles of the ‘historian’ and ‘watchdog’ towards a pro-active role of the change agent who takes an ‘increased business orientation’ (Granlund and Lukka, 1997, pp. 237–251; 1998, pp. 197–201), the notion of provocative non-financial measures suggests a number of possibilities. First, it should be noted that the orientation of the change-agent controller could include the more active, decentralized exploration of local knowledge systems in contemporary organizations - especially in contexts where reform is being initiated and where local, often operationally grounded insights can foster reform. By selectively mobilizing provocative non-financial measurement in intriguing niches of local insight, in critical functional interfaces or within key areas of expertise, the change-agent controller has a medium to enhance knowledge creation and organizational learning in a concentrated way, discovering local knowledge by decentralized ‘controlled interventions’ deep in the field, in key locales. Hence, in the terminology of Simons (1990, 1991, 1995), the notion of provocative measurement suggests that the controller’s role may develop into a more interactive direction: emergent strategic insights are actively pursued within some critical areas of the organization with the assistance of deep-probing non-financial measurements.

Second, provocative non-financial measurement should be coupled with the discussion that concerns the balanced scorecard. How should this idealized technology of the change-agent controller really be interpreted and employed in organizations? (See Kaplan and Norton, 1992, 1993, 1996a, 1996b, 1996c; see also Norreklit, 2000.) Considering the scorecard’s normative emphasis of the learning and growth perspective and its emphasis on strategy implementation, it should be recognized that non-financial measurement can do more than passively monitor the overall learning capability of the organization; non-financial measurement can assist the creation of new generative strategy. Provocative non-financial measurement is in accordance with Kaplan and Norton’s later assertion (1996a, pp. 84–85) that the scorecard can contribute to double-loop learning (see also Kloot, 1997, pp. 69–70). But this study goes a step further. It is empirically indicative of how local organizational insight surfaces with the assistance of non-financial measurement – which appears as much more controversial measurement than the original argument of the balanced scorecard suggests. However, it seems as if more empirical inquiry is needed about the mechanisms of how change-agent controllers, in different field settings, do in fact connect disputable non-financial measurements of the balanced scorecard with the creation of strategically relevant new knowledge and processes of learning. Are controllers actually realizing the learning benefits of the organizational tensions and the local resistance, which seem to accompany non-financial measurements?

Third, some further questions concerning the notion of provocative non-financial measures should be pointed out. It should be recognized that provocative non-financial measurement is a controversial phenomenon. It is not
necessarily compatible with the traditional, financially oriented tasks of the controller. In other settings, controllers may have doubts about approaching the field and about taking initiative in the mobilization of local knowledge. Also, provocative non-financial measurement may strain relations with other organizational agents, jeopardizing the controller’s role in conventional financial control. These measures may lead the change-agent controller into disruptive conflicts, as the owners of local knowledge reject what becomes interpreted as intervention into their domain. Moreover, provocative non-financial measurement increases the controller’s workload and professional requirements, extending the profile towards unfamiliar local arrangements and operational detail. Therefore, moderation should accompany the theorizing around the perhaps problematic notion of provocative non-financial measurement. Especially field studies are needed for examining further how provocative measures are in fact received by controllers and other concerned actors in different organizational contexts.

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Appendix A. Interviews

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<th>Duration (min.)</th>
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Appendix B. Lever Industrial (United Kingdom): Organization
Mobilizing Local Knowledge with 'Provocative' Non-financial Measures

Appendix C. Lever Industrial (United Kingdom): New Organization from July 1994
Appendix D. The Non-financial Measures in the ‘Customer Service Summary’

Product quality
- Number of quality complaints
- Proportion of serviced cleaning machines

Delivery and stocks
- Average drop size
- Number of deliveries out of specifications
- Orders without stock restraints (%)

Field engineering service
- Number of jobs not completed
- Breakdown response (%)

Invoicing
- Number of invoice queries recorded/resolved

Customer complaints
- Number of total customer complaints/per sales operation

New business opportunities
- Total of received business enquiries/per sales operation

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